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LASTING GROWTH AS THE TOP PRIORITY: MACROECONOMIC TENSIONS AND GOVERNMENT ECONOMIC POLICY IN HUNGARY*

J. KORNAI

This study looks at the problems of five macroeconomic tensions: inflation, unemployment, the budget deficit, the balance-of-payments deficit, and the decline in production. Although it is quite lengthy, it still does not offer a full picture, since it does not address a number of important issues (among others, the question of monetary policy).

Analyzing these five macroeconomic tensions provides a chance for me to comment on the government's economic policy. Wherever an economist goes these days, whether in private company or to a professional discussion, the question is levelled: does he or she agree with the government's "economic policy package"? I cannot reply to this question with a categorical yes or no. Readers will come to realize during the detailed analysis where I consider the announced economic policy correct, and where I have reservations, concerns or objections.

Inflation, unemployment and wages

There is a well-known close connection between the rate of inflation and the extent of unemployment. Assuming other factors (including inflationary expectations) to be constant, inflation can be slowed at the cost of increasing unemployment, and conversely there are means of reducing unemployment associated with an acceleration of inflation as a side effect. Unfortunately our economy has both these significant indicators stuck in a bad position. Inflation has slowed since its peak of 38.6 percent annual rate in June 1991, but become stuck in the 17–25 percent band of moderate inflation. (See *Table 1*) The unemployment rate rose steadily from 1990 until February 1993. Although it has fallen slightly since then, it still stood at 11 percent in June 1994. (See *Table 2*)

*This study has been published in the Hungarian daily newspaper *Népszabadság*, somewhat abbreviated because of the lack of space. *Népszabadság*, which has the largest circulation in Hungary, declares itself a "socialist newspaper", but does publish regularly articles by non-socialist authors, and opponents of the Socialist Party as well. My study is an appraisal of the economic program of the new Hungarian government lead by the Hungarian Socialist Party. The editorial introduction to the series had the following title: "Kornai's Critique of the Government".

Since the study had been written for a daily newspaper, it does not contain acknowledgments, references, precise description of sources and a more detailed statistical support of the observations. I intend to publish the results of my ongoing research on Hungarian transformation in professional journals, which of course, will give the detailed references and sources.

I am grateful to András *Malatinszky* and Brian *McLean* for the translation, and to Mária *Kovács* for her assistance in the editorial work.

Akadémiai Kiadó, Budapest

MAGYAR
TUDOMÁNYOS AKADÉMIA
KÖNYVTÁRA

It must be said categorically that the key to the situation lies in the trend in wages, where two separate questions—the issue of nominal and real wages—need to be distinguished. (Unfortunately, these have been confused both in official statements and in the debates ensuing from them.)

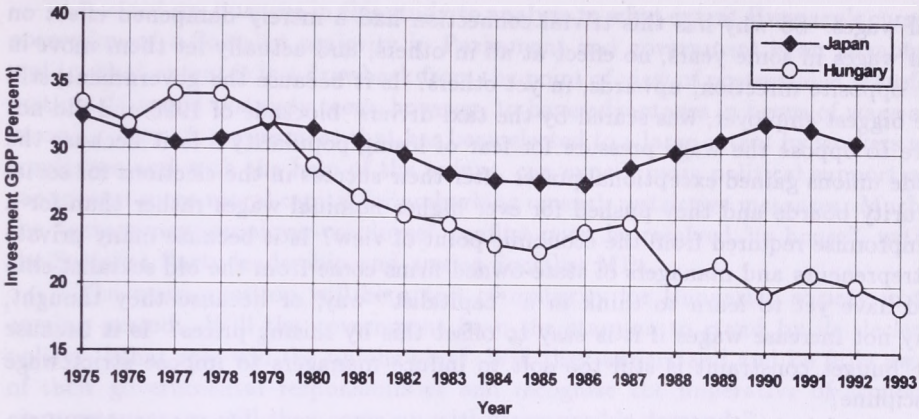
Taking nominal wages first, let us imagine an ideal case in which all sides concerned agree there will be no price and wage increases at all for six months from a set point in time, say January 1. Let us assume in this mental experiment that there is no delayed effect from earlier price and wage measures and the other economic factors remain the same. In that case, if everybody trusted each other, believing all the other actors in the economy would keep their sides of the bargain and keeping theirs themselves, inflation would duly halt without any fall in real wages or real consumption. But a word of caution: the most critical item in this mental experiment is not the existence of zero change, the freeze in wages and prices, but the *credibility* of the sides taking part in the bargain. If one group or another tries to take advantage of the good faith of the rest, the agreement will collapse, and everything will start all over again.

I do not believe any such far-reaching agreement could be reached in the present situation. But the closer we get to such a point of agreement, the more we will manage to slow down inflation.

Unfortunately, under Hungarian conditions, the problem of *nominal wages* ties up with another phenomenon: the fact that *real wages* and ultimately *real consumption* are higher than it is justified from an economic point of view. I realize this remark may elicit resistance or even outrage in many people's minds: how dare anyone, in a Hungary racked by poverty, call real wages and real consumption "too high"? Nonetheless, I must put up with the outcry and stick by my statement.

Consider the following simple, fundamentally important economic relation. GDP can be used for two main purposes: consumption or investment. (Exports and imports ultimately serve to raise consumption and investment as well.) In Hungary the share of investment, and that of fixed capital formation as part of it, has shrunk. It is much smaller than in countries that have enjoyed fast and persistent growth. (The statement is backed by the international comparison in *Figure 1*.) While the share of investment in rapidly developing Asian countries is persistently high, it steadily falls in Hungary. Unless we want to rely solely on foreign resources (I will return to the problems of this later), the ratio of investment to consumption must be altered in favor of investment and to the detriment of consumption.

The government's economic policy-makers are certainly aware of all this. I respect the courage with which they have approached the question of wages and put a significant part of the problem to the public. But I am afraid they inevitably have to go further than that. This is not simply a case of earnings running away in the short term and needing short-term, one-off corrective measures. It must be stated plainly that the growth of the economy is being jeopardized by the proportions of investment and consumption which have applied for so long and become deeply



Source: International Financial Statistics, IMF, New York; issues of *Magyar statisztikai évkönyv* (Hungarian statistical yearbook) and *Magyar statisztikai zsebkönyv* (Hungarian statistical pocket book), *Magyarország nemzeti számlái* (Hungary's national accounts) by the Central Statistical Office, Budapest; and annual reports, National Bank of Hungary.

Fig. 1 The share of investment in Japan and Hungary

imprinted in the behavior of the actors in the economy and the mechanisms coordinating them. These proportions must be changed consistently and permanently, and the downward trend of the share of investment reversed.

Frequent mention is made in the debates about the "crowding-out" effect, whereby public spending deprives productive investment of resources. Without belittling this problem, I would like to emphasize that its importance is only secondary. Even conceptually, the distinction between the following three items should not be blurred: 1) investment by the state (fixed capital formation and increase of inventories), 2) "transfers" through the budget, furthermore wages and salaries paid out of state budget and 3) the material costs of public administration and the armed forces. In this context Item 1) must be added to the other types of investment and Item 2) to the rest of household consumption, while Item 3), though substantial, is not too significant by comparison with the vital problem of the ratio between investment to consumption. Investment is crowded out primarily by consumption, and only to a secondary extent by material expenditure of the state bureaucracy and the armed forces.

In fact it is not easy to see why the present situation has arisen in connection with both nominal and real wages. Every economics textbook and all the experience of the market economies suggest that a recession as severe as the one which took place in Hungary, coupled with mass unemployment, should push wages down; in the presence of inflation, it should curb the rise in nominal wages and push down

real wages. So why has this trivial connection had a merely dampened effect on real wages in some years, no effect at all in others, and actually let them move in the opposite direction, upwards, in yet others? Is it because the government, still the biggest employer, was scared by the taxi-drivers' blockade of 1990 and did not dare to oppose the wage pressure for fear of losing popularity? Is it because the trade unions gained exceptional power after their success in the elections for social security boards and they pushed for ever higher nominal wages rather than for a compromise required from the economic point of view? Is it because many private entrepreneurs and managers of state-owned firms come from the old socialist elite and have yet to learn to think in a "capitalist" way, or because they thought, why not increase wages if it is easy to offset this by raising prices? Is it because the budget constraint is still too soft to induce managers to impose strict wage discipline?

I think that positive answers to all these questions would contain part of the truth (although other factors may also have had a role to play). To explain this unusual phenomenon of economic history would require thorough economic and sociological analysis; an impartial investigation of this important problem is a debt which researchers still owe.

How could the situation change? Experience in the past throws up three main possibilities.

The *first possibility* is a still deeper recession. Unemployment keeps growing in a rampant fashion, reaching a rate of 20 or even 30 percent. This untenable situation on the labor market eventually blocks the rise in wages, breaks the wage pressure, and restores the proportions required for production to recover. This is the most brutal version, which it would be better to avoid, but it may be forced upon us by the market if the actors in the economy fail to act more wisely.

The *second possibility* is for the rise in wages to be curbed by administrative means. This was always the practice under the socialist system, and it went on for a while after the political change of 1990, although rather more loosely, in the form of punitive taxes on excessive wage increases. Later, state controls over wages were abolished completely, and in this respect Hungary went further than quite a few capitalist countries, where from time to time administrative wage controls are applied too to curb inflation, for instance during the 1985 stabilization in Israel. So although it is not unthinkable to use administrative means in today's Hungarian economy, there are several considerations that speak against it. We live in an economy that is only just starting to recover from the crippling effects of bureaucratic control; business and politicians would presumably object to administrative curbs as a sign of "regression".

But if neither the first nor the second course looks attractive, that only leaves the *third possibility*: voluntary restraint. There have been many examples of this in economic history: the self-restraining wage policy of the trade unions in post-war West Germany, the oft-cited example of post-Franco Spain, and the case of Mexico.

It is not my purpose in this study to analyze to what extent Hungary's current possession of a Socialist majority in Parliament and government is an advantage and to what extent it is a drawback from the point of view of postsocialist transformation. It would certainly seem, however, to have advantages in terms of wage and income policy. A government that has been elected to a large extent by workers and employees and with the help of the unions, can expect more political support and can muster more moral capital for embarking on such restrictive measures. Much of the "government-employer-employee" conflict must be resolved "in house", within the Socialist Party leadership and among Socialist MPs.

The wage question will be a test of maturity for Hungarian society in the coming period. Will the government have the stamina to stand by its declared policy? What role will the unions play? Will they understand and be fully aware of their governmental responsibilities and recognize the imperative of economic circumstances, or will they come up with irresponsible demands?

The opposition parties will be put to the test, too. The economic advisers of the Federation of Young Democrats (Fidesz) were arguing before the elections in a similar way to the line taken above. Will the party remain true to these principles under the new political constellation? And as far as the former government parties are concerned, having missed the chance to face the tide when they were in power, will they be strong enough to refrain from going for cheap popularity at least now when it is not their responsibility to carry out unpopular measures?

In the long-term, the trend in wages will ultimately depend most of all, of course, on the growth of production and productivity. Lasting growth is a fundamental requirement for any economic process to occur in a healthy manner. This idea, to use musical terminology, will reappear as a leitmotif throughout this study in connection with each macroeconomic problem considered. This is the point at which to sound this leitmotif for the first time: the tough self-restraint that holds back an improvement in living standards can only end once production and labor productivity are growing steadily, so that the expansion of real wages and real consumption can be covered out of this with a clear conscience. (To avoid any misunderstanding, let me add that a restraint on the growth of nominal wages in order to slow the inflation and the wage-price spiral as well may be required even under circumstances of growth.) Alteration of the investment-consumption ratio can be borne much more easily if consumption also rises, but more slowly than investment.

Let us now consider unemployment. There are several reasons for it, but macroeconomics definitely teaches that one of the most important factors is the wage level. Wages (and as will be explained later, taxes linked to wages) greatly influence the level of costs and so the profits of firms. There is a critical threshold for profitability, and unless this can be reached at the prevailing level of costs, it ceases to be worth a firm's while to produce, regardless of who owns it, and it will lay off its employees instead. Wages and taxes linked to wages significantly affect the

competitiveness of Hungarian production on domestic and international markets. They affect exports as well, and also thereby the expansion of the economy. To some extent there is a conflict of interest between the employed and the unemployed. The higher wages for the employed have been extracted, the more people risk losing their jobs.

Here the leitmotif needs playing again: the main question is growth. So long as the economy continues to stagnate in terms of its aggregate production figures, the insider-outsider conflict, the job-destroying effect of relatively too high wages, will intensify. The reassuring solution is the creation of more and more jobs at a high and steady rate, in greater numbers than existing jobs are being eliminated by transformation of the economic structure.

The budget deficit

While I agree wholeheartedly with the plans of the financial administrators for wage policy, I consider the announced fiscal policy only partially correct. It also has aspects I find acceptable and welcome, but I think it certainly has doubtful, debatable parts as well.

I fully endorse the government's efforts to cut expenditure. I recognize the moral importance of this, as a demonstration that the state is starting its campaign of savings on itself. But the question after all is not one of moral lessons, but of acute economic problems to be solved, and from this point of view, cuts in expenditure, however commendable, are not in themselves going to relieve the major strains in the budget.

It is obvious from macroeconomic theory and from plain common sense that there is a strong, almost arithmetical relation between the budgetary balance and GDP. Most of the *expenditure* is not dependent on GDP, while part is, but with a negative sign in front of it. The more GDP contracts, the more must be allocated from the budget or financially related funds for unemployment benefits and other welfare benefits. On the other hand, the vast majority of *revenue* is related almost directly to GDP, and with a positive sign in front of it. The more GDP grows, the higher the revenue (even at unchanged tax rates) from personal income tax, general value-added tax, excise duties, corporate tax, social-security contributions, customs duties and so on. In the opposite case, if GDP decreases, these revenues will inevitably decline. So it can be said that in the short run, the budgetary balance is a function of the increase or decrease in GDP, and other factors have only a secondary effect.

As long as GDP contracts, the budget deficit will be inevitably reproduced. It is worth recalling the seldom mentioned fact that the real value of budgetary expenditure in Hungary has been falling steadily since 1989, so that by 1993 it was

about 20 percent lower than it had been four years earlier, and yet the deficit has continued to grow steadily. Here let me repeat the leitmotif in my train of thought again: the budget deficit can only be eliminated permanently in an expanding economy. Growth is a necessary, though not sufficient condition for overcoming this tension. Unfortunately the government program lost sight of this important connection.

The same reasoning can be applied in understanding government debt. It is impossible to decide whether the burden of debt on the budget, in terms of its absolute size, is great or small per se, in relation to a static moment in time. Like any debt, it represents a characteristically dynamic problem. If GDP increases and the main budget totals grow along with it, the same absolute amount of debt servicing will absorb a shrinking portion of budgetary revenue. But if GDP is contracting and budgetary revenues shrink along with it, the same absolute amount of debt servicing will require an ever increasing proportion of budgetary revenue. So the main question is not whether the debt is high or low, but what the loans are being used for. If they promote GDP growth efficiently, they create their own resources for repayment and may even contribute to additional growth beyond that. But if they are used unwisely, they form an ever heavier ballast for the taxpayers to carry.

The stock of debt will be self-proliferating while the real interest rate paid on government securities remains higher than the growth rate of the economy. In this case the increasing debt servicing alone continually generates budgetary deficit, the financing requirement for which increases the demand for credit and so drives up interest rates, which in turn curb investment, and along with it, growth. This line of reasoning explains the strong mutual relations between budget deficit, government debt, rates of interest and growth, and the fiscal whirlpool that can pull the economy down deeper and deeper. Of course efforts must be made to curb the growth of government debt and decrease the interest burden, but, ultimately, only an acceleration of growth can reverse the direction of spin, so that the economy escapes from the whirlpool instead of sinking deeper into it.

The relation between GDP and state revenue applies almost automatically. But it is supplemented by a far from automatic relationship: the consistency and rigor with which taxes are collected. The government program, very correctly, addresses this issue, promising to be more rigorous. Public opinion, let us face it, is ambivalent.

There are many ways to evade tax. A common case is where firms, including major businesses, are seriously in arrears on their tax, customs-duty and social-security payments. It is justified to call for strict enforcement, but it must be realized that this will have unwanted side-effects. It encourages price increases, because the firm wants to earn the money it owes, or if this is not possible, it may cause the firm to go bankrupt or into liquidation. This in turn causes jobs and

production to be lost. These consequences are not welcome to those who call for speedy collection of taxes and other fiscal obligations.

The other common case is where small or medium-sized businesses increase their income by various ruses such as failing to give receipts or register employees. The gain from the state may then be shared between the entrepreneur and the customer or unregistered employee. So strict and consistent tax collection takes extra income not only from entrepreneurs who cheat on their taxes, but from hundreds of thousands of others who become accomplices by being customers in the grey economy and not demanding a receipt, or by working illegally and not insisting on registering their employment. The majority of those concerned are not among the poorest, at the bottom of the income scale, but much more commonly in the middle or even higher. The previous government did not set about forceful action in detriment of these broad strata in society. Will the present government have the strength and the resolve to do so?

While on the subject of the budget, I would like to address two more issues. The first is the highly controversial one of the income received by roughly a million people employed by the state (about the fourth part of total employment). There are several factors to consider here, not least the stipulations of the law and the welfare position of those affected. Looking at the "employer's side", the problem is understandably tied up with the budget deficit, since it forms one of the largest items of public spending. But it is also worth considering that the issue from a macroeconomic point of view boils down to two decisions. The first is the basic decision of how GDP should be divided between consumption and investment, for after all, the wages of employees paid out of the central budget are also sources of consumer spending. If the intended ratio has been attained in this respect, the second question, one of *redistribution*, presents itself. How much of total consumption should be allocated to employees paid out of the central budget, and how much should the rest receive? The only way any group in society can obtain more from a given total of consumption is for others to receive less. So those who demand higher wages for employees of the state are not, in fact, arguing with the Finance Minister about the budget, but with the rest of the population about distribution of total consumption.

The other major set of budget-related problems is usually referred to in Hungarian parlance as "reform of the major distributive systems". It is easily understood by any seasoned political analyst why all politicians talk about this issue in general or veiled terms, as if their style were being cramped by the censors. For this is one of the painful points in Hungarian society, where there is nothing like a real consensus. For my point, I have no ambition to enter Parliament or serve as a minister: I am not after votes, and so I can speak freely.

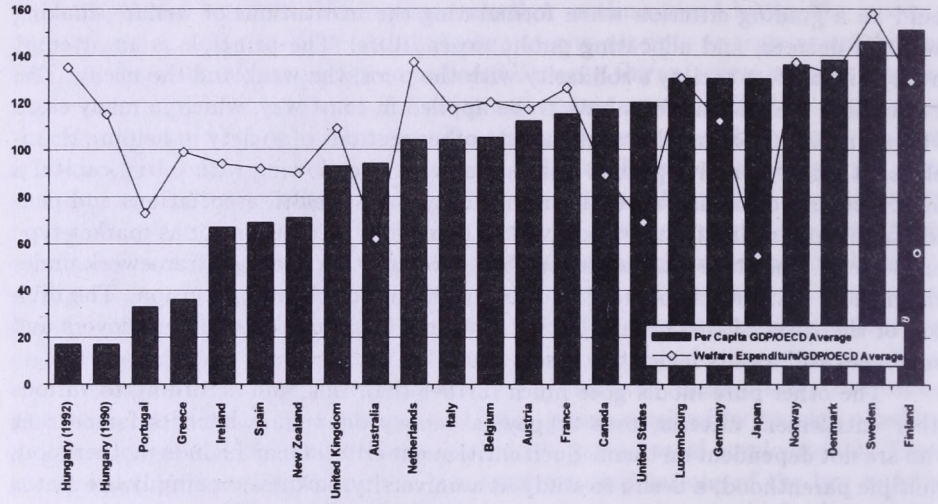
Nobody, not even an economist with rather strong laissez-faire principles, would go so far as to propose that the state abandon all its welfare functions. In fact there are two "pure" models worth comparing.

In one, the state only tries to assist those in need out of taxpayers' money. Although this condition cannot be applied with full consistency, the principle of need could be a guiding criterion when formulating the institutions of welfare, making laws and decrees, and allocating public expenditure. The principle is an attempt to carry into effect society's solidarity with the poor, the weak and the needy. The drawback is that means-tests have to be applied in some way, which in many cases is humiliating. Of course the state assists other sections of society in helping themselves. It takes an active part in building up and in endowing with initial capital a broad network of decentralized insurance companies, health associations and pension funds (operating for the most part as non-profit institutions or as market-type businesses). The state retains responsibility for creating the legal framework under which these institutions operate and for arranging for their supervision. The division of the costs of welfare and social insurance spending between employers and employees still awaits legislative resolution.

The other pure model goes much further than this, and according to various other entitlement criteria, uses taxpayers' money on welfare benefits for citizens who are not dependent on them. Such entitlement criteria may include motherhood, multiple parenthood, a desire to study at a university, sickness, or simply the status of a Hungarian citizen.

Current Hungarian practice is very close to the second model, in which the state plays an extremely paternalistic role, allocating taxpayers' money to welfare according to much broader and more comprehensive entitlement criteria than those of most other countries in the world. I used a phrase in an earlier paper of mine, which I would like to repeat here. Hungary under the Kádár regime (1956–1989) became a "premature welfare state". Although this country was much less developed than the Scandinavian countries, the welfare commitments made by the state before the change of system were equal and in some respects greater than theirs. (See *Figure 2*) This trend the first freely elected Antall-Boross government did not change, and in fact it assumed further welfare commitments. So far from approaching the first model, Hungary has even been moving in the opposite direction. A hitherto unprecedented degree of centralization took place in the pension and health-care systems, where almost no movement occurred towards decentralization and privatization. "Extra-budgetary", but centralized funds were created whose self-governing body is under trade-union control, however, any deficits in them must be automatically covered by the state out of taxpayers' money. The consequent system is unique in the world: nowhere else has so institutionalized and grandiose a "soft budget constraint".

The present situation offends many people's moral standards: why should taxpayers support those not dependent on it? But the really serious loss concerns economic development, not ethics. This is the main reason why tax rates are high, especially rates of taxes and levies related and proportional to wages and other income, which are perhaps the highest in the world! This grave barrier to



Source: István György Tóth „A jóléti rendszer az átmenet időszakában" (The welfare system in the period of transition), *Közgazdasági Szemle*, April 1994, p. 322. The author's data are based on figures from the OECD and Hungary's Central Statistical Office.
Note: The calculations are based on figures for 1990, except in the first column, where 1992 figures are given for Hungary alone. The increasing height of the bars reflects economic development, Hungary being the least developed country on the chart. In its proportion of welfare spending, however, it is only exceeded substantially by Sweden, while Norway and the Netherlands are on about the same level. The comparison between the first and second columns shows how the gap opened further between 1990 and 1992.

Fig. 2 Per capita GDP and the proportion of GDP spent on welfare by OECD countries and Hungary as a proportion of the OECD average (1990)

production growth, investment and job creation gives entrepreneurs a strong motive for keeping employment secret even at the risk of detection.

I read with agreement the references in the government program to its wish to apply the principle of need more consistently. Fair enough, but these are still only faint allusions, rather than clear plans of action. To what extent do they wish to make the change? How far does the government want to depart from the second model and how near does it want to approach the first?

Of course the advocates of the first model, among whom I belong, do not believe it could be introduced all at once. It will take a long time to organize, and consideration must also be given to the ability of various groups in society to

adjust. To give just one example, a different response to pensions can be expected from a young person at the beginning of a career, who can really choose between various pension schemes, and from an older person who has no choice but to rely on the pension provided by the state. The reforms should certainly be carried out with patience, humanity and tact. Far be it from me to press for undue haste, but I must ask the new government nonetheless: at what pace does it intend to proceed with changes?

What I explained earlier in the study in connection with wage policy applies to this sphere of problems as well. The current political scenario actually offers a unique chance of resolving within the governing party the conflicts of interest over discontinuing the "premature welfare state" and the excesses of the second model, and of waging the political battles concerned "in house".

It would be a mistake, however, to consider this conflict simply as a power struggle between different trends. An approach to the first model, with more consistent application of the principle of need, really conflicts with the momentary interests of broad sections of society. The needy would welcome the change. The really rich, I believe, would not protest against it, because relative to their income the loss would be negligible. The problem would arise primarily in the middle-ranking families which cannot be called needy, but would suffer appreciable harm from the loss of a few hundred or a few thousand forints. Will the new government be brave enough to make the change nonetheless? Will it begin, if not quickly, then gradually and tactfully, to move resolutely and consistently in this direction? And what will the former governing parties have to say? Will they become more socialist than the Socialists?

Here again, reference must be made to the leitmotif, the role of growth. There is the closest interaction between the reduction of the state's welfare expenditure and the growth of the economy. In one direction, excessive welfare levies and contributions act as a curb on enterprise. Like runaway wages, excessive welfare levies make it hard to reach the critical profitability threshold for viability, and still more for expansion and job creation. So ultimately they postpone and curb growth. The more welfare spending financed through taxes can be reduced, the greater the fall in employment-related production costs, and consequently, the greater the stimulus to job creation, the expansion of production, and in the end, the acceleration of growth. But the force in the opposite direction is no less important: only growth can enable change to occur with less vehement opposition. As the standard of living increases, it becomes easier to surrender certain hand-outs from the state and to switch, at least partially, to voluntary insurance. While the standard of living of the middle strata is sinking due to stagnation or recession, they will understandably cling to their acquired rights to the bitter end.

Also worth mentioning here is yet another macroeconomic relation. Much has been said about how savings in Hungary do not cover investment and need encouraging more intensively. Most expert observers emphasize the role of higher

deposit rates here. I would like to mention an additional factor: the very strong incentive to save that would come from partial decentralization, "marketization" and privatization of health care, pensions and other social benefits. People would understand it was they themselves, to a large extent, who had to set reserves aside for sickness, old age or unforeseen expenses. Some formation of reserves of this kind takes place through the accumulation of money in bank accounts or liquid securities. The rest is done through intermediaries. Citizens buy insurance and join decentralized pension funds and medical insurance schemes, so that these institutions perform the saving and investment functions at their behest. In a mature market economy, the demand and need to form security reserves is one of the main incentives for saving. Unfortunately, this type of saving was curbed by the paternalistic practices of the past.

Getting back to the budget, the really great opportunity for cuts on the expenditure side is the switch from the *paternalistic model* to consistent application of the *principle of need*. However, this is not likely to contribute to easing the budget deficit. This it cannot do in the short run, as I have mentioned, since the change will certainly take a long time to occur, and it cannot do so in the long run because one of its aims is precisely allow lower tax rates by reducing the welfare spending that they fund. Those who refer to "reform of the major distributive systems" as a panacea for eliminating the deficit are only clouding the issues for a responsible assessment of the fiscal problems.

The balance-of-payments deficit

There were unsettling signs in the balance of trade and the balance of payments in 1993 and in the first half of 1994. Domestic consumption grew faster than production. The growth of exports ceased, while imports positively jumped. The result was a substantial increase in the current-account deficit, and a consequent rise in Hungary's net debt after a decreasing trend lasting several years.

A responsible government cannot pretend nothing has happened. It certainly has to react to that, which the last government unfortunately neglected to do. To reiterate what I said in connection with wages, the courage with which the new government has faced up to the situation is commendable. Its vigor and speed of action are impressive. Nevertheless, I am not sure it is taking the right course in every respect.

It will be noticed that I phrase myself carefully here, not for any tactical reasons, but because I am not quite sure in my assessment of the situation and the immediate tasks it sets. (When it comes to longer-term tasks I will risk a more decided opinion.) One problem I see is precisely that there has been no thorough analysis of the causes behind the disquieting phenomena or full exploration and

debate on the alternative paths to a solution. The old reflex reaction has occurred instead: trouble with the balance of payments means it is time for some tight restriction. (Here let me add that "restriction" is the term that has gained currency in Hungarian professional parlance, but this is not just a case of restraint, but of a decisive reduction in several economic processes, for instance in macro-demand, production and investment, and a *contraction* in economic activity. (For the sake of emphasis I prefer the latter term in this study.) As an emergency measure, the contraction will probably work, since drastic repression of domestic consumption will reduce imports and probably force domestic producers to export. But there is a high price to pay for this, and it is not certain that such drastic means alone can achieve the purpose.

Before attempting to assess the radical cure being applied, let us return to a diagnosis of the problems. Without being exhaustive, let us look at the reasons for the deterioration in the balance of payments, not in order of importance, but in an order that makes it easiest to see the problems.

1) A part has been played by factors beyond Hungary's control, of which I will mention just two. One has been the fall in import demand in Western Europe, particularly Germany, and the other the loss of agricultural export supply due to the weather. Mentioning factors like this serves as a reminder: it is not worth blaming fiscal and monetary policy measures for the part the export losses explained by external, material factors.

2) Many export activities used to be sustained by state subsidies. Abolition of these, along with stricter enforcement of profitability and bankruptcy and liquidation proceedings, has eliminated several firms or sharply cut back their production. While having a healthy effect of natural selection in the long term, in the short term this has contributed to the fall in exports.

3) Mounting damage was caused by the incorrect exchange rate. A big part was played in the deterioration of Hungary's trade performance in 1993 and early 1994 by the fact that the exchange-rate policy had been mistaken earlier on, because the effects always appear after a considerable lag. It took time before the exports, imports and production adjusted themselves to the exchange rate, in this case adjusting in a harmful way to a faulty exchange rate.

So I fully support the devaluation of the forint, and along with some other economists, I have been among those calling for this for a long time. It was negligent of the previous government not to make up its mind to devalue. It was high time it happened. It will stimulate exports, help to curb imports, make Hungarian goods more competitive at home and abroad, and so presumably help to improve the trade balance and balance of payments. Of course, the benefits will not be immediate, for as I mentioned just now, international experience suggests that several months will elapse before the effects filter through. Apart from endorsing the government's move, I would like to make some additional remarks:

— Devaluation is bound to push up the price level. If this is followed automatically by full compensation in the wage level, the benefits of the move will be eroded. This brings us back to the same questions discussed in connection with inflation. Hence the question that crosses every economist's mind is what the wage reaction will be to the devaluation. If it is followed by full indexation, we will fall into the same devaluation whirlpool as a number of developing countries, with a destructive cycle of successive devaluations, waves of price increases, wage indexing and restrictions.

— Devaluation is an important means of raising competitiveness, but not the only one. I think we should be making greater use than hitherto, with careful, objective selectiveness, of the system of tariffs and subsidies, in order to promote exports and protect domestic production. This is not what I was saying five years ago, when there was a great need for a forceful campaign of trade liberalization. That helped the Hungarian economy to build up a system of relative prices which is in conformity with world market prices, and contributed substantially to ending the shortage economy. It coerced the Hungarian economy into competing with its foreign rivals and winding up its least viable production. Today, however, we do not have to follow such an extreme free-trade policy in this respect. There is no need to strive officiously to exceed the mature market economies in eliminating all kinds of tariffs and subsidies. Care must be taken, of course, that new subsidies and tariffs do not breach GATT rules, the association agreement with the European Union or other agreements. The question is whether the government has a concept in this respect, and if so, how it wants to prevent a scenario in which ad hoc tariffs and subsidies are determined by the struggle of lobbies and political clients, instead of economic rationalism.

Again, the deterioration in trade performance due to the faulty exchange rate and some overshooting in liberalization cannot be blamed on the expansion of production or consumption.

4) The balance of payments has presumably been worsened by the fact that many firms have built up vast inventories. Unfortunately the statistics on this are not reliable enough, and the figures may be exaggerated. But even allowing for this, it would seem that a large accumulation of inventories has taken place.

What induced firms to do this? After all, the shortage economy, with its associated fears of problems with supplies of raw materials and semi-finished products, has been on the whole eliminated. The main reason, in my view, has been expectations of devaluation. If producers are sure the forint is going to be devalued sooner or later, they plainly have an interest in buying more and more imports at a lower forint price while they can. This attacked the stability of the balance of payments at its most sensitive point, stimulating imports without increasing production.

Ultimately this occurred because firms were wiser than the government, realizing the forint would have to be devalued sharply in the end. The lesson to draw, as with Points 1) and 2), is that this negative event was not the result of expansion

of production. To avoid such an occurrence in the future, care must be taken not to leave the economy with expectations of devaluation, but to adjust the exchange rate *continually*, even daily if need be.

5) Pharmaceutical imports have surged, not because the income of consumers of medicines has increased, but for reasons outside the economic sphere, which it would not be appropriate to analyze here.

6) It is questionable whether the export and import figures are actually correct. Lying behind the widening gap between exports and imports, is there not the phenomenon known rather loosely as capital flight, or at least a more moderate version of this, with partial withdrawal of capital operating in Hungary and a transfer abroad?

This occurrence cannot be detected by ordinary statistical means. Nothing could be simpler for a Hungarian firm with relations abroad or a foreign partner (individual or corporate) than to submit to the authorities undervalued invoices on the export side and/or overvalued invoices on the import side, so that some of the capital of the firm functioning in Hungary is immediately transferred abroad, without the movement of capital officially going through the banking system or coming before the foreign-exchange authorities. It need not completely cease its operations in Hungary. It may simply reduce them, and gain some liquid capital abroad in exchange. This kind of relocation of capital can be performed by any economic unit from a self-employed entrepreneur or a small private company to a vast multinational corporation. My guess is that this may have had an important impact on the deterioration in the balance of trade. There is indirect evidence for this also in the fact this deterioration appears to have coincided with some slowing of the spectacular growth of foreign direct investment. The economic motivation is presumably the same. Entrepreneurs, investors or proprietors, Hungarian or foreign—or the managers appointed by them—ask themselves where it is better to invest their capital: in Hungary or some other country? Let me stress that in spite of all administrative controls, Hungarian entrepreneurs—as well as foreign ones—will also find a way of investing their capital abroad if their interests so dictate.

Many economists, including some experts working in the government apparatus or the banking system, share the concern that this withdrawal of capital (or in a worse case, capital flight) has an appreciable effect on the trends in foreign trade, payments and lending. If so, this cannot be altered by simple restriction, which may even exacerbate the problem instead. Nor does an attempt to hinder the capital transfers administratively look promising. The only thing that can help is to regain the *confidence* of capital, so that entrepreneurs are inclined to keep their money, their capital here, and bring more in as well. I will return to the question of what this confidence and propensity to invest depends on.

7) Finally, the balance of payments has been adversely affected, apart from the previous six factors, by the following: a) the rise in investment and production in

certain sectors of the economy, creating extra demand for imports, and b) the surge in consumption (discussed earlier in the study), which also stimulated imports, and crowded out exports. I would certainly not like to omit these relations from my analysis. One problem is that no one knows exactly how much of the trouble is explained by Factors 1)–6), which are unrelated to expansion, and how much by Factor 7), which is certainly related to it. Nor is it accurately known how much of Factor 7) is explained by the a) phenomenon, i.e. the effect of production and investment growth, and how much by the b) phenomenon, i.e. the effect of consumption growth. Yet that is exactly what needs to be known in order to decide on suitable proportions between the measures to improve the balance of payments.

All I have been able to do is to provide a longer list of the main causes of the deterioration in the balance of payments, and thereby take issue with the misleading simplification that the problem has simply been generated by a single cause, namely "artificial" growth. A single research economist cannot be expected to provide a full quantitative diagnosis to determine how much of the payments deficit is explained by each factor (or possibly, what other, unmentioned factors may have contributed). To draw up a convincing diagnosis would require an apparatus, the involvement of numerous experts, and thorough professional debates.

I made it clear earlier that I understand and endorse the measures taken by the government to brake consumption running away and reduce the bureaucratic expenses of government. But I cannot support a policy that deliberately or not, will lead not only to the restriction, but to an absolute decline of production, and especially investment, so causing the economy to shrink and contract once again.

The hardest theoretical and practical problems come when we try to clarify the relationship between the growth of the economy on the one hand and the balance-of-payments deficit and foreign debt on the other. (Here I must ask readers to excuse me for touching on the same question twice: once now in relation to the balance of payments, and again later in connection with growth.)

Some people think that to borrow, to contract a debt, must be an evil, reprehensible thing. They applaud the advice of Polonius to Laertes in Hamlet:

Neither a borrower nor a lender be;
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry.

Such views are quite common in people's thinking not only about personal debt, but about corporate or national debt as well. They find it frightening that Hungary, having accumulated such big debts in the past, should now go on to increase its debt even more. This, they say, is a process that must be stopped at all cost.

In my opinion, such a stance is quite indefensible from an economic point of view. Let us embark on refuting it by considering a well-known macro-relation: total investment in the economy (investment in fixed assets plus increment in inventories) minus total new savings generated in the economy equals the inflow of

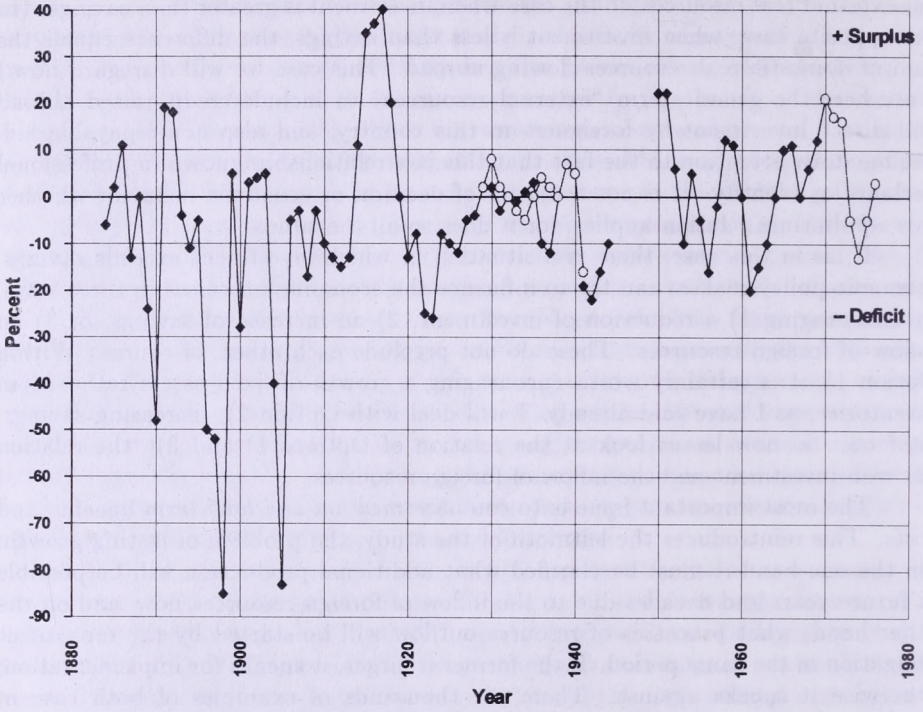
net external real resources, in the case when investment is greater than savings. (In the opposite case, when investment is less than savings, the difference equals the sum of domestic real resources flowing abroad. This case we will disregard now.) I use here the generic term "external resources" to include credit raised abroad and direct investment by foreigners in this country, and also non-repayable aid. Let me draw attention to the fact that this is a relationship known in professional parlance as identity. It is not a matter of decision or economic behavior whether this equilibrium relation applies, for it does so all the time.

If, as in this case, there is a situation in which investment exceeds savings, economic policy-makers can try to influence the economic processes in three ways, by encouraging 1) a reduction of investment, 2) an increase of savings, or 3) an inflow of foreign resources. These do not preclude each other, of course. Within Option 1), it is certainly worth encouraging a growth of fixed assets rather than inventories, as I have said already. I will deal with Option 2), increasing savings, later on. So now let us look at the relation of Options 1) and 3): the relation between investment and the inflow of foreign resources.

The most important issue is to compare *medium and long-term* benefits and costs. This reintroduces the leitmotif of the study, the problem of lasting growth. On the one hand it must be clarified what additional production will be possible in future years and decades due to the inflow of foreign resources now, and on the other hand, what processes of resource-outflow will be started by the repayment obligation in the same period. If the former is larger, it speaks for implementation; otherwise it speaks against. There are thousands of examples of both case in economic history. The fast-growing economies of South-East Asia, the states of post-war Europe and the experience of many developing countries prove that success is quite possible, though not certain. But there is certainly no justification for saying in advance there is no hope of using foreign resources well! (To illustrate this, I give a single example in *Figure 3*, the history of Japan's current-account balance.)

Here let us return to the situation in 1993–94. Investment seems to have received a boost in the past ten or twelve months. According to the Department of Economic Analysis and Modelling at the Finance Ministry, the value of investment at current prices in the first quarter of 1994 was 59 percent up on the same period of last year, so that the volume of investment has grown substantially, even if price increases are taken into account. This acceleration of investment is also indicated indirectly by a rise of 34 percent in the real volume of construction between the same two periods. It is remarkable that according to the report of the National Bank of Hungary, the proportion of machinery and equipment within imports rose very substantially, from 20.7 percent to 26.6 percent, in 1993, which also shows that investment activity was livening up, and that imports are increasingly for investment purposes.

I have yet to see a study analyzing investment projects individually and more closely. I cannot state that all of them are necessarily efficient. But I have no



Note: o = Difference arising from the use of different bases of computation.
Source: Éva Ehrlich: Japan, A case of catching up. Budapest: Akadémiai Kiadó. 1984.

Fig. 3 The trend in the surplus or deficit on Japan's current account as a percentage of exports, 1885/1976

grounds for assuming the opposite, in other words that all or the majority of them are inefficient. For only in the latter case would the curious situation arise in which the part of the foreign resources drawn into the economy for investment purposes was doomed from the start. Since no careful analysis of the investment projects has been carried out, my doubts remain: maybe the contraction about to hit the economy will set back investment processes that were promising to be useful.

Another thought-provoking approach is closer analysis of production figures. For my part I consider it welcome that according to the Finance Ministry report just quoted, the growth of industrial production now apparent for some time is taking place mainly in firms with fewer than fifty employees. It is to be feared that this will be the very sector, having revived since the change of political system, which will decline due to the contraction.

A further important question closely connected with the long-term cost-benefit calculation mentioned just now is to know in what form and on what terms the foreign resources are drawn into the economy. This will clearly have an effect on the additional commitments that are opposed to the additional production arising out of the investment. Here again, care must be taken to avoid any excessively simplified formula. The idea has become implanted in the public mind that further credits are "bad", but foreign direct investments are "good". In fact both of these represent an inflow of foreign resources, which must be compensated for sooner or later by an outflow abroad of domestic resources. Neither is good or bad as such; the advantages and drawbacks depend on the specific payment terms, their allocation in time, and in the case of foreign direct investment, tax and other concessions granted, restrictions on the repatriation of profits and any other conditions.

From this point of view too it is desirable, if foreign resources are drawn into the economy, that as much as possible to be carried out by banks and firms (Hungarian and foreign) on their own responsibility and at their own risk, without guarantees from the government or the National Bank of Hungary. If the transaction proves profitable in the long term, it will then be primarily the firm that raised the loan, the creditor or the foreign investor who sees the profit, while the economy as a whole does well out of it. If it fails, they are mainly the ones who pay. This strong incentive encourages the participants to consider their decisions very carefully. Since the change of political system, there has been a favorable shift within the total inflow of foreign resources towards direct borrowing by Hungarian banks and companies and direct foreign investment, i.e. an increase in the portion of the debt for which responsibility is borne by the business sector rather than the government or the central bank. It would be very harmful for the economy if a general contraction set back the process of truly *decentralized* borrowing and capital inflow as well.

I give priority to medium and long-term considerations, but, of course, one cannot ignore the *short-term* effects. Clearly the solvency of the National Bank of Hungary and the commercial banking system must be seriously considered. I am convinced there is no threat of unsurmountable short-term financing difficulties, and this conviction has been confirmed in me by studying the figures for debt servicing and foreign-exchange reserves, and by consultations with experts. Given a resolute government policy, Hungary can maintain and even improve its creditworthiness and reputation for reliability of Hungary.

To sum it up, a well-considered strategy and thorough implementation of such a strategy are required to promote the growth of exports, curb the rise in imports, and improve the trade balance and the balance of payments. This is one of the key economic-policy requirements. We must make sure that these proportions undergo a lasting improvement, or else the heightened tensions of today will reproduce themselves. Emergency measures and the most drastic of them—improving the

balance of payments by way of decreasing production—will solve none of Hungary's long-term problems and may even exacerbate them.

Here I would like to return to a problem left open earlier: *domestic savings*. It is clear from the identity presented earlier that the higher domestic savings are at a given level of investment, the smaller the inflow of foreign resources. One of the serious mistakes in recent economic policy was to cut interest rates drastically when domestic savings started to rise. This presumably contributed greatly to the spectacular fall in household savings. The figures show that in 1993, for instance, it was not a case of the income of households running away, but of a jump in the proportion of income spent on consumption and a dive in the savings rate.

Correction of the mistake has commenced. The figures for recent months indicate that there may again be an increase in the propensity of households to save. I would like to make a few comments on that.

Table 3

Nominal and real interest rates (Percent)

Month		Nominal interest rates	Inflation	Real interest rates
1991	January	23.3	34.1	-8.7
1991	February	23.3	33.2	-8.0
1991	March	24.5	34.3	-7.9
1991	April	25.7	35.4	-7.7
1991	May	23.6	36.9	-10.9
1991	June	23.2	38.6	-12.5
1991	July	23.2	38.2	-12.2
1991	August	23.5	34.2	-8.7
1991	September	26.2	34.0	-6.2
1991	October	25.7	33.9	-6.5
1991	November	26.0	32.8	-5.3
1991	December	25.9	32.2	-5.0
1992	January	24.8	28.2	-2.7
1992	February	26.1	25.8	0.2
1992	March	22.5	24.7	-1.8
1992	April	23.8	23.3	0.4
1992	May	21.1	22.6	-1.2
1992	June	20.7	20.6	0.1
1992	July	17.8	20.1	2.0
1992	August	14.3	20.7	-5.5
1992	September	13.4	21.7	-7.3
1992	October	13.1	23.4	-9.1
1992	November	13.7	22.7	-7.9
1992	December	11.5	21.6	-9.1

Table 3 *(continued)*
Nominal and real interest rates (Percent)

Month		Nominal interest rates	Inflation	Real interest rates
1993	January	12.4	25.9	-12.0
1993	February	12.6	24.7	-10.7
1993	March	11.4	23.4	-10.8
1993	April	10.3	22.8	-11.3
1993	May	12.1	21.3	-8.2
1993	June	12.4	20.9	-7.6
1993	July	12.1	21.3	-8.2
1993	August	12.8	22.3	-8.4
1993	September	13.3	23.0	-8.6
1993	October	14.1	22.0	-7.0
1993	November	16.0	21.0	-4.3
1993	December	16.0	21.1	-4.3
1994	January	17.1	17.0	0.1
1994	February	15.3	16.6	-1.1
1994	March	17.0	16.8	0.2

Source: Havi Jelentések (Monthly Report), National Bank of Hungary.
Note: The second column indicates the price indices concurrent with the nominal interest rate. This reflects the assumption that the saver expects inflation experienced earlier to continue when making a savings decision.

It is time we changed the situation in which interest rates fluctuate spasmodically. A reasonable monetary policy uses its influence over interest rates very cautiously; that leads to changes by a half a percentage point from time to time. In the Hungarian economy, interest rates jump wildly about, (see *Table 3*) which makes savers feel insecure.

Propensity to save is weakened not only by the unpredictable interest rate policy but by the other uncertainties prevailing in the economy. The more confidence the households have in the future of the Hungarian economy, the more they are ready to keep their money there. (This was already mentioned in connection with withdrawal of capital, and will be returned to at the end of the study when discussing the macroeconomic role of confidence.)

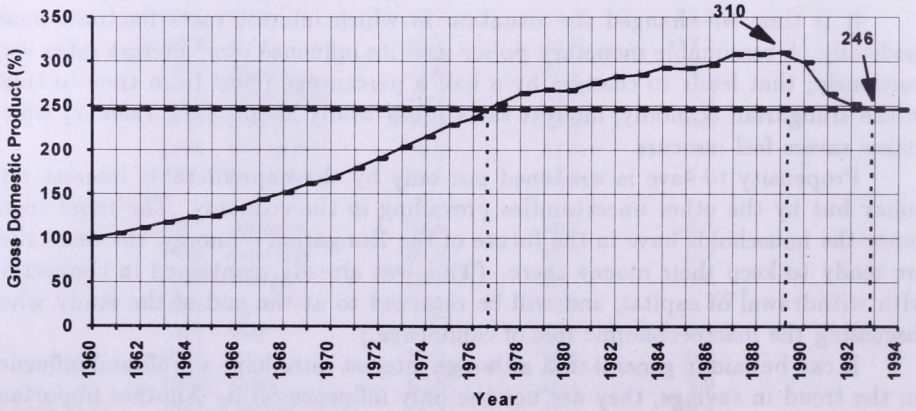
It can be said in general that although interest rates have a profound influence on the trend in savings, they are not the only influence on it. Another important factor mentioned already is the strength of the motive to build up a reserve. Let me now add another: the transparency of the market for financial investments and securities, particularly state securities. Unfortunately the market for state securities is still in a very rudimentary state. Much of the population has no access to them at all, particularly not to the ones that are really lucrative, which remain

with the financial intermediaries instead. I am convinced that a high proportion of households would be happy to invest in government bonds that provided a defence against inflation, even if the real positive rate of interest was tiny, so long as the bonds were easily accessible without the hustle and bustle of standing in lines. If they did buy them, the problems of public finance would be greatly alleviated, and so indirectly would the pressure on the balance of payments.

Stagnation and decline in production

I am convinced (as the main title of this study suggests) that the most important task in economic policy is to promote the lasting growth of the economy. This is not a self-evident requirement. The situation would be different, for instance, if there were overheating in the economy, and a dampening of growth had to be considered. There was a time, in fact, when this was one of the fundamental problems in the socialist economy.

Unfortunately, growth in Hungary has virtually stopped since 1977. For the ten years between 1977 and 1986, the average annual growth rate was a mere 1.6 percent. Since 1987–88, the situation has become even worse: stagnation, decline, and then stagnation again at an even lower level! According to the latest report from the Central Statistical Office, revising earlier estimates, the downward trend has continued. A 4.3 percent fall in GDP in 1992 was followed in 1993 by another fall of 2.3 percent. (See *Figure 4*)



Source: Magyar statisztikai évkönyv 1993 (Hungarian statistical yearbook, 1993). Budapest: Central Statistical Office, 1994. p. 2

Fig. 4 Index of the volume of GDP in Hungary (1960=100)

It is an especially bitter feeling to compare Hungary's stagnation and contraction in production with the performance in so many other countries. Hungary's GDP in 1993 was back at its level in 1976–77, or more precisely, slightly above the 1976 level and slightly below the 1977 level. So there has been zero average annual growth for a period of 17 years, while many Asian countries have had annual average growth rates of 4–9 percent, so that their production has increased two to three-and-a-half times over. There has also been growth to a lesser extent in some small European countries, less developed than those in the forefront and in that respect similar to Hungary. (See *Table 4*)

Table 4

Growth in GDP, 1977-1992: International Comparison

Country	1992 GDP as a proportion of 1977 GDP (percent)	Annual average growth rate (percent)
Asian countries		
South-Korea	354.3	8.8
Thailand	283.5	8.3
Malaysia	283.9	7.2
Japan	190.4	4.7
European Countries		
Turkey	178.8	4.6
Portugal	163.8	3.3
Greece	139.6	2.2

Source: World Tables, World Bank and *International Financial Statistics*, IMF.
Note: Data for Thailand and Turkey were available only up to 1990.

Not one of the country's major social problems can be solved successfully if the economy is stagnating or declining. The widespread misery in society, the poverty of certain regions or the severe backwardness of certain neglected sectors cannot be cured by shuffling resources from one field to the other. The bargaining over redistribution, inevitable but fruitless under conditions of economic stagnation, has been going on for a decade and a half. In my view, those who preach social sensitivity while neglecting the main problem—growth—are ducking the issue.

Clearly, the parties and leading economic politicians of government are quite aware of the importance of growth as well. Yet I sense on various issues an essential difference between official statements and the view I expressed earlier and hold today as well.

The first difference appears *in the order of priority* given to the tasks of economic policy. Official statements convey the impression that there are two, equally important sets of tasks, one being to stabilize the economy and the other

to create conditions for growth. I do not believe these two sets of tasks have equal importance: under Hungary's circumstances, there is just *one* main task—to establish lasting growth—to which the requirements of economic stability must be subordinated. Economists conversant with the language of mathematical models will understand if I say that maximization of the long-term growth rate is the objective-function, while the constraints concerning the balance of payments, the budget, the price and wage levels and other economic variables must be observed. Of course, there are various stability requirements that must not be jeopardized for fear of harming growth as well. But a distinction must be drawn in thought and the logic of decision-making between the true objective and the constraints that must be observed for the sake of attaining the objective, and more generally, in order of the normal operation of the economy. (From an ethical point of view, production growth is self-evidently not an end in itself either. The ultimate end of economic policy is to improve people's lives, to which an increase and improvement in its products and services are the main contribution the economy can make.)

The other difference concerns the *time sequence* for the tasks. The government program employs the following formula: *first* create stability and thereby the conditions for growth, *and then* the economy can start to grow. For the latter, specific dates on the calendar are even mentioned in some statements: growth will ensue in 1996 or 1997 (or put negatively, will not ensue for two, or according to some statements, three years).

In my view this formulation of the time sequence is wrong. In order to subject it to criticism, the first requirement is to clarify what growth really means.

A variety of indices are used to measure growth, of which the commonest is Gross Domestic Product. This is an *aggregate* indicator of the output of millions and million of producers in the economy, some of which, at any given moment, are keeping their production steady, some raising it, and some reducing or ceasing it. The growth in GDP is the resultant of these many positive and negative changes of various sizes.

One expression that has gained currency in the debates in Hungary in recent years is the "start-up" of growth. "It is time," or contrariwise, "it is not yet time to start up growth." The government program adopts the same formula: growth should only be "started up" later, not now, when the conditions are not yet ripe.

But the government is not in a position to start up growth. The sum of the producers does not constitute a disciplined army awaiting its marching orders. It was not like that even under classical socialism, and far less under reform socialism. As for now, after a radical decentralization in the coordination of the economy, "starting up" growth is out of the question. Economic units will decide for themselves whether to increase or reduce their production. The government can exert some influence over these decisions, either by encouraging and promoting growth, creating the macroeconomic, institutional and legal conditions that favor the growth of output, or by the opposite, talking them out of expanding and erect-

ing barriers to impede them in doing so. So the government does not "start up" growth, it only influences whether or not growth "starts" of its own accord. Far from being a quibble, this distinction represents an essential difference of concept about the function of government.

The promotion of growth does not suddenly come onto the agenda when the conditions of economic stability become more favorable than they are now. It should come onto the agenda right now, and it should, in fact, have been put on the agenda much earlier. I would like here to recall an anecdote about Jean Monnet, the former French finance minister and one of the leading lights in European reconstruction after the Second World War. He was talking to his gardener one afternoon, and asked him how long it took for a certain type of tree, of which he was very fond, to reach maturity. About a hundred years, was the reply, and Monnet's reaction: "Then it was a mistake not to have set about planting it this morning."

So the sequence of *first* stability, *then* growth is not correct. These are two *parallel* tasks. Effort must be made at every moment to ensure that whatever economic entity is willing and able to grow should do so as much as possible. And care must be taken at every moment to respect the constraints of stability. Yet another reason for not allowing two years for the creation of stability is that the task is not one which is ever over and done with. It can reasonably be expected that as soon as one macroeconomic tension has been overcome, the same or another tension will re-emerge. This is not a war in which there can be victory once and for all. At best only minor battles can be won before the struggle begins again perhaps on a different front. Problems with inflation, unemployment, budget and current-account deficits recur all over again. If we want to postpone growth until all these have been resolved, we shall be waiting for ever.

In fact even now, the government is performing two sets of action *simultaneously*. One set is directly aimed at growth and the other at equilibrium adjustments. Let us look more specifically, in the light of the earlier discussion in the study, at the aspects of the program and the measures taken so far that I think pose problems, taking these two sets of actions one by one.

1) *Promoting growth*. Several clever ideas can be found in the government program and the first contingency plans to be published. Here I would single out the important stimulating role the tax concessions may play on investment projects.

But there are endeavors that work in the opposite direction and should not be allowed to become reality if growth is to be the prime objective of official economic policy as well. An illustration of this is the fact that the intended resolute cut in public spending plans to curb infrastructural investment as well. The desirable policy would be to cut other, non-investment spending, but to continue the state development projects at least at the planned rate, if not faster.

So far the program has not been sufficiently rich in designing actions that can help to accelerate growth. Several things belong here: changes in export incentives, alterations in the tax regulations, further development of the banking system

(e.g. creating the almost totally absent institutions for long-term lending), a legal, institutional, credit and taxation system designed to promote housing construction, and so on. It would be desirable that considerations of growth to be given greater attention in future plans for privatization. Much greater emphasis should be placed on what obligations the prospective owner undertakes in terms of job creation, expansion and modernization. I do not feel it is my job in this study to draw up a detailed plan of action. Constructive suggestions are made at countless professional discussions. Perhaps the government or Parliament could commission a panel of experts to collect them all, elaborate and organize them and publish them in a comprehensive report.

An additional reason for gathering in a single, effective document a plan for the changes to encourage growth is that they are scattered about in various reports and statements. In this respect the government's policy does not constitute a "concept", does not offer a "vision" of a growing, modernizing, prospering Hungary that has moved out of its rut. Yet such a vision that would lend confidence and hope, engendering a new propensity to invest and bring capital into the country.

2) *Improving stability.* Having discussed the various imbalances individually in previous parts of this study, I would like now to make some comments summing up my views.

I fully support the efforts to reduce the budget deficit and the trade and current-account deficits, and resist the acceleration of inflation. I agree that a major shift is needed in the ratio of investment to consumption, in the former's favor. I also agree that a major shift is needed in the ratio of exports to domestic consumption, in the former's favor. But I must add quite emphatically to this endorsement that it is desirable to achieve all this at the prevailing level of macro-demand, or in the future with a steadily rising level of macro-demand, not at the price of a fall in macro-demand. A curb on real consumption is unavoidable, but it should be applied only to an extent that is matched by the increment in investment and exports. In other words, the total demand for production, and so total production, should not be allowed to fall during the course of the adjustment.

I do not recommend an irresponsible, amateurish "dynamization" of the economy. But it is one thing to refrain from that and another to initiate a further recession.

I do not recommend using a so-called "fiscal stimulus" in the present situation of the economy, i.e. macro-demand to be raised at the cost of increasing fiscal deficit. At the same time I would like to warn those managing the economy against making a mistake of the opposite direction: they should not risk a fall in production for the sake of a cut in the budget deficit. This was the big mistake made by financial authorities in several countries during the great depression of the 1930s, mindlessly to cut macro-demand further when the economy was already in a deep slump.

I have no illusions about how accurately the desirable proportions can be calibrated. The results of "fine tuning" are rather dubious, and might differ from

the intentions of the government. It is almost certain that the changes in proportion mentioned cannot be made without friction. You cannot cut consumption exactly as much as exports and investment can be increased. My objection is to the actual *intention*. The government starts out by planning a fall in GDP because they want to reduce macro-demand in absolute terms. Although the contraction in production it wants is fairly small, the actual production figure could end up much lower than expected. Not only real consumption may fall but investment as well, albeit it has hardly started to increase. For eight or ten months it seemed as if the economy, mainly in terms of investment and industrial production, was starting to climb out of its trough. The risk is that a reduction in macro-demand will push it back again, not simply into stagnation but into a further contraction of production following the output decline of 1993.

Unfortunately, it is not just a case of a single fall in GDP of 1–2 percent, and then it is over—production can grow again. Macroeconomics clearly shows that both increases and decreases in macro-demand have so-called multiplier effects. Decrease in production causes lay-offs. Less is spent by those who have lost their jobs and by the owners and employees of firms that are cutting production, which reduces macro-demand yet again, at that spills over time and again like a series of ripples. Just think for a moment: the spiral of restrictions and recession has started over and over again in Hungary in the last 15–18 years. There is a danger that the spiral will continue and the economy sink deeper and deeper.

My impression is that leading economic policy-makers and their expert advisers feel some kind of panic terror from growth. The bogey with which they are scaring themselves and each other is the ill-fated "dynamization" of the mid-1980s, which failed to lift the country out of stagnation and took it further into debt instead. It must be realized, however, that today's Hungarian economy is not identical with the one of ten years ago. The ownership relations have changed: state ownership was dominant then, whereas more than half of the production comes from the private sector now. The excessive, distorted concentration of the economy has ceased; tens of thousands of small and medium-sized firms have appeared alongside the large ones, and so have several hundred thousand self-employed. The budget constraint on firms has hardened. There are realistic market prices and the market mechanism works, even if it creaks a little. There has been a major change in the structure of the economy, so that the share of the service sector, for instance, has increased substantially. The hard-currency market is now the main area in which Hungarian exports are sold. What happened after the "dynamization program" carried out in 1984 has absolutely no relevance to what effect growth would have these days.

It is most unfortunate that serious difficulties should have arisen with the balance of payments in 1993 and the first half of 1994. However, as I have tried to make clear earlier in the study, a substantial proportion of the measures planned, notably the ones aimed at repairing the balance of payments by bringing about

a contraction in the economy, are based on an analysis of the imbalance that is incorrect in many respects. The policy-makers have not seen sufficiently clearly what the real causes of the troubles are, and so the correction they are making to the course of the economy will not eliminate the real causes of them. As I have emphasized already, it would be a mistake simply to blame the deterioration in the balance of payments on growth, which has hardly begun anyway, and use it as a further argument for contraction. Although the increase in the propensity to invest has placed a burden on the balance of payments, it is a burden that I think is worth bearing. The trouble was that personal incomes ran away at the same time, and there were a number of other unfavorable circumstances and errors deteriorating the export-import ratio as well.

I would like emphatically to ask those who shrink from promoting growth what they really think the relation between growth and the current account to be. Is there a curse on our country, so that time and again in the future, when we go for growth, there will be big trouble with the balance of payments, so that we will never, ever emerge from the spiral of recession and restriction that is dragging us deeper and deeper into the mire of stagnation?

Let me point out that I oppose a contraction of the economy and a reduction in economic activity not because of the burdens it places on today's generation. As I explained in the section on wages, this burden, unfortunately, seems to be inescapable. What I would warn against is any call for sacrifices that then fail to have an effect, because the economic policy pursued fails to convert today's belt-tightening into tomorrow's growth. In other words, I am not protesting because some of the government's measures will force us to tighten our belts. I object because the "package" as a whole may deepen the recession still more, making the prospects of recovery still more remote and uncertain.

Under no circumstances can I accept a defensive, defeatist point of view. Irrational fears of damage to the balance of payment can only cripple action. Instead there are two problems we should reconsider in an impartial, unprejudiced way.

The first consideration is how to encourage the kind of structural changes that allow GDP growth in the future without any damage—or with the least damage—to the balance of payments. Experience of other open, highly trade-oriented countries suggests that growth always places a burden on the balance of payments. The rising demand for imports usually comes sooner than export success. But this is not some kind of automatic, arithmetically determined rule. Matters can be improved by a wise government policy (on prices, exchange rates, export promotion, tariffs etc.). Such a policy can promote the country's export drive and curb its demand for imports, without drastically halting or slowing growth itself.

The second consideration is how foreign resources can be drawn to Hungary in the most practical way that places the least burden on the country. We must not be shudder at the idea that we need the inflow of foreign resources. Most less developed countries used foreign resources in the period of shifting from recession

or stagnation to growth. I could put this more strongly as well: I do not know if there has ever been a case of a country accomplishing this shift entirely out of its own resources.

What must be avoided is a course of events in which the fact that there was an inflow of foreign resources emerges *after* it has occurred, as an unpleasant surprise. It is far better to consider what to do in advance. This study does not set out to make specific recommendations on this. There are many forms of capital inflow which are not mutually exclusive, so that they can be used in various combinations. My impression is that Hungary so far has only used some of the range of possible instruments. Having consulted Hungarian and foreign experts on the subject, we should reconsider the tasks entailed in attracting and utilizing foreign resources.

About optimism and the spirit of the debates

Success in growth and macro-stabilization have a common prerequisite, and that is a *mood of optimism*. The poll of economic activity taken by the research institute Kopint-Datorg in the first quarter of 1994 indicated that the majority of firms were more optimistic than for many years. Many more said at the time of polling, i.e. before getting acquainted with the new measures, that they expected both export and domestic sales' prospects to improve. I am afraid that this mood of hopefulness will now be dampened by a cold shower.

In my opinion it is incorrect to defend measures to stabilize the economy or impose wage discipline by saying that the economy is in a disastrous state. It is incorrect, first of all, because it is untrue. The Hungarian economy is robust; there are hundreds of thousands of businesses actually doing business. Luckily the Hungarian economy is already a highly decentralized system, which has a healthy self-propelling motion even if some government or minister should make a mistake. Governments and ministers come and go, but the market and production fuelled by the interests of private owners go on and keep the economy alive.

The "crisis management" should cease, in my opinion. Everyone is fed up with it. Back at the time of the 1989 negotiations for the change of political system, the tasks of "crisis management" were already being debated, and the discussion has gone on ever since. This only dilutes the meaning of the word "crisis." Not that I want to remove it from the economic dictionary. If the National Bank of Hungary would become insolvent on the international financial market tomorrow, there would be a real crisis. If the currently moderate rate of inflation suddenly speeded up into multi-digit hyperinflation, we would indeed have a crisis. If life in the country were crippled by mass strikes, crisis would be the word. Real crises must certainly be avoided, but it is impossible still to be living in a state of permanent crisis management after so many years.

Roosevelt, when he wanted to raise the United States and the world economy out of the Great Depression, said, "The only thing we have to fear is fear itself." To whip up a mood of disaster is not only unjustified, but harmful, because it is self-fulfilling. The more the government talks about it, the more it will be believed in, by entrepreneurs, by investors, and Hungarian and foreign capital and business. And then there really will be a crisis.

For lasting growth, optimism is an absolutely essential requirement of economic psychology. Capital will stay here and flow in here voluntarily and contentedly so long as the perception is of a healthy, steadily growing economy with an expanding market. Just like pessimism, optimism can be a self-fulfilling phenomenon. I sincerely hope that optimism comes to prevail among the economic policy-makers and the actors in the economy.

While on the subject of these "mood conditions" for growth, I would like to make a few more remarks about how I expect my study to be received, assuming, of course, that attention is given to it in professional and political public life.

Some of my suggestions are connected with essential choices between values, and along with these, political decisions. Let me mention three examples of this. One is wage and income policy. No matter what a government or opposition politician thinks about these issues, he or she must ultimately decide what sort of distribution of economic wealth and burdens there be like between the various groups of households and between succeeding generations. The second issue is tax collection: there is some conflict of interest here between the ethical requirement of fair sharing of burden and the momentary material interests of the different classes and social groups. Finally, the third issue is the conflict between the "need principle" and the paternalistic role of the state: clearly there are fundamental conflicts of values behind these.

As a researcher who likes clearly to separate political decisions and value choices from the strict rationality criteria of efficiency, I wish parties and politicians would take sides in these issues clearly and without empty rhetoric, and at last reach beyond general statements that commit them to nothing. I am not sure this wish of mine will come true very soon.

There is clearly a political dimension to the question of whether the situation is really "disastrous". There are also political overtones to the question of whether the economy's reaction to being "boosted" will be the same as it was ten years ago, because "nothing happened" since. Or if anything changed, it was for the worse.

Several statements in this study have suggested that I do not agree with the one-sidedly negative view taken of recent years. As a student of political economy, I am unsurprised, of course, to find a political group intent on gaining power trying to criticize for electoral reasons the policies of its rivals, who are already in power. It is also clear that when they take over government, they have good reason to present their starting position in as negative a light as possible, because that means even

modest results in the future will seem to be greater. If the country is in a serious crisis, even mere survival assumes the shape of a big success.

It is important to assess the new government's starting position objectively, without political partiality. As I have said, the current situation has several very alarming features (such as the budget and current-account deficits). Moreover, there are many long-term trends dating back to when the communist party had a monopoly of power, and perpetuated or exacerbated under the Antall-Boross government (e.g. the excessive commitments of the "premature welfare state," leniency in the face of wage pressure, and gradual accumulation of additional foreign debt). But there has also been some substantial and healthy development, partly as a spontaneous result of the democratic transformation, and partly as a result of correct measures taken by the government and Parliament (e.g. the formation of a market economy, the spread of the private sector, and the establishment of a constitutional state and so on). These are precisely the achievements that we can build upon when the issue on the agenda is not the continuation of the policies of the 1980s or the Németh government, but the creation of an economic policy in line with the starting position today.

There is, however, a part of my message—the main idea of growth—that is not really a political issue or a choice between values. Decisions in connection with this must rest on clarification of a host of problems in which the final words must be said on the basis of data, logical reasoning and professional analyses. Let me give a few examples, each of which has been discussed in detail earlier on. Why did the balance of payments deteriorate in 1993 and the first part of 1994? What forms and magnitude the use of external resources can be accepted without risking a solvency crisis? What factors caused domestic savings to fall, and what will make them grow in the short and long term? These are not issues that should arouse political passions.

Some of the arguments are not, in fact, between politicians, but between their economic advisors. Although this paper was written for a wider audience, let me say a few words at this point on the theoretical background to the debates.

Those today who favor "restriction" (or contraction, to use my more decisive expression) do so on the basis of so-called monetarist theory, or under the indirect influence of this theory. Or to be even more precise, their thinking is strongly influenced by a rather simplified and extreme version of monetarist theory, which especially in its dogmatic, doctrinaire version, is far from enjoying a monopoly in the international world of economists. It has many critics, and its reputation has declined particularly in the last five or ten years. The vast majority of economists in the world are trying to arrive at an integration of the former, extremist theories, extracting what is valid from them all. And any theory, according to well-trained and careful appliers of it, is valid only *under certain circumstances*! What may have been true in the first two years of Margaret Thatcher's reign is not necessarily applicable to Britain ten years later. It is worth mentioning that many of the ideas

of Keynes are being rehabilitated, without them regaining their earlier position of dominance. Various trends of New Keynesianism are gaining ground. Here again it can be said that Keynes's ideas are only valid in practice *under certain conditions*. What may have been a good recipe in America in 1932 may not be useful in 1994 there, let alone in Ukraine or Albania. Yet this should not make us forget the ideas of Keynes that remain valid.

I consider myself neither a Keynesian nor a monetarist, nor a one-sided advocate of any other school. This study does not promote the teachings of any particular stream. Instead it tries to draw from several sources concurrently.

What is really needed is a synthesizing, integrating utilization of the well-known theories, and beyond that, theoretical innovation as well. In today's Eastern Europe, and specifically in today's Hungary, the situation is quite novel, and therefore no ready-made recipe can fit. The 1985 Israeli stabilization, which I mentioned before, was a marvelous one because its designers had the courage to combine the "standard scheme" with a drastic non-market intervention in wages and prices. My proposal is not to copy this, but to copy its mistrust of ready-made schemes, its theoretical courage in rethinking the problems.

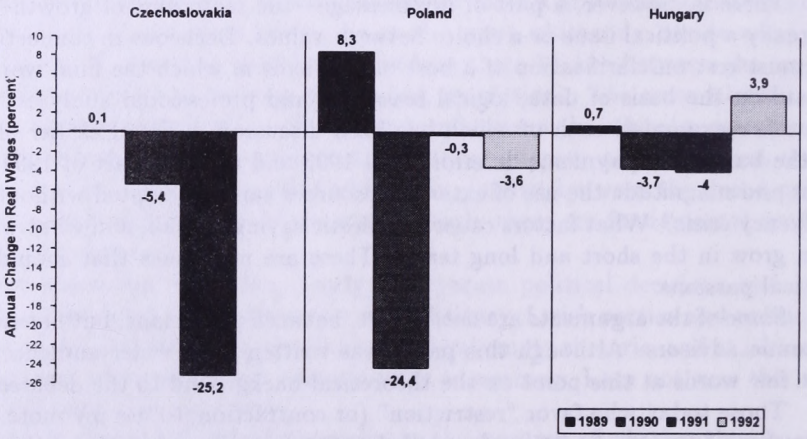


Fig. 5 The development of real wages in three post-socialist countries

Nor is it a solution to cite successful foreign experiences, and to propose following the Polish or the Czech example. At the beginning of the postsocialist transition, there were drastic declines in real wages in Poland and Czechoslovakia, which did not occur in Hungary (see *Figure 5*). This was certainly a factor behind the fact that production began to rise after the great recession first in Poland and then in the Czech Republic, preceding the Hungarian economy in this respect.

I myself in 1989 proposed a very similar strategy for Hungary to the one employed by the Poles and the Czechs. Few people supported it. Not only did the

government that gained power at the time not heed it, but the opposition at the time and several major figures in the economists' community were against it as well. Let me say this: I would not recommend the country *today* to do what it missed doing in 1990, not because I have revised my opinion about the situation then, but because the situation has changed in the meantime. Then we were before a recession, whereas now we are after a major recession (and possibly facing a further one). Then we had no unemployment, while now it has been conserved at a high level. Then inflation was starting to rise, and it might still have been possible to avoid inertial inflation at a high level, while now this has already happened. So we need now an economic policy that corresponds to the current situation.

Let me reiterate that my standpoint with respect to growth is based on professional considerations. I realize that a sizeable proportion of Hungarian economists do not share my views, and as far as I can tell, these are the ones who have the greatest influence on today's economic decision-makers. But I am not alone in my views. Based on a similar, or slightly different train of thought, several fellow economists of mine have expressed closely related views on growth. Governments take political decisions by vote, but economic theories are not usually voted upon. It is not the number of exponents of policies of contraction or the number of opponents proposing a more growth-oriented policy that counts. The question of who was in the right will be decided by research, data, models, computations, scientific arguments, and ultimately by the experience in Hungary and internationally over many years to come.

Yet I am not an academic Don Quixote, and I do not want to shut my eyes to the fact that there is indeed going to be a vote in Parliament on a supplementary budget for this year and the annual budget for next, and on other issues of economic policy discussed in this study. Parties and politicians will argue about economic-policy issues. What can be expected?

Whenever I talk to American or British colleagues on these questions, I am always at a loss. They have become used in recent decades to the fact that conservative politicians listen more to monetarist advisors, and social democrats or liberal politicians tend to follow Keynesian advice. With a degree of simplification, Reagan was close to Friedman, while Clinton tends to follow the advice of Tobin or Solow or their disciples, to mention American names. This formula does not apply in Hungary.

The ideas I have been voicing in the past few years were most prominently represented in the political arena by the politically liberal Young Democrats (Fidesz). Slightly similar ideas were stated by some economic politicians of the more conservative Hungarian Democratic Forum (MDF) and Christian Democratic National Party (KDNP), probably under the influence of their own staff, rather than my advice. On the other hand, monetarist doctrines have had a great influence on the economic advisors of both the Hungarian Socialist Party (MSZP) and the liberal

Free Democrats (SZDSZ), which are now the two coalition parties. If I mention this abroad, people say it is an enigma.

And it is an enigma to some extent. There may be many correct or incorrect ideas in what I have said about growth in this study, but there is nothing incompatible with modern social democracy, say, or with political liberalism. On the other hand, there is nothing in it related to the MDF's "popular-national" notions or the Christian democratic tradition espoused by the KDNP. Why has this strange correspondence evolved between the "colors" of the Hungarian political spectrum and the alternative strategic ideas in connection with growth?

There is an easy, maybe too easy an explanation: the dialectics of political polemics is dominant. To caricature this line of thinking, one could say: "If my foe, my political rival says one thing, I must say the diametrical opposite." This can be seen to apply in several cases.

Maybe the formation of views today are also influenced by the traditions of contemporary Hungarian economics. Many of the MSZP's and SZDSZ's advisers, i.e. the experts of the present governing coalition come from the ranks of the former reform economists. They were rightly angered then by the vain attempts of the Kádár regime to "boost" the economy. Monetarism then was a major ideological discovery for them, whose macroeconomic theory relate closely to a radical reduction in the role of the state and emphasis on the advantages of the market, i.e. to a number of ideas that came as a revelation to reformers battling against bureaucratic socialism. Apparently many of these economists have been unable to leave behind the views they acquired in their early professionally impressionable years, so that these have become prejudices and their advices are now having a distorting effect on economic-policy decisions.

Other factors may also have a role in this peculiar development in political and professional opinions, but whatever the reason for it, this is the reality.

In writing and publishing this study, I must expect that my arguments will be used by some people with whom I disagree on important political issues. My ideas may be used to discredit elements of the announced government policy that I find correct. It is also possible that those who agree with my ideas about growth will connect them up with xenophobic, nationalistic ideas aimed at stemming the inflow of foreign capital, even though these ideas are quite far from my own.

I must also expect that once my views drift into the political arena, they will share the fate of the participants in the intense debates there. I have tried to formulate my sentences accurately, but I must reckon with the possibility that those who do not agree with me will take my words out of context, as they did in earlier debates. My words of criticism or suggestion may be used in ways contrary to their original meaning, so as to make them easier to refute.

Having assessed these dangers, I have decided, struggling some doubts and worries, to publish the paper. Ultimately I believe that a researcher cannot suppress his or her ideas due to considerations of day-to-day political fighting. Whoever

speaks for me or against me, I must adhere as a researcher to the criterion of my conviction of the truthfulness of my statements and the usefulness of my proposals. Since I am so convinced, I publish them.

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COMPETITIVENESS AND STRUCTURAL CHANGES IN THE HUNGARIAN ECONOMY*

Á. CSERMELY

Through liberalisation of trade, the structure of trade between Hungary and the other countries of the world will be subject to specialisation based on comparative advantages. Structural adjustments take a long time, especially if the institutional conditions promoting the effective flow of resources are missing. Yet Hungarian trade policy plans to eliminate the market protection instruments very fast; thus within 6–8 years the majority of Hungarian products will have to be sold on the free market. This study aims to define the sectors that may survive the opening of the market.

In the period preceding foreign trade liberalisation[1] during the COMECON regime, in Hungary both exports and imports were regulated by international agreements. The authorisation of convertible imports required strict procedures by the authorities. For example, the transactions had to be registered in advance, each transaction had to be authorised and customs duties were, at the most, of fiscal importance, only. The four-year import liberalisation programme gradually eliminated the centralised import licensing system and put into the foreground the market protection function of customs duties. In the current liberalised system, commerce is controlled by the exchange rate policy and the tariff system. This is, within a limited range, complemented by the system of a global quota (affecting 5–6 percent of the imports) and individual licensing over an even smaller field. Within the framework of this study we cannot deal with the detailed discussion of the market protection functions of the exchange rate policy. However, we still have to draw attention to the fact that, since the beginning of the transition, in exchange rate policy priority has been given to price stability and the aspects of competitiveness have been pushed into the background. Moreover, the protection of domestic production was left to the customs control system. Thus the tariff policy became a central factor in domestic industrial policy and structural policy.[2]

In his article about the international experience of liberalisation, *Greskovits* (1993) stated that "Governments usually eliminate their import restriction systems

*This study was supported by the Central European University within the framework of contracts CEU/RSS No.: 143/93. During the preparation of the study the author relied on studies on tariff protection between 1988–1990 prepared in the workshop of KOPINT-DATORG—namely, the studies of *Herczegh and Simon* (1989) and *Halpern* (1991).

[1] On foreign trade liberalisation see I. *Borszéki et al* (1992) for further details.

[2] For more about the relations of the exchange rate policy and competitiveness, as well as the complementary role of the exchange rate policy and tariffs policy in the protection of domestic production, see Gábor *Oblath* (1992).

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gradually, and not in one step. Liberalisation is not characterised by abrupt lifting or drastic reduction of protectionist instruments. Instead, protection changes its forms as a result of which the economy opens up step by step and, on the other hand, protection transforms into a more and more calculable, and market conform system of protection. Usually governments replace quantity restrictions with increased customs duties, or other exchange rate or price type restrictions... The greatest advantage of gradual approach is that—provided that it is applied in the right way—it allows existing companies to maintain their markets since they can make capital investments reacting to the new price impulses bearing in mind the long-term comparative advantages." The Hungarian tariff system has been modernised and made market conforming since 1990 and significant steps have also been taken towards uniform passenger and commercial tariffs and the elimination of the internal contradictions of the tariff system. However, instead of the increased tariffs which seemed temporarily practical on the basis of international experience, both the GATT negotiations and the discussions with the EU and EFTA seem to indicate the need for rapid and large reduction of tariffs. Therefore we cannot really assume that the tariffs will take over the market protection function of the former quota regulations, and thus the market is expected to open further. Consequently, economic control decided in the shock therapy of opening the market (although liberalisation was still slower than in Poland or the Czech Republic, where liberalisation was also supported with exchange rate measures) has not so far introduced any protectionist measures.[3] If neither the tariff policy, nor the exchange rate policy compensates for the company losses resulting from the open market, in the increasing market competition only those domestic producers will remain viable who are able to adjust promptly and are competitive on the international market. Below an attempt will be made to take into consideration the production capacities available at the beginning of the structural transition, and to seek those areas of the Hungarian manufacturing industry where economic activities are expected to decrease due to the existing comparative drawbacks.

Role of tariffs in the economy

These days the science of economics has a fairly clear picture about the role of tariffs in economic systems. Tariffs represent a kind of hidden subvention, which means a reallocation of those revenues which decrease total income and economic efficiency. Imposing tariffs promotes inefficient domestic production and requires that customers reduce their purchases of goods on which tariffs have been imposed.

[3] See the study by László *Tóth G.* (1992) on the Polish and Czech trade liberalisation programme, which differed considerably from the Hungarian one, as well as the exchange rate and tariffs policy applied during the reform, and the papers by *Gács* (1993).

In other words, society has to finance the so-called "dead-weight loss" only. International specialization does not use comparative advantages, which means that only those products are exported which clearly have comparative drawbacks. If a longer period is considered, even more serious impacts of tariff protection arise. Tariff protection restricts competition and thus hinders innovation efforts and conserves the production structure.

Nevertheless, a positive assessment of the elimination of tariffs is no longer so clear if different evaluation criteria are introduced, such as short-term employment.[4] The picture has even more contradictions if the results of the elimination of tariffs are looked at from the respective standpoints of different interest groups. In the case of manufacturing sectors the elimination of trade restrictions has a dual effect. Companies sell final goods and buy raw materials or semi-finished products. As sellers they enjoy protection, yet as buyers they suffer from protection. The objective of effective tariff protection calculations is to establish the net position of the manufacturers of individual products or product groups—i.e. whether they have more advantages as sellers than their losses on the protected semi-finished products, or *vice versa*. If the balance is positive, domestic producers may spend more on a product and not lose their competitiveness compared to imports.

In the next section below an attempt will be made to show the net effect of tariff elimination in various sectors of the economy. It is not enough to know the nominal tariffs applied to the products of a particular sector, and to do this we must also take into consideration the protection given to the suppliers of the materials required for production. This is why, in the analysis presented here, there is no concentrate on the protection of the released products. The emphasis will be upon the added value generated in the particular sector under consideration—that is, the effective tariff protection.

According to this concept, effective protection may be defined by comparing the added value actually realised by the producer (or the producing sector) with the added value which would have been realised if neither the producer, nor his suppliers had enjoyed any protection. Therefore the effective tariff protection is:

$$ERP = \frac{VA - VA'}{VA'}$$

where: ERP is the rate of effective tariff protection,
VA is added value at domestic prices = added value actually realised by the manufacturer,
VA' is added value "at world market prices" = added value net of the impacts of tariff protection.

[4] This study does not intend to show detailed principles for and against tariffs; for this see P. R. *Krugman* (1986). Here, only the impacts of elimination of tariffs from the point of domestic manufacturers are analysed.

The claim being made here is that, among the manufacturing sectors of the Hungarian manufacturing industry, the ones that have comparative advantages are those in which the elimination of tariffs increases or only slightly decreases the generated added value. In these sectors exports and domestic production will probably increase as a result of trade liberalisation. In sectors where the elimination of tariffs involves significant losses, the activities are expected to shrink. Consequently, the index of competitiveness is the quotient of added values calculated at the current prices of the given sector and the prices following the elimination of tariffs. This is usually called the Domestic Resource Cost (DRC) (more exactly the quotient of the DRC as we use it and the exchange rate):

$$DRC = VA/VA'$$

The DRC index defined above shows the percentage by which the added value realised by the sector would decrease through the elimination of tariff protection. Sectors with low (i.e. close to a DRC value of 1) DRC would suffer the smallest losses in an open environment. At the same time, the added value generated by sectors with a high DRC would decrease to its fracture. If DRC is negative, following the elimination of tariffs, the value of release would be lower than the value of input used by the given sector.

At this point it is necessary to make assumptions which provide fundamental definitions of the calculations.

1. The most important barrier of the method applied here is that it is only suitable for static reviews. Technological changes resulting from foreign direct investments are the dominant factor of industrial restructuring. However, this study uses a constant technology matrix (1991 I-O MATRIX), so it ignores the changes resulting from the development of production capacities. Yet since 1991 investment activities have been reduced considerably. The volume of capital expenditure declined by 10 percent in 1991, and by 4.4 percent in 1992 compared to the previous years. However, since 1993 investments have begun to grow and in 1994 statistics showed a clear increase. Due to the slow-down in modernisation of technology, although there are no exact data available, it may be assumed that the production capacities available in 1991 still play an important role in industrial production. This is why the competitiveness of production capacities in 1991 is considered to be a relevant issue.

2. In the calculations here it is necessary to use non-existing domestic and world market prices.[5] The calculations usually assume that, looking at the market

[5] *Hughes and Hare* (1991) made some DRC calculations for the Hungarian economy using export and import prices directly.

of one product or a sector, this market is a single market in a sense that only one foreign (world market) and domestic price should be applied to it and the two prices differ in the tariff. The assumption represents fully homogeneous products. Using such an assumption, the hypothetical price without tariff is identical with the world market price and the effective tariff may be calculated on the basis of the following formula:[6]

$$ERP_j = \frac{(1 - \sum_{i=1}^{n} Aij) - \left(\frac{1}{1+t_j} - \sum_{i=1}^{n} Aij * \frac{1}{1+t_i}\right)}{\left(\frac{1}{1+t_j} - \sum_{i=1}^{n} Aij * \frac{1}{1+t_i}\right)}$$

where

ERP_j is the Rate of Effective Tariff Protection in j sector,

Aij is the I-O matrix of the input coefficients,

t_j is the average nominal tariff in j sector; for sectors not affecting foreign trade the t_j value is assumed at 0.

3. The relevance of the analysis presented here is further reduced by the fact that the available sources only allow for the analysis of aggregated sectoral data and therefore the results are in fact sectoral calculations based on simplifying assumptions. Therefore the results may, at the most, be used to indicate the signs of discrimination in the various sectors; finding the beneficiary companies or those suffering a loss would require a deeper analysis.

4. The DRC index is a comparative static index, so it only answers the question of what would happen if tariffs disappeared from one day to the next. However, during the long process of elimination of tariffs the sectors can adjust their technology and product structure. The success of adjustment depends on the available time and thus attention will be paid to the time required by the reduction of tariffs. Furthermore, according to the pace of the elimination of tariffs, the rate of effective protection at different times will also be calculated. Looking at the changes of protection according to periods of time, attention must be drawn to the fact that the DRC used here differs from the DRC used in the relevant literature. This is because it usually expresses the Domestic Resource Cost in USD. As this study is not a comparative study between countries, but only an analysis of the various production activities of one country, it will not change the positions between sectors. However, during the comparison of time periods the impacts of exchange rate changes cannot be ignored. This is because an increase in exchange rates may compensate for losses resulting from the decline of the level of effective protection.

[6] For more details concerning the theoretical basis of the calculations see B. *Balassa et al* (1971).

Nominal protection

Hungary's most important foreign trade partner is the European Union. Over recent years the turnover has increased dynamically. Between 1988 and 1993 the share of the European Union in exports went up from 22.6 percent to 46 percent, and from 25.4 percent to 41 percent in imports. The Association Agreement with the European Union indicates the elimination of the tariff and non-tariff type trade restrictions between Hungary and the countries of the community by 1 January 2001. If the provisions included in the Association Agreement are met, with a few exceptions (e.g. agricultural and food products), there will be a free trade zone between Hungary and its largest trade partner, the European Union. The agreements with the EFTA and CEFTA countries include similar liberalisation agreements, so within 6–8 years the majority of Hungarian goods will have to be sold in a free trade environment.

According to the agreement with the countries of the EU, three various scenarios will be implemented in the elimination of tariffs according to the sensitivity of products. Considering the imported items, the products included in the accelerating list will have 0 percent tariff from 1 January 1994, the tariffs imposed on the products in the normal list will be lifted on 1 January 1997, and the customs duty on products included in the slowing list will begin to decline from 1 January 1995 and will only reach 0 on 1 January 2001. The Association Agreement deals with agricultural products in a separate chapter; in the agricultural sector the schedule of tariff elimination has not been clarified yet. On the basis of the decisions of GATT negotiations, the agreements arrived at so far will also need to be reviewed. This is why, in the analysis which concentrates on the manufacturing industry, a simplified assumption has been used, in which the elimination of the tariffs on all agricultural products will take place on the basis of the slowing list. The unforeseeable impacts of the expected transformation of the quotas into tariffs have been ignored.

The nominal tariffs, broken down according to the nine-digit goods classes of the commercial tariffs, were used as the initial database for our analysis. From those average tariffs have been generated and broken down according to the economic activities classified by the CSO. The input-output matrices represented a difficulty in the analysis since all the other used data are also available in a more detailed breakdown. The available 1991 I-O matrix breaks down industry into only 9 sectors. This is why the calculations could only be made in such a small breakdown.

Sectorial tariffs were defined as a simple average of product tariffs. In foreign trade statistics the method of weighting with turnover is used more often. However, the analysis here is based on the assumption that the imported and domestic products are perfect substitutes, so the quantity of imports may vary for all products. Consequently, simple averages have been preferred (see *Table 1*). The most nominal protection is given to the food industry and agriculture, and this is followed by

Table 1

Average tariff rates on imports from the European Union (as in force on 31 December 1992). Breakdown by industrial sectors and the time schedule for tariff elimination

Sectors	Accelerating list	Normal list	Slowing list
Mining	3.55	1.73	5.87
Metallurgy	4.59	5.15	7.57
Machinery	6.49	10.68	10.55
Construction materials	3.76	3.89	7.47
Chemistry	5.72	7.99	9.63
Light industry	5.83	8.98	12.54
Other industries	6.35	10.01	
Food industry			25.96
Agriculture			17.00

light industry and machine industry, while the least protection is given to mining and the construction material industry. Each sector includes products which are on the accelerating and slowing lists, and these differ from each other considerably in the amount of the basic tariff. At the sectoral level it is true that the later the tariffs are eliminated, the higher the basic tariff rates are. The majority of EU imports in 1992 are represented by products on the ordinary and slowing list. A considerable volume of products on the accelerating list are imported only in the construction industry. In the machinery, construction material industry, chemical industry and other industries products on the normal list dominate, while in mining, light industry, food industry and agricultural imports products on the slowing list represent the highest share.

According to the schedule defined in the Agreement, the sectoral average tariffs were defined in 1994 and 1997. In 1994 the tariffs were eliminated on products on the accelerating list, while those on products on the ordinary and slowing lists will not change. By 1997 the tariff on products on the normal list will be 0 while that on the products in the slowing list will be implemented in the initial stage (the target was 60 percent of the basic tariff by the end of 1992; see *Table 2*).

Up to 1994 there was no significant tariff reduction at the sectoral level, since the products on the accelerating list did not represent a significant proportion in any sector. However, in the period between 1994 and 1997, tariffs on products belonging to the mining, machinery, construction and other industries will fall to a minimum. Due to the higher proportion of products on the slowing list, the tariffs on metallurgical and light industrial products will decline, but to a smaller extent, and the tariffs on food and agricultural products will remain extremely high. In 1997 the tariffs will be positive only on products on the slowing list (and the agricultural products), and these will be reduced at an even rate until 2001.

Table 2

Average tariff rates on imports from the European Union in 1992, 1994 and 1997.

Sectors	Tariff in 1992	Tariff in 1994	Tariff in 1997
Mining	2.22	2.03	0.38
Metallurgy	6.37	6.00	2.77
Machinery	10.46	10.14	0.62
Construction materials	4.05	3.47	0.27
Chemistry	8.19	7.77	1.51
Light industry	10.50	10.45	3.78
Other industries	9.94	9.82	0.00
Food industry	25.96	25.96	18.17
Agriculture	17.00	17.00	11.90

Effective tariff protection of sectors

Comparing the tariffs on the nominal and added values of the sectors, it can be seen that protection varies according to these aspects. Despite the relatively low nominal tariff, metallurgy and machinery enjoy high effective protection due to the low tariffs on inputs. Regarding effective protection, light industry, with its high nominal tariff rate, is in fifth place, since the tariff rates are high not only for the released products but also on the inputs. The highest level of protection is given to the food industry, while the lowest is given to the construction material industry.

On the basis of the level of effective protection, the Domestic Resource Costs in the sectors can be defined. The DRC index is the lowest in the construction material industry and, since it is close to one, it means that it will survive the elimination of tariff rates without particular shocks. Other industries are in second plane, realising 12 percent more added value as a result of the existing tariffs (1992). The added value is 18 percent higher in metallurgy, and 19 percent higher in the chemical industry than purchasing their inputs and selling their outputs at tariff-free world market prices. The elimination of tariffs will affect the food industry most because here the added value may fall by 50 percent compared to its present level. Yet we may not say that the agreement with the EU would affect agriculture and food products adversely. The different assessment is the result of the fact that while most of the products can be exported to the EU either free of tariffs or at low rate, in agriculture the other party also imposes strict trade-restricting measures. A decrease in these would have a favourable impact on the profitability of Hungarian agricultural production. Lifting the tariffs on Hungarian products will not cause a shock to western partners, even for sensitive products. This is because the market share of Hungarian products is very small everywhere. According to *Messerlin*'s calculations (1992), if the EU unilaterally and immediately lifted the

trade restrictions applied to the associate members, it would reduce production by 2–4 percent among the sensitive products (e.g. agriculture, metallurgy, textiles, and the chemical industry). On the other hand, the elimination of agricultural protection (see the decisions of the Uruguay round) may cause significant added value losses in the member countries of the Union.

The DRC index shows that the manufacturing companies have to adjust considerably in order to remain competitive under free trade conditions as the elimination of tariffs would result in an average 20 percent loss of added value to Hungarian producers. Taking into consideration that more than 50 percent of the manufacturing companies were already suffering losses in 1992, delays in adjustment may lead to the companies living on their assets, or even cessation of production.

The success of adjustment depends largely on the length of the available time. Since the products on the accelerating, normal and slowing lists are not included in the same proportions among the products of different sectors, or the inputs used by the sectors, the level of effective protection will be reduced at a different rate. In general it may be stated that, with the exception of the construction industry, the 1992–1994 period had a favourable impact on the protection of the various sectors. As a result of the elimination of tariffs on the products in the accelerating list on the input side, the effective tariffs rates will increase by 2–8 percent in the different sectors.

Table 3

Effective protection rates on imports from the European Union in 1992, 1994 and 1997, and the domestic resource cost ratios

Sectors	EPR in 1992	EPR in 1994	EPR in 1997	DRC
Mining	0.60	1.73	1.31	1.00
Energy	-8.43	-6.86	-0.84	0.91
Metallurgy	18.86	19.52	12.51	1.18
Machinery	17.22	18.68	1.57	1.17
Construction materials	4.02	3.99	-0.14	1.04
Chemistry	19.17	19.63	3.79	1.19
Light industry	15.37	16.01	5.81	1.15
Other industries	12.60	13.35	-0.99	1.12
Food industry	107.70	111.52	80.82	2.07

The elimination of tariffs on products in the normal list will cause significant changes in the protection of sectors. As in the construction industry and other industries, products on the slowing list represent a higher proportion among their inputs than among the released products. By 1997 protection in these two sectors will become temporarily negative and therefore the customs system will negatively influence their profitability. Although effective protection remains positive, the

decrease of protection will be similarly drastic in the machinery, and slightly lower in the chemical and light industries. These sectors have a maximum of 5 years to adjust to free trade. The most favourable treatment is given to metallurgy and the food industry where the level of effective protection will only decrease by 40 percent and 20 percent respectively.

Most probably, all tariffs will be lifted by 2001. Over the coming four-year period the biggest decline in protection will take place in the so far "saved" metallurgy and food industries. The added value will decrease less in the machinery and chemical industries, while the situation of sectors which were earlier affected adversely by tariffs will improve.

Summary

This study has tried to show the comparative advantages and drawbacks of the Hungarian manufacturing industry. It has considered areas which would remain competitive under the present production and technological conditions, even if the trade restrictions protecting the domestic market were lifted. On the basis of our analysis, it can be stated that the Hungarian tariff system is streamlined, since by 1992 the highly protected sectors—resulting from the escalation of nominal tariffs—had disappeared (see the calculations of Herczegh and Simon (1989) and Halpern (1991) for a former period). Yet considerable protection measures have remained therefore manufacturing companies have had to make many adjustments to remain competitive, even under free trade conditions. While in the first two years of the implementation of the Association Agreement (1992–1994) the reduced tariff rates had a favourable impact on the competitiveness of domestic production, the following period (1994–1997) will result in a drastic decline of the level of effective protection. This may reduce the generated added value by as much as 20 percent. Due to the slow technological adjustments it may be expected that the competitiveness of manufacturing companies will decline considerably compared to foreign products.

The fast decline of the level of tariff protection may lead to the collapse of many inefficient companies. The chain reaction of company bankruptcies involves a considerable decline in GDP and employment. This has the effect of destabilising internal demand, and therefore the operating conditions of the competitively producing companies will also decline. Since the revision of the tariffs elimination obligations included in the Association Agreement is not on the agenda, the government has exchange rate policy instruments with which it can counterbalance the deterioration of the competitiveness of companies in manufacturing industry.

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THE NUMBER OF BALANCED STEADY STATES IN REALISTIC OVERLAPPING COHORTS MODELS

A. SIMONOVITS

This paper studies the existence and uniqueness of balanced steady states (for short, BSS) in an *Overlapping Cohorts* model. (i) Following *Kim*'s (1983) critique on *Gale* (1973), we complement Kim's existence theorem for constant relative risk aversion (for short, CRRA) utility functions: there exist BSSs for weak and strong risk aversions but either non-existence or non-uniqueness holds for medium risk aversions. We give a condition on non-uniqueness and conjecture another one for non-existence. (ii) Recapitulating *Augusztinovics* (1992), we extend the analysis to total risk aversion. (iii) We demonstrate the irrelevance of *Aiyagari* (1988)'s long-lived agent and show that his result on the approximate uniqueness and optimality does not remain valid in the relevant model.

1. Introduction[1]

In his pathbreaking paper, Gale (1973) analyzed the mathematical properties of a model which was later referred to as the model of *Overlapping Generations*. In this there is a single perishable good and, apart from age, the members of the overlapping generations are alike. In Part I Gale considered a model with two overlapping generations and discussed stationary as well as non-stationary paths. In Part II he extended the analysis to a model with $n+1$ overlapping generations, but confined discussion to stationary paths or steady states.

In this paper I shall reconsider Gale's Part II and its follow-up. I shall use the word *cohort* rather than *generation*, because in the first meaning of the word no more than four generations may live together and the expression of two overlapping generations may hide the limits of working with two cohorts.

Gale defined a *feasible steady state* (for short, FSS) as an optimal stationary path for which the total savings of the population equals zero. (Some authors, e.g. *Aaron* (1966), Augusztinovics (1992) and *Simonovits* (1993) considered non-feasible systems as well, where the deficit or sufficit of the system is financed from, or finances external sources.) Gale distinguished *balanced* and *golden rule* steady states (for short, BSS and GRSS), whether the FSS's interest factor (i.e. one plus interest rate) is different or not from unity. He made two important assumptions: (i) preferences are increasing and (ii) the endowment vector is non-negative with

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at least two positive components. Assumption (i) is much more stringent than usual, since he assumed that the utility function is defined and is increasing also on the boundary of the positive orthant (see Gale's later private communication in Kim (1983) and a companion paper (Gale 1974)). Assumption (ii) is in the spirit of *Samuelson* (1958) and especially of *Tobin* (1967), since zero endowments for childhood and retirement are particularly helpful, if we want to explain transfers. Gale proved the existence and conjectured the uniqueness of a BSS "in most cases" (p. 16) or in the "usual situation" (p. 34). He proved uniqueness for Cobb-Douglas utility functions.

Since its publication, Gale (1973) has become the explicit or implicit starting point of many subsequent contributions to the topic of stationary multi-cohort models. Although Balasko *et al.* (1980) did not explicitly consider stationary paths, nor multi-cohorts, it is worth mentioning. They proved that every multi-cohort model can be reduced to a 2-cohort model with an appropriate enlarging of the commodity space. Their general results imply the existence of at least one BSS for the most general class of meaningful utility functions and under the abstract condition of intertemporal irreducibility.

It was Kim (1983) who exposed certain problems in Gale's formulation. Kim showed that if we accept assumption (i), then we exclude many important and realistic utility functions, including Gale's favorite one, the Cobb-Douglas specimen. Kim proved a generalized existence theorem (his Theorem 2) whose specification to CRRA (Constant Relative Risk Aversion) utility functions asserts existence for sufficiently weak and sufficiently strong risk aversion. Kim's results suggest "...that the study of the institutional requirements for the golden rule equilibrium in the classical case may be as important as that in the Samuelson case..." (Kim 1983, p. 346). However, Kim's Theorem 2 does not apply to a window of medium-sized risk aversion coefficients. Figuratively speaking, let us assume that the first and last positive endowments denote the beginning and the end of the working stage, preceded by childhood and followed with retirement. The lowest and the highest values of the window are defined roughly by the minimum and the maximum of two quantities, respectively: (i) the ratio of time *not* spent in childhood to lifetime and (ii) the ratio of time *not* spent in retirement to lifetime. Kim gave simple counter-examples to both existence and uniqueness with parameters lying in the window.

Kehoe (1991) presented numerical examples on non-existence and non-uniqueness. (Considering different consumers born in different time-periods, *Cass* (1979) had already proved non-existence.) In turn, Aiyagari (1988) and *Ghiglino and Tvede* (1994) proved existence and uniqueness of BSS for long-lived agents and near golden rule no-trade equilibria, respectively. *Reichlin* (1992) proved existence of BSS for stochastic lifespans.

In the present paper we shall continue Kim's analysis and criticize Aiyagari's approach, paying attention to the realism of the models.

First we shall show that for CRRA utility functions and non-negative endowments, either non-existence or non-uniqueness of BSS holds in the window. (It is of interest that economies in the window are *not* regular, therefore they were neglected by Kehoe (1991)). Moreover, for a large domain of the window's parameter space non-uniqueness of BSS holds, and for another domain non-existence is conjectured. It is noteworthy that intertemporal irreducibility does not seem to be of much help.

We can enhance our understanding by considering Leontief utility functions encompassed by Balasko *et al.* (1980). Note that they are only non-decreasing CRRA functions, but the uniqueness of optimal steady state for any given interest factor still holds. Nevertheless, we may have as many BSSs as the number of cohorts, less two. Through continuity, non-uniqueness holds for increasing CRRA functions close enough to some Leontief utility functions, possibly in a rather narrow domain of the parameters.

Finally, we want to discuss the problem of the lifespan of the agents. Aiyagari (1988) set out from a model with agents having infinite lifespans (OLC(∞)), with earnings bounded away from zero. By truncation he obtained a series of explicit multi-cohort macromodels. His major result was that, for long enough lives ($n > n_0$) and positive discounting, BBS exists and the corresponding interest factors converge to the reciprocal of the discount factor in OLC(n) ("nice economies"). In fact, he established a qualitative result: the "nice" economy OLC (∞) cannot be approximated with "ugly" economies OLC(n), where BBS may not exist or the corresponding interest factors do not converge on the reciprocal of the discount factor.

Reichlin (1992) claimed that the results of Aiyagari (1988) depend sensitively on two assumptions: (i) deterministic lifespan and (ii) earnings bounded away from zero. Introducing (i') age-invariant death risk, and (ii') earnings *not* bounded away from zero, Reichlin was able to undermine Aiyagari's message. While I accept assumption (ii'), I reject the unrealistic assumption (i'), which is valid for atoms but not for humans.

In my reading, Aiyagari's result may be of some mathematical interest, but its economic importance is quite limited. For example, it tells us nothing if the lifespan in the last "ugly" economy OLC(n_0) is equal to 50 years or 5 billion years. His following message entirely misses the point: "Lastly, the above results strongly suggest that empirically, infinitely lived agents models of the class considered here would be good approximations to the corresponding class of long (but finitely) lived overlapping generations models. That is, the "overlapping" structure does not make sense" (Aiyagari 1988, p. 104).

In my opinion, the relevant approach is as follows: fix the physical length of total lifetime and divide life into suitable short time-periods while appropriately increasing the time-period discount factor. Now anything goes: for any number of

cohorts more than one BSS may exist and the discount factor has no bearing on the interest factor: non-optimal BSS and GRSS also exist.

Notwithstanding its critical character, the paper is self-contained. It follows the notations of Gale (except rho is replaced by r and gamma by g) and refers to an unpublished survey of Augusztinovics (1992).

The structure of the paper is as follows. *Section 2* recapitulates the model. *Section 3* considers CRRA utility functions, and discusses and extends Kim's analysis to the window. *Section 4* extends the results of *Section 3* to Leontief utility functions. *Section 5* considers the issue of long-lived agents. *Section 6* provides a conclusion.

2. The model of overlapping cohorts

In this *Section* we shall introduce the model of Overlapping Cohorts and discuss Gale's theorem and conjecture.

People live exactly for $n+1$ time-periods, indexed by $i = 0, 1, \ldots, n$, $n \geq 1$. Calendar time is denoted by $t = 0, 1, 2, \ldots$. Let $e_i, c_{i,t}$ and $s_{i,t}$ be the (time-invariant) endowment, the consumption and the saving of a person of age i at time t. Obviously, $e_i \geq 0, c_{i,t} \geq 0$ and $s_{i,t} = e_i - c_{i,t}$. To have a non-empty model, at least one element of the endowment vector should be positive. Let m and M be the first and the last component of the endowment vector which is positive: $0 \leq m \leq M \leq n$. Figuratively, we shall speak of generations of children, workers and pensioners for $0 \leq i < m$, $m \leq i \leq M$ and $M < i \leq n$, respectively (cf. Tobin 1967). Contrary to Gale, we do not assume that at least two components are positive. In fact, as Kim (1983) demonstrated, what we need is slightly weaker: $M > O$ and $m < n$.

Let r_t be the interest factor in time-period t, and g the time-invariant growth factor of the "newborn". Let $N_{i,t}$ be the number of people aged i at time t, then $N_{i,t+1} = gN_{i,t}$. Note that the population (numbering N_t) also grows at a factor g, and the ratio of the number of people aged i to those of age 0 is equal to g^{-i} at every time-period.

A saving path $\{s_{i,t+1}\}_{0 \leq i \leq n}$ leaves *zero bequest* if the discounted lifetime saving (the present value) is equal to zero:

$$\sum_{0 \leq i \leq n} (r_{t+1} \cdots r_{t+i})^{-1} s_{i,t+i} = 0. \tag{2.1}$$

A saving profile $\{s_{i,t}\}_{0 \leq i \leq n}$ is *feasible* if the total saving of the society is equal to zero. Dividing the total saving by $N_{0,t}$ we obtain the *feasibility condition*

$$\sum_{0 \leq i \leq n} g^{-i} s_{i,t} = 0. \tag{2.2}$$

Let $U(c_0, \ldots, c_n)$ be the *timeless* utility function of a representative agent, which is (strictly) concave, non-decreasing (increasing) in all variables.

For a given interest factor path, the consumer born at time t maximizes his utility function $U(c_{0,t}, \ldots, c_{n,t+n})$ under the condition of zero bequest (2.1). There exists at least one such a path. For any increasing utility function, as well as the special non-decreasing utility function to be used in *Section 4*, this path is unique and will be called the *optimal path*.

To avoid genuine dynamics (non-stationary paths), we confine our attention to *time-invariant* interest factors: $r_t = r$. Thus the optimal consumption and saving paths are time-invariant and are called *steady states*. Denoting the dependence on the interest factor, we have:

$$c_{i,t} = c_i(r) \text{ and } s_{i,t} = s_i(r) \text{ for all } t = -1, 0, 1, \ldots.$$

The resulting *stationary* conditions are

$$\sum_{0 \le i \le n} r^{-i} s_i(r) \equiv 0, \tag{2.1°}$$

$$\sum_{0 \le i \le n} g^{-i} s_i(r) = 0. \tag{2.2°}$$

Feasible steady states will be referred to as FSS. Introducing notation

$$\Phi(r) = \sum_{0 \le i \le n} g^{-i} s_i(r), \tag{2.3}$$

(2.1°) and (2.2°) reduce to $\Phi(r) \equiv 0$ and $\Phi(g) = 0$, respectively. It is evident that for $r = g$ the two conditions coincide. If, incidentally, $\Phi'(g) = 0$, then g is a multiple root: *golden rule steady state*, (for short GRSS). Other feasible steady will be referred to as *balanced steady states* (for short, BSS). Interest factors generating FSS, GRSS and BSSs are called feasible, golden rule or balanced interest factors, respectively.

Gale proved the following *Theorem (Gale, 1973, Lemma and first part of Theorem 5): If the endowment vector has at least two positive coordinates and if the preferences are increasing, then there always exists at least one BSS.*

Remarks. 1. Any proof depends on whether $\Phi(r) = 0$ has at least one positive root in addition to the *trivial* root $r = g$.

2. In his sketch of the proof Gale (1973) took limits at $r = 0$ and ∞ and from

$$c_0(0) = \infty \text{ and } c_n(\infty) = \infty, \tag{2.4}$$

derived

$$\Phi(0) = -\infty \text{ and } \Phi(\infty) = -\infty. \tag{2.5}$$

As mentioned in Kim (1983) and the introduction in the present paper, the full proof in Gale (1974) relies on the fact that the utility function is also defined and is increasing on the boundary of the positive orthant. In a life-cycle macromodel this assumption is quite unrealistic.

Since we are interested in realistic cases, we shall not only follow Kim (1983) in extending the analysis to utility functions only defined on the positive orthant, but we shall also restrict the analysis to this latter case. As Kim showed, both (2.4) and the existence may not hold.

3. Although we do not study dynamics at all, we ask if Theorem 3 in Gale (1973) can be generalized as follows: Any equilibrium is locally stable if total saving $\Phi(r)$ is increasing; and unstable if $\Phi(r)$ is decreasing.

We return to existence and uniqueness. Gale also added a *conjecture* to his theorem. "Although I have not been able to establish any general result I believe that the usual situation is that there exists exactly one balanced steady state" (Gale, p. 34). This conjecture is still unsolved under Gale's hidden assumption, but it is definitely not true under our alternative restrictions.

Instead of struggling with rather difficult technical problems of general utility functions, we shall only consider CRRA and Leontief utility functions, respectively. Probably a good deal of economists object to our use of parametric utility functions and expect me to follow Gale (1973), Kim (1983) and Aiyagari (1988) in using parameter-free utility functions. I think that Kim's analysis demonstrates the awkwardness of this practice in the OLC framework.

3. The case of CRRA utility functions

In this *Section* we introduce the class of CRRA utility functions (also used by Gale in his Example 2 for $n = 1$) and give an explicit formula on the function $\Phi(r)$, whose non-trivial zeros yield the balanced interest factors.

Constant relative risk aversion (CRRA) utility functions are quite general and they play an outstanding role in the analysis of life-cycle problems. Let σ be a real number, $-\infty \leq \sigma < 1$ is referred to as the *coefficient of relative risk aversion*. To represent weights, we shall need two series of positive reals called *A and T paths*, respectively: $\alpha_0, \alpha_1, \ldots, \alpha_n$ and $\tau_0, \tau_1, \ldots, \tau_n$, where $\sum_{0 \leq i \leq n} \alpha_i = 1$ and $\sum_{0 \leq i \leq n} \tau_i = 1$. Then the utility function is given by

$$U(c_0, \ldots, c_n) = \sum_{0 \leq i \leq n} \alpha_i \sigma^{-1} (\tau_i^{-1} c_i)^{\sigma} \quad \text{if} \quad \sigma \neq 0, -\infty. \tag{3.1}$$

We can normalize (3.1) as follows [CES utility]:

$$Z_\sigma = (\sigma U)^{1/\sigma}. \tag{3.2}$$

Then for $\sigma = -\infty$ and 0, (3.1) and (3.2) yield Leontief and Cobb-Douglas utility functions, respectively:

$$Z_\infty(c_0, \ldots, c_n) = \min_{0 \le i \le n}(\tau_i^{-1} c_i), \tag{3.3}$$

$$V(c_0, \ldots, c_n) = \sum_{0 \le i \le n} \alpha_i \log(c_i), \tag{3.4}$$

where $V = \log Z_0$.

Remark. 1. Note that in (3.1) $\alpha_i \tau_i^{-\sigma}$ shows the relative weight of utility due to c_i. (If we worked only with the A-path, we would obtain an unweighted Leontief utility function for $\sigma = -\infty$.) We shall frequently use the following transformation of σ: $\mu = \sigma/(\sigma - 1)$ where $1 - \mu$ is *the intertemporal elasticity of substitution*.

2. It is noteworthy that Gale (1973) himself also studied utility functions not defined on the boundary, e.g. Cobb-Douglas and all CRRA utility functions with risk aversion coefficients $(1 - \sigma)$ larger than 1 (pp. 26–27).

Here we shall derive optimal paths for CRRA functions by using the Lagrange method. To do so we need the following notations:

$$\delta_i(\mu) = \alpha_i^{1-\mu} \tau_i^{\mu}, \quad i = 0, 1, \ldots, n, \tag{3.5}$$

$$E(r) = \sum_{0 \le i \le n} e_i r^{-i}, \tag{3.6}$$

$$C_\mu(r) = \sum_{0 \le i \le n} \delta_i(\mu) r^{-\mu i}, \tag{3.7}$$

$$H_\mu(r) = \frac{E(r)}{C_\mu(r)}. \tag{3.8}$$

Lemma 1 (Simonovits 1993, Lemma 1). For a CRRA utility function and a given interest factor r the infeasible optimal consumption at age j is given by

$$c_j(r) = \delta_j(\mu) r^{(1-\mu)j} H_\mu(r). \tag{3.9}$$

Remarks. 1. Although the CRRA utility functions are concave for the entire parameter interval $\sigma \in [-\infty, 1)$, we shall drop the interval $\sigma \in (0, 1)$ i.e. we shall exclude the unrealistic $\mu < 0$ implicitly assumed by Gale.

2. For notational simplicity we shall take the growth factor of the population to 1 and normalize the endowment vector: $g = 1$ and $\sum_{0 \le i \le n} e_i = 1$.

Substituting (3.9) into (2.3) yields

$$\Phi(r) = \sum_{0 \le j \le n} [e_j - \delta_j(\mu) r^{(1-\mu)j} H_\mu(r)]. \tag{3.10}$$

Introducing notations

$$D_\mu(r) = \sum_{0 \le j \le n} \delta_j(\mu) r^{(1-\mu)j}, \tag{3.11}$$

$$F_\mu(r) = C_\mu(r)\Phi(r), \tag{3.12}$$

we obtain

$$F_\mu(r) = C_\mu(r) - D_\mu(r)E(r). \tag{3.13}$$

Summing up, we have

Lemma 2. Under a CRRA utility function the number of BSSs is equal to the number of non-trivial roots of $F_\mu(r) = 0$.

Plugging (3.6), (3.7) and (3.11) in (3.13) yields a rather complex expression, which is not even a polynomial for irrational μ's. Revising Gale's argumentation, we arrive at the completion of Gale and Kim's theorem, even if only for a special class of utility functions. We shall need as abbreviations:

$$\mu_1 = \min(M/n, 1 - m/n) \quad \text{and} \quad \mu_2 = \max(M/n, 1 - m/n). \tag{3.14}$$

Theorem 1 (cf. Kim, 1983). Let e_m *and* e_M *be the first and the last positive coordinates of the endowment vector and let the utility function be of type CRRA,* $0 \le \mu < 1$. *If either* $0 \le \mu < \mu_1$ *or* $\mu_2 < \mu < 1$ *holds, then there always exists at least one BSS. If* $\mu_1 < \mu < \mu_2$ *holds (the window), then either non-existence or non uniqueness prevails.*

Remarks. 1. Note that for any given triple (m, M, n), interval $0 \le \mu < \mu_1$ is never empty. Interval $\mu_2 < \mu < 1$ is empty if $M = n$ or $M = 0$; interval $\mu_1 < \mu < \mu_2$ is empty if $m + M = n$. The borderline cases $\mu = \mu_1$ and $\mu = \mu_2$ need separate treatment, which has been omitted.

2. In words: for weak or strong risk aversion existence is established, while for medium-risk aversion either non-existence or non-uniqueness holds.

Proof. Taking up Gale's idea we calculate the limits of $F(r)$ at $r \to 0$ and ∞. To begin with, we exclude the limit case $\mu = 0$.

For $r \approx 0$ $E(r) \approx e_M r^{-M}$, $C_\mu(r) \approx \delta_n(\mu) r^{-\mu n}$, $D_\mu(r) \approx \delta_0(\mu)$.

For $r \approx \infty$ $E(r) \approx e_m r^{-m}$, $C_\mu(r) \approx \delta_0(\mu)$, $D_\mu(r) \approx \delta_n(\mu) r^{(1-\mu)n}$.

By (3.13),

for $r \approx 0$ $F_\mu(r) \approx \delta_n(\mu) r^{-\mu n} - \delta_0(\mu) e_M r^{-M}$;

for $r \approx \infty$ $F_\mu(r) \approx \delta_0(\mu) - \delta_m(\mu) e_m r^{(1-\mu)n-m}$.

Hence

$$\mu n < M \Rightarrow F_\mu(0) = -\infty, \tag{3.15}$$

$$(1-\mu)n > m \Rightarrow F_\mu(\infty) = -\infty, \tag{3.16}$$

$$\mu n > M \Rightarrow F_\mu(0) > 0, \tag{3.17}$$

$$(1-\mu)n < m \Rightarrow F_\mu(\infty) > 0. \tag{3.18}$$

Since $F_0(1) = 0$, under either (3.15)–(3.16) or (3.17)–(3.18) there exists at least one positive root different from 1.

Under either (3.15)–(3.18) or (3.16)–(3.17) $\operatorname{sgn} F_\mu(0) \neq \operatorname{sgn} F_\mu(\infty)$; thus "there are" an even number of balanced roots: $0, 2, 4, \ldots$.

We discuss now one limit case, $\mu = 0$: $C_0(r) \equiv 1$—hence for $r \approx 0$ $F_0(r) \approx 1 - \alpha_0 e_M r^{-M} \to -\infty$ (since $M > 0$). Similarly, for $r \approx \infty$ $F_0(r) \approx 1 - \alpha_m e_m r^{n-m} \to -\infty$ (since $m < n$); hence (3.15)–(3.16) are valid for $\mu = 0$. The other limit case ($\mu = 1$) needs separate treatment, which will be given in *Section 4*.

Remarks. 1. For positive endowment vectors (m=0 and M=n) every risk aversion is weak, and at least one BSS exists. However, non-negative endowments are also important. (a) If only workers and pensioners are modelled—i.e. $m = 0$ and $M < n$—then $0 \leq \mu < M/n$ implies existence and $M/n \leq \mu < 1$ excludes either existence or uniqueness. (b) If both children and pensioners are modelled—i.e. $m > 0$ and $M < n$—then three cases are possible: $m < n - M$, $m > n - M$ and $m = n - M$.

2. I do not know exactly what determines if non-existence or non-uniqueness prevails in the window. I conjecture that for any triplet (m, M, n) with $0 < m < M < n$, both possibilities occur in the window.

3. Our conditions are insensitive to the size of e_m and e_M. Does it mean that giving 1 cent to each cohort originally without endowment, we end up with $e > 0$ and existence? Formally, yes. However, if we work with realistic data, our 1 cent perturbation will yield unrealistically low or large balanced interest factors.

This anomaly disappears if we consider *flat* A, T and E paths:

$$\alpha_i = \tau_i = 1/(n+1) \quad \text{for} \quad 0 \leq i \leq n; \tag{3.19}$$

$$e_i = 1/(M-m+1) \quad \text{for} \quad m \leq i \leq M, \quad \text{and} \quad e_i = 0 \quad \text{for} \quad 0 \leq i < m, \; M < i < n. \tag{3.20}$$

Note that we now have to accept some zero endowments, otherwise we end up with the optimal no-trade paths.

We return to the issue of non-existence or non-uniqueness. While we can say very little about non-existence we have something to say on non-uniqueness.

Theorem 2 (Non-uniqueness). Suppose that under the assumptions of Theorem 1 and (3.19) either

(a1) $1 - m/n < \mu < M/n$ *and (a2)* $\sum e_i i < n/2$

or

(b1) $M/n < \mu < 1 - m/n$ *and (b2)* $\sum e_i i > n/2$

hold. Then there are at least two BSSs.

Remark. It is obvious that (a1) and (a2) represent classical and Samuelson ATE paths for flat and actual endowment paths, respectively. Similarly, (b1) and (b2) represent Samuelson and classical ATE paths for flat and actual endowment paths, respectively.

Proof. The basic idea is very simple: in cases (a) and (b), function $F_\mu(r)$ is *globally* declining and rising, respectively. However, if we knew that the *local* direction at $r = g = 1$ is just the opposite—i.e. rising and declining respectively—then we could prove multiplicity.

However, it is very easy to determine the slope at the foregoing point. By (3.13), $F'_\mu = C'_\mu - D'_\mu E - D_\mu E'$, where $C'_\mu(1) = -\mu\Sigma\delta_i(\mu)i$, $D'_\mu(1) = (1-\mu)\Sigma\delta_i(\mu)i$, $E'(1) = -\Sigma e_i i$, i.e. $F'_\mu(1) = [\Sigma\delta_i(\mu)](\Sigma e_i i) - \Sigma\delta_i(\mu)i$.

Unfortunately, for the flat ATE paths we obtain identical rather than opposite directions. Indeed, (3.19)–(3.20) imply $F'(1) = (m + M - n)/2$, which is positive if (a1) holds, when the global direction is also positive. It does not prove either multiplicity or uniqueness.

However, if we relax (3.20), but not (3.19), then there is much room for multiplicity. Any normed endowment vector e, for which both (a1) and $F'(1) = \Sigma e_i i - n/2 < 0$ hold, implies non-uniqueness.

Before closing the general analysis, we risk the following:

Conjecture. (Non-existence). Let $m = 0, \mu_1 = M/n$ *and* $\mu_1 < \mu < 1$. *There is no BSS if*

$$\frac{e_i}{\delta_i(\mu)} \geq \frac{e_{i+1}}{\delta_{i+1}(\mu)} \qquad i = 0, 1, \ldots, M-1. \tag{3.21}$$

Remarks. 1. We shall see that for $\mu = 1$ our conjecture reduces to a special case of Theorem 3-c. Computer calculations verify this conjecture for flat ATE paths [(3.19)–(3.20)] and for a reasonable interval of interest factors.

2. For $n = 2, M = 1$ and $\delta_i \equiv 1$ Conjecture 2 reduces to Kim's (1983) Example 1.

There are two families of utility functions under which the existence and uniqueness of BSSs [or the non-trivial roots of (3.13)] are relatively simple problems: (i) Cobb-Douglas and (ii) Leontief utility functions. In case (i) Theorem 1 always implies existence and Gale proved uniqueness (his Theorem 6) via Descartes' rule. ("The number of positive roots of a polynomial with real coefficients is less than or equal to the number of changes in signs of the coefficients.") In the next *Section* we shall consider case (ii).

4. The case of very strong risk aversion

The Leontief utility function is only non-decreasing but not increasing. (Furthermore, it cannot even be differentiated at the optimum.) Thus Gale's assumption (increasing preferences) holds neither inside nor at the boundary of the positive orthant. However, for CRRA with strong risk aversion—i.e. μ's close to 1—the weaker assumption is again valid. Hence we shall obtain counter-examples to existence and uniqueness with perturbing analytical results, rather than relying on Theorem 2 or searching without help.

First we present the special results obtainable from *Section 3*. For $\mu = 1$ (3.5), (3.7) and (3.8) reduce respectively to:

$$\delta_i(1) = \tau_i, \qquad i = 0, 1, \ldots, n, \tag{4.1}$$

$$C_1(r) = \sum_{0 \le i \le n} \tau_i r^{-i}, \tag{4.2}$$

$$c_j(r) = \tau_j H_1(r), \qquad j = 0, 1, \ldots, n. \tag{4.3}$$

Now $D_1(r) \equiv 1$, and (3.13) reduces to the simple polynomial

$$F_1(r) = C_1(r) - E(r) = \sum_{0 \le i \le n} (\tau_i - e_i) r^{-i}. \tag{4.4}$$

Augusztinovics (1992) considered the same problem, without using explicit optimization. Applying Descartes' rule, she obtained propositions which can be reformulated as:

Theorem 3 (cf. Augusztinovics 1992, Propositions 12–14). Assume that the representative consumer has a Leontief utility function.

a) There exist at least one BSS if

$$e_0 < \tau_0 \quad \text{and} \quad e_n < \tau_n. \tag{4.5}$$

b) There is a unique BSS if there exist two integers m^* and M^*, $0 < m^* < M^* < n$, such that

$$e_i < \tau_i \quad for \quad 0 \leq i < m^* \quad \text{and} \quad M^* < i \leq n; \tag{4.6}$$

$$e_i \geq \tau_i \quad for \quad m^* \leq i \leq M^*. \tag{4.7}$$

c) There is no BSS if (4.6)-(4.7) holds for $m^* = 0$.

Remarks. 1. Note that here not only the index but also the size of the endowment is important.

2. It is easy to see that, in addition to (4.5), condition

$$e_0 > \tau_0 \quad \text{and} \quad e_n > \tau_n \tag{4.8}$$

also guarantees the existence of BSS, but it excludes the explicit modelling of childhood and retirement. In both cases $n \geq 2$.

3. Simonovits (1993) applied this approach to the ranking of PAYG and CR pension systems for a large class of utility functions. We shall say that *PAYG is better than CR* if the former provides higher welfare than the latter at its optimum. Incidentally, for Leontief utility functions, PAYG is better than CR if $F_1(r) < 0$. This problem is due to Aaron (1966), who assumed childless flat paths, i.e. (3.19) and (3.20) with $m = 0$. By Theorem 3-c, in Aaron's setting no BSS exists and the ranking is simplified to $r < 1$ (Aaron's condition).

Returning to the main problem, first assume that the *endowment vector is positive*: $e > 0$. Then choosing $\tau_i = e_i$, $i = 0, 1, \ldots, n$, $C_1(r) \equiv E(r)$; hence $H_1(r) \equiv 1$, and (4.3) reduces to $c_j(r) = e_j$ for $j = 0, 1, \ldots, n$. We obtain the optimal no-trade equilibrium studied by Ghiglino and Tvede (1994), but now for *any* positive r. In the remainder of the paper we exclude this degenerate case.

Given this, the number of positive roots of $F_1(r)$ can vary from 1 to n and the roots can also be arbitrary positive reals, except for the fact there should be one unit root.

Theorem 4. Let the representative actor's endowment vector be positive. Let us be given n positive numbers, including 1: the prescribed interest factors. Then we can define a Leontief utility function such that there are $n - 1$ BSSs corresponding to the non-trivial prescribed interest factors.

Proof. We shall prove a more general statement on K prescribed values. Let $0 < r_1 \leq r_2 \leq \ldots \leq r_K < \infty$, where $r_k = 1$ for some k, $1 \leq k \leq K$, and let the remaining $n - K$ number be negative reals and some complex conjugate pairs. We shall use Vieta's formulas on the connection of the coefficients and the roots of an n-degree polynomial for the reciprocals. We can determine $n + 1$ real numbers $a_0, a_1, \ldots, a_n$, such that $a_n = 1$ and the polynomial $\sum_{0 \leq i \leq n} a_i r^{-i}$ has the positive roots prescribed above. Because of the positivity of e_i, one can choose a real π so

that each $\tau_i = \pi a_i + e_i$ will also be positive, $i = 0, 1, \ldots, n$, and the polynomial $F_1(r)$ also have the prescribed roots.

Remark. It is of interest that for small enough π's our construction reduces to the local analysis around the golden rule no-trade case. In fact, Theorem 4 shows that Ghiglino and Tvede's theorem is sharp in a certain sense.

Having solved the analytical problems, we can construct counter-examples, with positive endowments to uniqueness by perturbation. For simplicity, we shall only discuss $n = 4$. The construction is done in two steps: (i) a pseudo counter-example is created for a Leontief function; and (ii) by perturbing it, a genuine counter-example is generated for a CRRA function with μ sufficiently close to 1.

Pseudo counter-example. Let $n = 4$ and $e_i = 0.2$ for $i = 0, 1, 2, 3, 4$. Let $\mu = 1$, choose $r_1 = 0.5$, $r_2 = 1$, $r_3 = 2$ and $r_4 = 4$. Having $a_0 = 0.25$, $a_1 = -1.875$, $a_2 = 4.375$ and $a_4 = 1$, $\pi = 0.01$ yields $\tau_0 = 0.2025$, $\tau_1 = 0.18125$, $\tau_2 = 0.24375$, $\tau_3 = 0.1625$ and $\tau_4 = 0.21$. By construction, the balanced interest factors are as prescribed.

Counter-example 1. We retain everything from our pseudo counter-example but replace $\mu = 1$ with $\mu = 0.995$ (perturbation method). Adding $\alpha_i = 0.2$ for $i = 0, 1, 2, 3, 4$ as the second weight series, computer simulation yields $r_1 = 0.14$, $r_2 = 1$, $r_3 = 1.52$, at least in the interval $(0.1, 5)$. In this case there exist two different BSSs, i.e. uniqueness does *not* hold, again.

What happens if *not all endowments are positive*? In this case technical difficulties arise with the positivity of $\tau_i = \pi a_i$ (i) if there are at least two consecutive zero endowments (e.g. $e_0 = e_1 = 0$ or $e_{n-1} = e_n = 0$), or (ii) if the human lifetime consists of even time-periods and both childhood and old age are modelled with pre-transfer incomes: (e.g. $e_0 = e_n = 0$). In both cases the positivity of τ_i excludes the existence of $n - 1$ positive steady states.

5. Long-lived agents vs. fine resolution

Until now we have remained silent on the number of cohorts. Now we take up the issue of "long-lived" agents and call into question the relevance of Aiyagari (1988)'s results (cf. also Reichlin 1992). Here I can strengthen my polemics presented in the introduction to this study by showing his results and contrasting them with mine.

Aiyagari (1988) aggregated the time-period utility functions with *(positive) discounting*. In case of CRRA utility functions this means

$$\alpha_{i+1} = \alpha_i \vartheta, \quad 0 < \vartheta < 1 \quad \text{and} \quad \tau_i = 1/(n+1) \tag{5.1}$$

where ϑ is the *discount factor*. (Unfortunately, in the literature usually ϑ rather than $1/\vartheta$ is called the discount factor, but this usage has an unpleasant implication:

the lower its value, the stronger is the discount. To avoid any confusion, we also follow this tradition.)

A simple calculation yields that in the notable special case

$$e_i = 1/(n+1), \quad i = 0, \ldots, n, \tag{5.2}$$

the reciprocal of the discount factor

$$r^* = 1/\vartheta \tag{5.3}$$

belongs to the simplest no-trade BSS: $c_j = 1/(n+1)$. Note that (5.3) is the unique BSS of economy OLC(∞) with agents living infinitely; this is optimal, i.e. free of the paradoxes of OLC.

Aiyagari proved the existence of BSS and the convergence of balanced interest factors to (5.3). He has fixed the length of the time-periods (a quarter of century, a decade, a year, a month, etc.) and increased the number of cohorts (2, 3, 4, etc.). In this way he increased the physical length of adult lifetime (for example, he considered lifespans of 50, 75, 100, etc. years). He had not (and probably could not) given any quantitative estimation as to how the critical n_0 depends on the length of the time-period and the discount factor. For example, calculating in years and with a discount factor 0.99, we do not know if the lifespan in the last "ugly" economy OLC(n_0) is equal to 50 years or 5 billion years.

In my opinion, the relevant approach is as follows: fix the physical length of total lifetime (say at 70 years) and divide life into suitably short time-periods (decades, years, at most months), while appropriately increasing the time-period discount factor (from $0.99^{10} \approx 0.9$, to $0.99, 0.99^{1/12}$). Of course, in this approach for no n the endowment vector $(e_0(n), \ldots, e_n(n))$ contains that of $n-1$.

My results show that if Aiyagari's approach is replaced by the relevant one, then anything goes: for any number of cohorts more than one BSS may exist and the discount factor has no bearing on the interest factor: non-optimal BSS and GRSS also exist.

For simplicity, we shall experiment with discounting and a flat earning path, calculating in the most natural units of analysis, i.e. years.

Counter-example 2. Let $n = 71$, $m = 20$ and $M = 57$. (Then the middle interval is $0.718 \leq \mu < 0.803$.) For $\mu = 0.73$ there exists no BSS. For $\mu = 0.75$ we find the balanced interest factors $r_1 = 0.74$ and $r_2 = 0.87$: there exist at least two different BSSs, i.e. uniqueness does *not* hold (*Figure 1*) for normal human lifetime. *Figure 1* shows the curve $\Phi_\mu(r)$ for four different μ's representing four different types.

If one insists on the positivity of the endowment vector, but gives up the boundedness away from zero, then it can be seen that Aiyagari's claim on $\lim_{n\to\infty} r^* = 1/\vartheta$ does not hold anymore. Indeed, a golden rule no-trade optimum (Ghiglino and Tvede 1994) exists, if one chooses

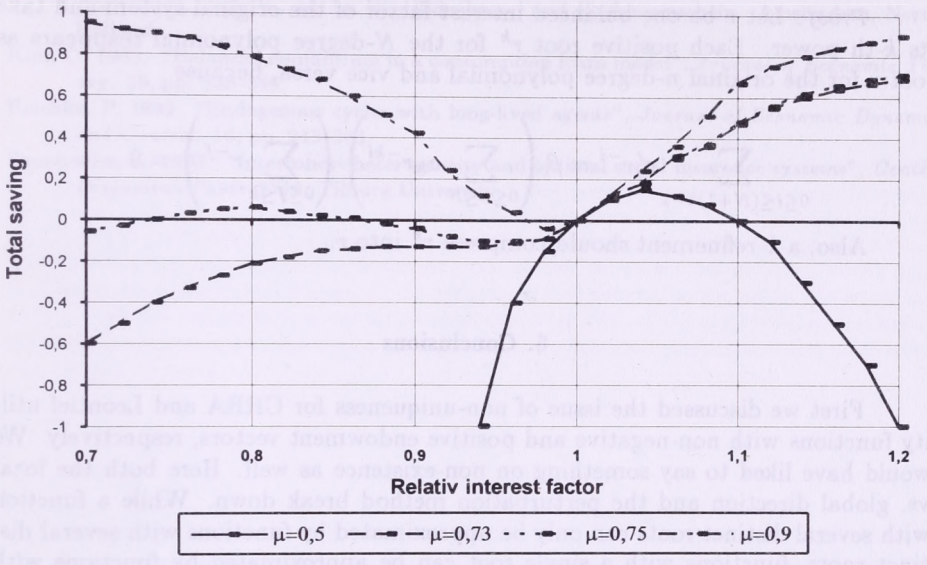

Fig. 1 Interest and total savings

$$e_j = \frac{\vartheta^{(1-\mu)j}}{\sum_i \vartheta^{(1-\mu)i}}, \quad j = 0, 1, \ldots, n. \tag{5.4}$$

Indeed, (3.9) now reduces to $c_j(1) = e_j$ for $j = 0, 1, \ldots, n$ and $r^* = 1$.

Finally, we return to the Leontief utility functions and demonstrate that in this case the appropriate refinement of the lifespan and the earning vector do not really change the BSSs: dividing each large time-period into k smaller ones, transforms any balanced interest factor to its k-th root: $r^{*1/k}$.

Theorem 5 (Scale-invariance). Let the lifetime consist of $N+1$ stages, each containing k identical subsequent time-periods: $n+1 = (N+1)k$. Let $e_0, \ldots, e_n$ and $\tau_0, \ldots, \tau_n$ be original E and T paths, and let their uniform refinements be as follows: $\beta = 1/k$,

$$\beta e_0, \ldots, \beta e_0, \beta e_1, \ldots, \beta e_1, \ldots, \beta e_N, \ldots, \beta e_N \quad \text{and}$$

$$\beta \tau_0, \ldots, \beta \tau_0, \beta \tau_1, \ldots, \beta \tau_1, \ldots, \beta \tau_N, \ldots, \beta \tau_N.$$

Then the refinement does not really change the balanced interest factor.

Proof. Let r be one balanced interest factor of the original system and take its k-th power. Each positive root r^k for the N-degree polynomial reappears as root r for the original n-degree polynomial and vice versa, because

$$\sum_{0\le i\le (N+1)k-1} a'_i r^{-i} = \beta \left(\sum_{0\le h\le N} a_h r^{-ki} \right) \left(\sum_{0\le f\le k} r^{-f} \right) = 0.$$

Also, a k-refinement should compress r^k into r.

6. Conclusions

First we discussed the issue of non-uniqueness for CRRA and Leontief utility functions with non-negative and positive endowment vectors, respectively. We would have liked to say something on non-existence as well. Here both the local vs. global direction and the perturbation method break down. While a function with several distinct roots can only be approximated by functions with several distinct roots, functions with a single root can be approximated by functions with several distinct roots. Thus we have to look for new methods to prove Conjecture or anything else on non-existence!

Second, we suggested that Aiyagari (1988)'s analysis of long-lived agents should be replaced by the analysis of normally-lived agents acting in sufficiently short time-periods. In this realistic world Aiyagari's simple vision does not survive.

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THE HUNGARIAN GDP, AS MEASURED BY PROXIES (APPRAISAL OF THE SHORT-CUT METHOD OF F. JÁNOSSY)

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The short-cut method of *Jánossy* studiously avoids prices when assessing per capita GDP for various countries. The method significantly facilitates and also speeds up cross-country comparisons and, what is more, improves the reliability of the indexes computed. It remains to be seen whether the same method may also be applied for measuring the temporal changes in GDP, for the same country, over a shorter or longer interval of time. To answer this question, in this paper the Hungarian historical time series of the published GDP indexes is checked for the years from 1924 to 1990. The relation of the two approaches shed light both on the underlying assumptions of the short-cut method, and the clearly emerging bias of official Hungarian statistical publications over the last 50 years.

Introduction

The essence of the approach of F. Jánossy (1963) encompasses the insight that economic measurement (comparison of economic systems) is possible without the help of prices or values ("intensive magnitudes").

His method and his computations were of fundamental importance—it can even be said, indispensable—in the sixties, because Hungary did not possess any other reliable tool to appraise its own economic situation. The price system which prevailed throughout the period from the fifties to the eighties, (and is still partly evident) became heavily distorted (*Halpern and Molnár* 1989). The distortion was caused by the same ill-advised economic priorities that proved to be so ruinous for the planning and direction of the development process. Thus they became responsible for the inefficient and faulty economic structure of the country. The proportions and prices of the pre-war base year (1938), which serve as the benchmark for the post-war Hungarian planning exercise, also carried unmistakable signs of bias due to preparations for World War Two.

Thus the previously well-established, traditional methods for evaluating the level of economic development and its yearly changes became more and more misleading and, finally, thoroughly unreliable. They reported back what has been postulated: fast growth for the very branches that enjoyed all the priorities. Their growth was severely overstated, because the selfsame priorities were also reflected

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in all the bloated prices, which served as weights when aggregating their contribution to the national index. On the other hand, the neglected branches had their prices firmly curbed and thus their laggard development is hardly reflected in the country totals.

Facts show that government redistribution serving economic objectives is on the rise throughout the world; or, to phrase it differently, the increasing weight of the government budget, with its taxes and subsidies, levies and transfer payments increasingly influences prevailing price systems. Prices are regulated less and less by the market because the forces of the market surrender to insistent government interventions. The ensuing bias may generate analogous symptoms everywhere. We may just hope that this bias and distortion is of a lesser degree, for the time being, than that experienced in Hungary during its period of planning.

To add to the perplexing problems of assessment, there are some important economic variables which we consider to be more and more decisive in forming constraints and determining the speed of the growth process; these variables fetch absolutely no prices on the market. In themselves the decisive ecological, demographic, climatic variables are not difficult to measure, but they turn up without price tags. The well-founded mistrust towards the published indexes of economic growth and well-being is thus spreading all around the world. Everywhere the general situation is painted in a rosier hue than it actually merits.

Therefore the "new" method inspected in this paper may find some utilization, in the future, in the developed countries. This would be for the same reason that Hungary found it useful in the sixties. It is high time to prepare tools that are less sensitive to market imperfections than the traditional ones.

The basic assumption of the method is simple and it is similar to the path-breaking proposition expressed by *Gibbs* (1873). According to him (in relation to thermodynamics) one may start, in principle, by measuring only the extensive quantities of the problem in question. This is because "if ε [energy] be expressed as a function of v [volume] and μ [entropy], the partial differential coefficients of this function, taken with respect to v and μ, will be equal to $-p$ [pressure] and to t [temperature] respectively".

Thus after measuring the extensive magnitudes (ε, μ and v) and defining their interdependence, the intensive magnitudes (t and p) may be subsequently determined and computed from the fundamental equation. One of the main tasks of thermodynamics has been to determine the precise exchange rate between the various, qualitatively very different, forms of energies. It started by setting up the mutual interaction of the mechanical, thermodynamic, chemical, electric and magnetic energies.[2] The fundamental equation displays the actual interdependence

[2] According to *Fényes* (1952, p. 174) [in thermodynamics as in physics]: "To every physical interaction there belongs one and only one parameter of intensity. Two bodies are in equilibrium if their respective parameters have equal values."

of these easily measured extensive quantities. It then derives the "valuation" or the "exchange" system of all the energies (as partial derivatives) as they become manifest in the respective intensive variables (as pressure, temperature, chemical potential, etc.).

It is not by chance we quote Gibbs and thermodynamics. The structural problems of thermodynamic equilibrium and valuation closely match the problems of economic equilibrium and valuation. In both instances we are interested in the possible equilibrium situations of very heterogeneous (not homogeneous) substances and processes. In both instances we find the theoretical "system of exchange values" only after describing the actual interrelations among all the energies, processes or forces.

This has been the way towards discovering the correct exchange relation between the work done and the heat received in a given system. Furthermore, the basic breakthrough in thermodynamics came with the articulation of a sophisticated *economic* question: what determines the efficiency of a steam engine? The investigation was eventually framed in the form of the circular process of a heat-engine by Sadi Carnot. It is used even today to explain and teach the elements of thermodynamics.

Thus it is not surprising that the essence of the short-cut method consists in a Gibbsian proposition. If we can express the level of economic development of a given country (its per capita GDP) by extensive magnitudes, measured in physical units, then the prices (values) may be derived from this expression as its respective partial derivatives. Jánossy verified that a carefully chosen set of per capita physical indicators (he called them "Natural Economic Indexes" or NEIs) allows an approximate estimation of the GDP with a narrow and, albeit not negligible, clearly computable tolerance.

His achievement earned him more rebuke than praise, mainly because of his iconoclastic findings about the faked ("quasi") development in Hungary. Returning, after thirty years, to the appraisal of Jánossy's method (which, in the meantime, has been busily exploited) I constantly had to confront his critics in articles. (e.g. Bródy 1990; 1992a; 1992b; 1993). A clear mathematical link can be forged, which connects his method (besides thermodynamic reasoning) to price, value and index-number theory, to the Neumann-Leontief model family, and to the equations of structural analysis. At the same time, a very transparent and simple mathematical-numerical model can be developed (its results will be utilized in the sequel) which can be reproduced on computer, with all the original drawings made and computational steps taken by the short-cut method.

Jánossy, as a true-born design-engineer, delighted in drawing free-hand all the trends and regression lines which were already discernible to the naked eye. He often kept the nitty-gritty mathematical work in the background. Moreover, because he was very competent in didactical exposition using figures and graphs, he was accused of manipulating his data in a predisposed and subjective way, and of

thinking "prohibited" thoughts. The solid mathematical framework and the strong theoretical foundation of his work (hidden but implied and easily reconstructed) vindicates him beyond doubt.

While working on the connections between *Neumann* and Jánossy and the general problems of measurement (as confronted by thermodynamics), *Samuelson* (1993) noticed a piece of this work and presented me with stinging objections. He contested the isomorphy between economics and thermodynamics which I had tried to develop, on a wise remark of Neumann about thermodynamic potentials. Some of Samuelson's arguments are easy to answer,[3] some others not. If he is right, we may speak only of a structural analogy or similarity and not of a complete structural equivalence. Analogy surely helps explanation and the question of isomorphy can be put aside in this paper.

His most potent argument is, that the Neumann (or economic) equilibrium is "generically unique" and can be achieved only by a restricted set of proportions, while a Gibbs (or thermodynamic) equilibrium is rendered possible among arbitrary quantities. Conceding the point, which entails that economic "freedom" may be generally more and not less restricted than that of the physical processes, I abide with Neumann who showed how such strict and sharp equilibria (the so-called "eigen-states") may be mixed together (in physics and in economics alike) to bring about almost anything that exists in real life.

Therefore, declaring an impasse of opinion here for the time being, I instantly have to stress that the original idea of Jánossy certainly does imply a fairly narrowly defined general path of economic development. This path may be, perhaps, slowly modified with technological change but at a given place and given time it reveals a general road each and every country must follow if it wants to develop, even if minor discrepancies are possible and unavoidable. At the same time such a supposition is clearly required in economics if we want to analyze the local and historic peculiarities of a given economic system. A peculiarity is a deviation from something, and one may start the analysis only if this something can be defined. It may be defined as an average, or an equilibrium or a singular path in an otherwise infinite domain.

This, expressed in a mathematical manner (that later became decisive in finding the proper mathematical tools for the computation), means that the economic development process may occupy only a fairly narrow corridor in "n dimensional space". Once again, Gibbs comes to our help, for he announced his indifference

[3] "In Gibbs thermodynamics, as in classical mathematical economics, there is a basic role for Min-Min, rather than initially for Min-Max." according to Samuelson. Initially yes, but the subsequent and real innovation of Gibbs ("On the Equilibrium of Heterogeneous Substances") has been min-max and inequalities—leading to a saddle-point equilibrium. Who am I to defend Gibbs and Neumann, if Samuelson puts them into the dock? I may only suspect that his claim for a cigar on Neumann is hardly warranted.

toward investigating the whole, theoretically possible, phase space. He considered it utterly irrelevant to ask questions about things that never happen.

He attributed a rather negative task to theory. To answer how a given—say, chemical—system will behave when heated or put under pressure remained to him strictly in the competence and domain of a laboratory experiment. Theory, according to Gibbs, has to answer how the system will *not* behave. The subsequent development of thermodynamics amply justified his assumption. Today, its pillars consist of three *denials*: a *perpetuum mobile* is impossible, the entropy cannot decrease, and the absolute zero temperature cannot be reached.

In a certain sense the Jánossy method, and his theorizing about growth, achieved its greatest impact in a similarly negative vein. He declared the big jumps (so fashionable in the centrally-planned Soviet-type economies of the fifties and sixties) to be non-existent, impossible, unimaginable. So they were, but this sobering truth took a long time to be admitted.[4]

About the objections

In my papers quoted above, I have given detailed answer to the objections raised against Jánossy's method. I recapitulate here only the main points.

1. The so called "middle lines", drawn by free hand can be computed easily and without bias. Though the mathematical methods applied add nothing to the exactness or reliability of the results they do allow the checking and reproduction of the interdependence between GDP and a given physical indicator (NEI). In those instances where the naked eye is hesitant about the regression line, even mathematics cannot help. These non-existing or weak interdependencies are better left out from the set-up because they are based either on faulty data, or they represent activities that do not influence economic growth decisively.

The mathematical computations do not aim to discover previously unknown or sporadic interdependencies. The theoretical form is clear, but it can be exploited only if its impact is glaring. The mathematical technique serves only numerical and not investigative purposes. We will also see that—because of the tight corridor mentioned—we cannot gain much by inconsiderately augmenting the number of variables.

2. Jánossy computed a geometric average of the levels that had been indicated by these "middle lines", representing the various indexes for a given country. The

[4] The illusion is still loitering around on the reverse side. In other words, today's Hungarian ministers of finance still believe that a generous amount of taxation (which, by some magic, turns into investment) will create an upswing in the economy. Or, to phrase it differently, they do not believe in any physical limits to taxation. They think the tax rate is arbitrary and depends only on political circumstances.

computed levels, of course, will be never exactly identical. Due to their statistical foundation, they will remain no more than approximations. On the other hand, the particular method of averaging may be traced back to a fundamental equation that must be homogeneous and of the first degree. This instantly permits the connecting of his theory with that of index numbers. One of the most basic postulates of the latter has always been: if every factor of the index increases t-fold, then the value of the index should also increase t-fold. This is also the classical definition of *Euler* for a homogeneous function of degree one.

True, this entails the neglect of occasionally increasing or decreasing returns to scale. However, it does not entail constant prices or values, as has been repeatedly misstated in the discussions. The theory yields an exact answer to the question concerning how prices will change with changing rates of growth (i.e. technological change.)

Against the permanent existence of non-constant returns to scale, *Solow* (1994) raised quite convincing new arguments, not very different from those proferred by Jánossy. Reaching infinite production by Christmas (as Solow put it) is even worse than the quest for great jumps. This does not mean that, in later variants of the fundamental equation, no place could be found for transitory changes in the returns to scale.

3. This assumption is therefore a legitimate price to pay for rendering measurement insensitive to the vagaries of the actual path of the system. This, in plain words, means that the distance measured between two GDP levels must be independent of the transient detours the given economy has taken, when going from A to B. If a country moves along a closed path, starting from A and reaching, albeit in tortuous way, again A, no increase should be registered.

The traditional methods of measuring GDP are, alas, not protected against such errors; they tend to understate inflation and will therefore overstate real growth. This phenomenon became particularly cumbersome and misleading in the Hungarian experience with administratively regulated prices. The theoretical question of the integrability of the measuring function has been one of the most finicky problems in thermodynamics. It was finally solved by *Caratheodory*, *Minkovsky* and *Farkas*, relying on the irreversibility of thermodynamic processes. I believe the same applies to economic processes, but a general proof has not yet been furnished.

4. The observation that multiple regression, when applied to a set of NEI indicators, cannot be interpreted because it often leads to negative coefficients, may be answered by using instead the methods of singular decomposition (factor analysis). The pervasive multicollinearities, invariably found in the econometric investigations of growth processes, clearly indicate the rank deficiency of the system matrix. The matrices of multiple regression will be either singular or hopelessly ill-conditioned. If we invert these matrices, we make our result depend not on the robust part of the measurement but on their very errors that, after inversion, will dominate the results. In the "narrow corridor" indicated above, we will be doomed

when using methods which, though eminently useful in "plain air", are misleading and ill-suited in a tight corner.

5. Checking out the Jánossy short-cut method on the computer therefore offers only one real advantage, but this advantage is very important. It allows the definition and computation of the encountered dispersion both with respect to the indicators applied and the countries measured. The discrepancies found were impressively inferior to the tolerances reported by the official and semi-official, more or less detailed repricing exercises. Literature assesses the error limits of the latter at around 20 percent when comparing two countries. The short-cut method reports 4–6 percent for the countries, and usually less for the "good" indicators. The method thus improves the reliability of statistical work by a certain order of magnitude, permits the inclusion of non-priced resources, and is not sensitive to the manipulation of price systems.

* * *

This paper will therefore try to approximate the index numbers of the Hungarian GDP with those physical indicators (NEIs) that have already been found to fit closely to the path of economic development in general. They may be called "proxies", and are particularly helpful at times when, because of the seismic movements of transition and property changes, the statistical service is rendered particularly laggard and vulnerable.

This exercise may also reveal the characteristic limits and tolerance of the method itself and the proxies applied. We start with electricity and telephones: the two items found, in previous work, to be the most stable and correct heralds of progress. We will be particularly aware of the question of "calibrating the slope" of development, or the general speed of hill-climbing. In this situation, Jánossy, though expressing some doubts of his own, accepted the slope indicated by the worldwide per capita GDP indicators, as measured in dollars of constant purchasing power.

Accepting the general usage, we call an economic variable a "proxy" if it stands in for, or mirrors, another variable, that cannot be reached, or observed, or measured, or—though measurable—is not yet available. The detailed measurement and computation of GDP is a slow and elaborate process. Nowadays it is exceptionally unpredictable, unreliable and heavily manipulated. Thus we are looking for proxies, if only as temporary replacements, because they are easier to measure and more difficult to falsify.

The short-cut method, in its essence, can be thus viewed as a prescription to find and assess suitable proxies. In its mathematical form it may answer how "well" a given proxy fits, whether an admixture of an additional proxy "helps", and when to stop looking for further "improvement".

Data and transformations

The numerically utilized statistical material and its source is set out in the *Appendix* at the end of this paper. If we inspect the first sketch of the trajectories, not much interdependence can be gleaned from the graph, beside the general tendency to grow along the time axis.

The number of telephones (in thousands) and the GDP (in index numbers) could be put out on the same scale, but the amount of kilowatt-hours (kwh) ready for consumption (basically in megawatts) required a different scale, and this can be seen on the right-hand axis.

We are here after tendencies to grow, and it is indifferent whether our measurements and data are expressed in index-numbers, pieces, litres, square metres, megatonnes or gigawatts. What transformations are permitted to make the data "speak"? Two simple kinds only. We may change the unit of measurement and may take logarithms. This double degree of freedom can also be expressed as a postulate. We insist that all the findings, if they express economic regularities, or "laws", must not depend on the always arbitrary choice of the units of measurement. The postulate of such a "measure-invariance" will then permit just the two transformations announced above. At its deepest level, the short-cut method was invented when an old-time engineer, looking for regularities and conditioned by the habitual use of his slide-rule, started confining economic data to logarithmic and double-logarithmic paper.

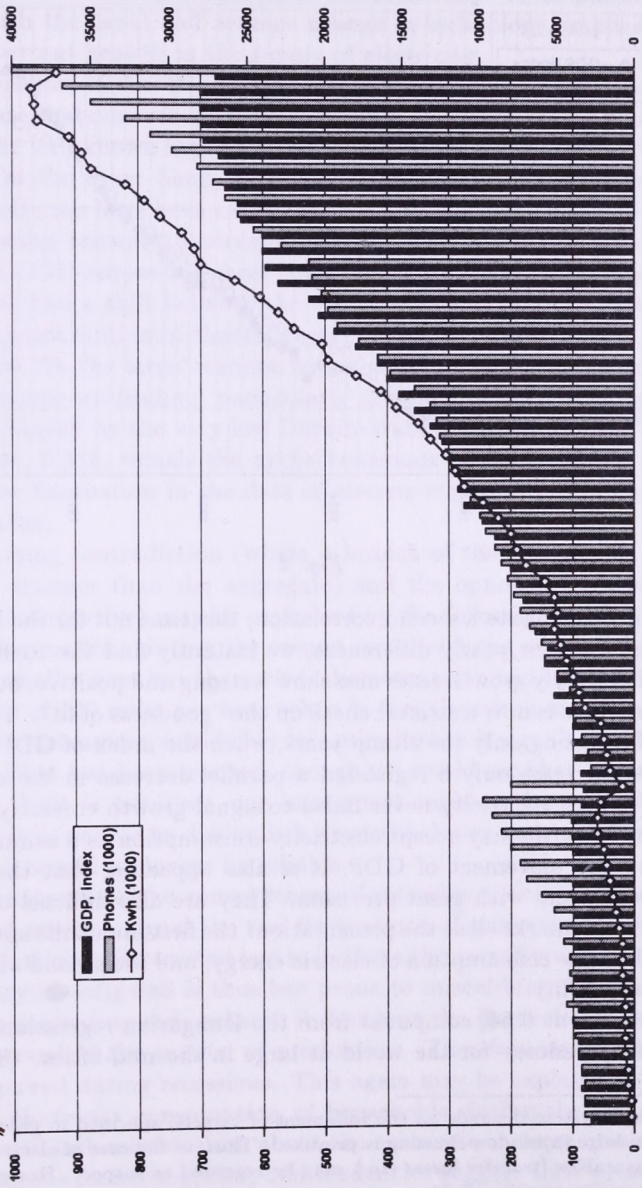
1. Consumption of electricity

We instantly get a close fit when we pair the index number of GDP with an "index number" of produced and consumed electric energy. *Figure 2* is drawn on a non-logarithmic scale because economists are still conditioned to read index numbers on linear graphs.

The original discovery of the fit came by plotting many NEIs and official GDP data in dollars—in various countries, from Burma to the US—on double logarithmic graph paper and observing, as a result, the nice straight lines produced.[5] Therefore, when doing the regression, one turns to a multiplicative fit and obtains the following equation:

$$\mathrm{GDP} = (2.43 \times \mathrm{kwh})^{0.56}$$

[5] The quoted book of Jánossy reproduces about 50 of his original graphs. I went for those indicators that showed the most straight and most steep interdependence.


40000
35000
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5000
0
1990
1980
1970
1960
1950
1940
1930
GDP, Index
Phones (1000)
Kwh (1000)
1000
900
800
700
600
500
400
300
200
100
0

Fig. 1

with a coefficient of correlation surpassing 0.99. The high correlation is well-represented by the graph (the fit would be even closer on a logarithmic scale).

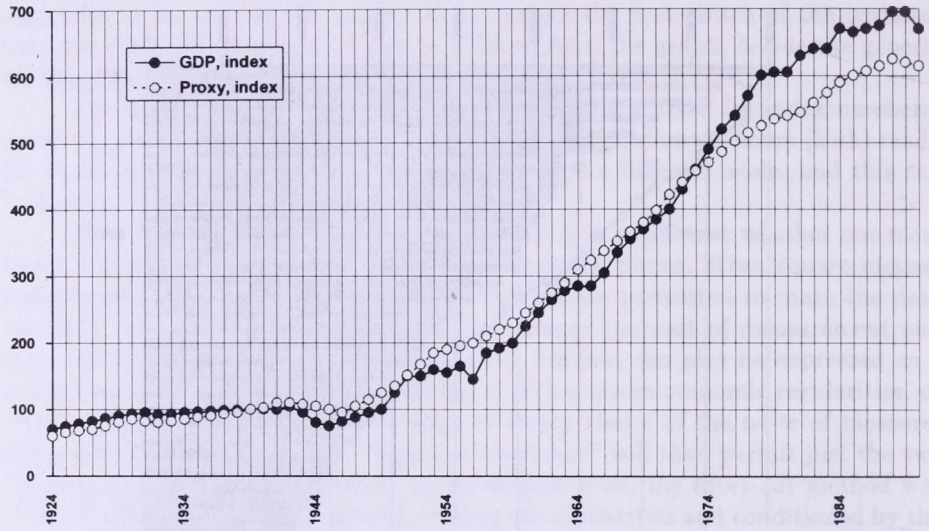

Fig. 2

Still, if we compute a second correlation, this time not for the level of our two variables but for their yearly differences, we instantly find the coefficient down to only 0.63. The yearly growth rates also show a strong and positive, but much weaker interrelation. This is now a stricter check on the "goodness of fit". The fit is further weakened if assessing only the slump years, when the index of GDP decreased. Of the 10 recession years only 6 registered a parallel decrease in the consumption of electricity (though electricity never failed to signal growth correctly.)

By and large we may accept electricity consumption as a commendable proxy for assessing the movement of GDP. It is also appealing that the data may be gathered swiftly and with great precision. They are also difficult to manipulate.[6] Two additional remarks close the presentation: the first about the speed of progress, as indicated by the consumption of electric energy, and the second about its present and future reliability.

The exponent 0.56, computed from the Hungarian regression, surpasses the value found by Jánossy for the world at large in the mid-fifties. (The latter date

[6] If the bonus system depends on the fulfilment of targets, specified in physical quantities, a tendency to indulge in window-dressing is provoked. Thus, in the case of electric supply, fiddling with non-measurables (transfer losses etc.) may be regarded as suspect. However, the scope for incorrect statements remains slight.

is also the centre point of the time span investigated here). His short-cut method justified the already widely used "rule of thumb" square-root relation, the exponent 0.5, employed in forecasting future needs for electricity. A 10 percent growth of production, with the usual and average change in technology, implied world-wide a roughly 20 percent growth in the supply of electricity.

The deviation of the Hungarian exponent may have two explanations. It could be the case that our technology developed in an energy-saving manner. This is contested by the well-known high and rapidly increasing energy-content of industrial production. On the other hand, and this is the more probable cause, industrial production itself may have been overstated.

The opening scissors, observable between the two trajectories after 1975, show reported GDP surpassing even the dubious and possibly overstated trend. Therefore, if we find a shift between the two trends, it is safer to trust the picture offered by the consumption of electric energy.

This trust "in the large" cannot be extended to short-run (yearly) changes, and it may become misleading, particularly around the troughs of cyclic swings. This is well-indicated by the very low Durbin-Watson statistics of the residual. Its computed value, 0.318, signals the cyclic behaviour of the residual. Its probable cause is a lesser fluctuation in the data of electric consumption compared to that in the GDP index.

This seeming contradiction (where a branch of the economy is behaving in a more stable manner than the aggregate) and the opposition of the two paths (rendering both deceptive) may be explained by the following parable.

Let us assume that during the second world war the wheels of our car were replaced with smaller ones but the car's tachometer remained intact. It would then register a speed of 100 miles per hour when in fact the speed would be around 60. The fault of the instrument would only be noticed when it signals that the Austrian border in the West has been reached, though we would see that we are still stuck halfway. The fault is peculiar: our instrument registers both acceleration and deceleration but is unable to distinguish properly slower and higher speeds; thus, on the whole, it would no longer be reliable.

We encounter here the consequences of miscalibration. The index of GDP may be trusted more to signal the real fluctuations of economic life than the consumption of electricity, but trusted less to indicate the overall speed of real progress.

The proxy investigated is thus less prone to miscalibration. Nevertheless, it is not a better measuring rod, because it dampens the fluctuations, and irons out the cycles observed in the motion of production. Therefore its power as a proxy is severely impaired during recessions. This again may be explained by inspecting the mounting electricity consumption of households during the present crisis in Hungary. We still lack reliable data about the economic changes over recent years, but if the picture is pieced together, two tendencies suggest their presence.

First, it has been repeatedly noticed that a slump reduces household consumption, and particularly current consumption (as opposed to investment, saving and the purchases of consumer durables) much less than other economic activities. Second the freedom of enterprise, connected with the spread of the black market apparently boosts productive activities within the household.[7] We may come to the conclusion that during the slump, when investments are at a very low ebb, the spread of technological innovation is rapid only in the households and in the loosely connected segments of small enterprises and artisans.

Thus it can be assumed that those branches which develop faster than the pace of the economy—that is, the branches comprising the up-to-date leaders of technology—may offer good proxies for assessing the level of progress. Yet, by the same token they are not efficient indicators of the ups and downs of economic life.

Let us now inspect one of the prominent links of modern technology, the telephone network. Let us see how its data reflect progress and whether such data strengthen or contradict our previous findings about the pace and fluctuations of the index of GDP.

2. Number of lines

By inspecting the graph below it is clear that the fit of telephones is worse than that of electricity for the period covered. Indeed, we find twice a tendency of separation of the two index numbers.

After fitting the multiplicative trend, we obtain

$$\text{GDP} = (0.759 \times \text{phones})^{1.02}$$

The high exponent, 1.02, instantly arouses suspicion (even if we are not yet astounded by the obvious lack of parallel motion in the two curves).

The coefficient of correlation is still fairly high and above 0.97, but the repeated deviation of the two paths clearly indicates a "worse" proxy. This is brought into relief when computing the correlation for the yearly differences, which distinguishes itself by the meagre value of 0.13. It is still positive and thus it "shows" in which direction GDP is moving and allows some inference also about the actual speed, but the assurance it yields is minimal.

[7] M. *Laczkó* has made repeated and fairly successful efforts to measure the activity of the "second or shadow" economy. Her best explanatory proxies proved to be money circulation and consumption of electricity in the households. However, this kind of activity shows trends clearly distinct from the general movement of the economy. It is rather a sign of secret ills: corruption, overtaxation, and legal confusion.

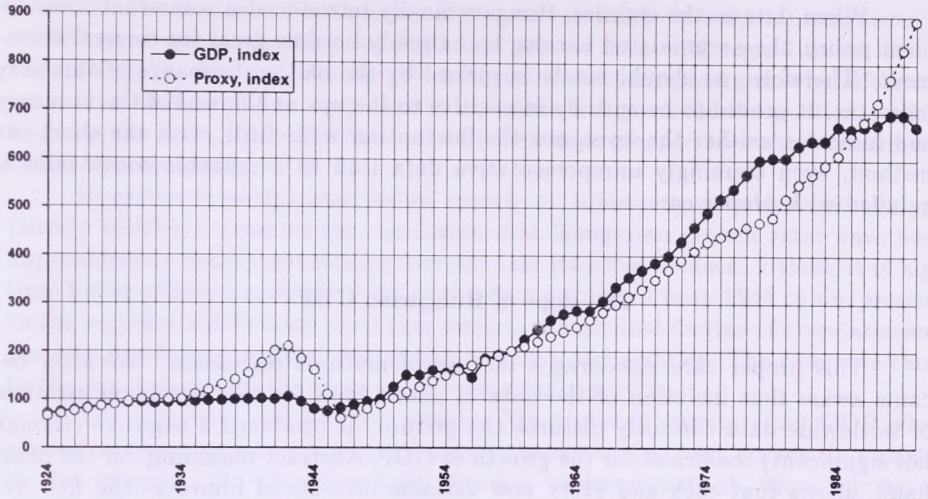

Fig. 3

How can we explain our figure? What happened here during the mysterious period of planning?

Let us start by declaring that GDP can by no means grow faster than the number of telephone lines. The worldwide growth of the number of telephone lines even surpassed the growth of electricity supply. This fast increase, pushing ahead and leading the pace of modernization, can be clearly observed also in Hungary, but only from 1924 to 1944. After joining the Eastern Bloc the development of the telephone network was curbed by official policy (certainly not by market forces). Although there was a proliferation of office lines for the government (perhaps at a forced rate), the civilian sector and households were almost unable to obtain telephone lines.

The waiting queue for new telephone lines very soon stretched beyond years and into decades—even for "preferred" occupations like operating surgeons. For a common household the telephone, if not inherited, became virtually impossible to acquire. This explains why the per capita number Hungarian telephones (decimated by the war) was already overtaken in 1955 by Jamaica, and the 1955 level of neighbouring Austria had still not been reached by Hungary in 1990.

Considering the general neglect and official scorn for the tertiary sector, it is probably the suppression and inhibition of the phone services that have proved to be the most damaging. It implied hatred, detraction and outright blocking of private communication in general. In this respect, the fear and risk attached to the free circulation of information were responsible for rendering the economy and society helpless and obsolete.

When, late in the eighties, Hungary finally introduced a somewhat more lenient policy, the accumulated backlog had already become great for correct assessment. Therefore, we should not be surprised by the bad performance of this very indicator. It proved to be entirely insensitive to the ups and downs of the economy and indicates neither the level, nor the fluctuation well. Still, with the short-cut method, even seemingly unrepresentative data lead to acceptable conclusions if handled with proper care.

The slope of Hungarian GDP

This proper care discourages the use of multiple regression. We soon became aware that inclusion of the data of phone lines for the regression estimate of worldwide data curiously disturbs the picture. It produced a negative (though not significant) coefficient for the growth of GDP. Abstract reasoning, on the other hand, shows that each and every new variable introduced improves the fit. Yet what if our findings indicate a negative coefficient for telephones? (The example worked out in detail for the 1955 data is published in Bródy 1992a.)

Does a negative coefficient in a multiple correlation for telephones vindicate the Hungarian policy of suppressing them? Does it have any sense at all? No. Moreover, if we still decide to use both series of data in a multiple correlation exercise, then the general fit will be improved only marginally; the fit of the differences will be unequivocally disproved and the residual will be even more horrendous. Nevertheless, with proper care we can extract the information which even a bad and distorted series has to offer for checking official GDP. Such a general check is long overdue. Let me call attention to *Figure 1*, which shows that the official estimate of per capita GDP in 1990 surpassed that of 1949 about 7 times. On this basis, Hungary would have left Austria far behind. Certainly, Austria indicates a lesser increase since the end of the war (a war in which the two countries suffered about equal damage).

Or let us confront the same 7-fold increase with the original data in 1955, as reported in Jánossy. He found a per capita GDP of $320 for Hungary in contemporary dollars (and $1700 for the US, same dollars). Retracing our steps to 1949, the comparable measure indicates a per capita figure of $270. If we multiply this by 7 we obtain $1890 for Hungary as its apparent 7-fold level in 1990 (still in 1955 dollars). Thus, according to our official reports, Hungary must have attained long ago the heady US positions of the sixties and seventies.

However, it is a rude awakening to the facts to notice that Hungary was instead plodding along with the US figures of the twenties, with regard to comparable levels of per capita production as consumption, and was also heading directly towards a comparably great depression. Not only the population, but also politi-

cians and the economic leadership (not to mention most economists) were severely misinformed and mislead by our statistical service both with regard to the actual circumstances, the level of achievements, and the abyss opening slowly before our eyes. The confusion is so deep that it has taken five years for the political leaders to grasp the facts. Indeed, I am not sure they have grasped the whole complexity of the situation today.

In earlier investigations, based mainly on input-output tables and analysis (Bródy 1992b), I came to the conclusion that Hungarian growth rates have been approximately doubly overstated over the last four-five decades. I think it is high time for an official reconsideration of the data published from 1945 to the present. In the sequel it will become clear that instead of a gradual decline of overstatement, the bias has been amplified during the seventies and eighties. The closer we came to the big depression, the more encouraging the reporting.

The argument will be quite simple. We probably overstate our GDP when relying on the growth of electricity, because the system has been eminently wasteful in this respect. On the other hand we may underestimate it, when relying on the growth of the telephone network, because we used this resource sparingly and reluctantly. Let us see how narrow and reliable the domain will be when indicated by the two important inputs: demarcated by electricity from above, and telephones from below. Furthermore, let us use in both instances not the actual Hungarian exponents, but the ones investigated by Jánossy in his original work—i.e. 0.51 (rounded upwards) for electricity, and 0.47 (rounded downwards) for telephones.

Doing the easy computation and accepting 1949 as the base line (this was the year when the country had already recovered, by and large, from the war-losses and had not yet been too severely distorted physically by the then already fully flourishing drive towards nationalization), we obtain the following general picture.

As we see, the demarcation lines act differently in the interwar period. At that time Hungary tried to save on electricity and attempted to develop the new network of communications as fast as possible. In this respect there must have been a switch in policy around the end of the forties. Yet the official and semi-official publications of the per capita GDP, as published by *Matolcsy and Varga* and computed for the war years by *Judlik and Nötel*, seem to fit in well between the demarcation lines. They cannot be separated by the naked eye from the geometrical average (the latter may be considered as the realistic path, probably close to Hungary's actual path).

It is only during war years that the official data mildly understate actual growth. This time probably the proxies may be faulted. These should have been altered, but I have been unable to modify the basic data to take into account the increase of the occupied territory at that time. (After 1941 and up until 1945 parts of Slovakia and Transylvania belonged to Hungary and this boosted the economy. Relating these areas to the original territory is surely a fault that was committed, but this does not falsify the actual proxies.)

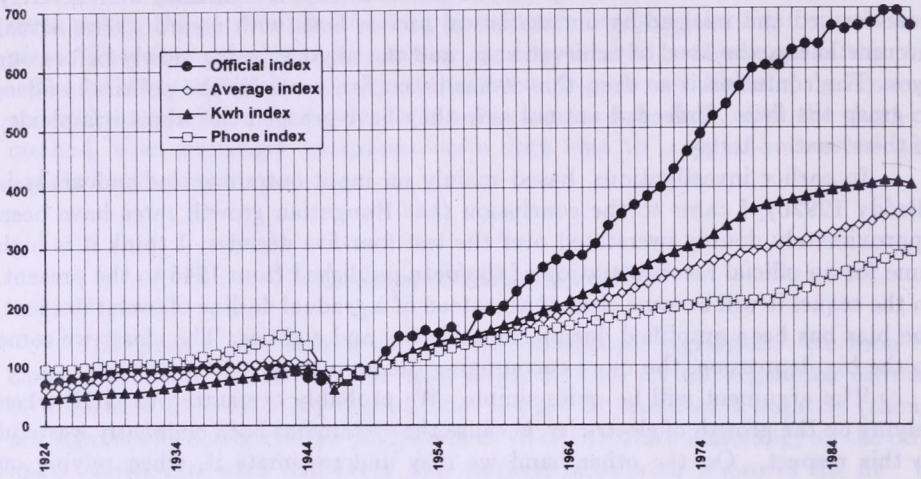

Fig. 4

After the war the situation changes markedly. Overreporting seems to start in 1951 (introduction of the Bill in Defence of Planning, and the execution of a few "saboteurs"). The return seems normal in 1956. Then again, with the advent of the Kádár regime there is some overreporting (accompanied by quite a few executions once again); after a slight relapse in the second half of the sixties (with the economic reform movement) overreporting becomes more and more rampant. (This time without further executions. The increasing difference would be somewhat less pronounced on a logarithmic scale.)

There is also an additional item of information, derived from the widening gap between the growth rates of electricity and telephones. Over the whole period Hungarian economic policy was based on preparing the country for an anticipated war period; on "ideological grounds" the production of electricity was considered to be productive (good), and the production of telephones unproductive (bad). This misguided and misinformed economic taboo could be broken only at the end of the eighties. Yet even then the gap was filled partly by decelerating industrial growth and thus consumption of electricity, and not by doing much about the backlog of the telephones. This also reflects the mounting tensions leading towards the depression of the nineties (of which we parade here only the first year, 1990).

It is not by chance we publish only a graph and not data. It is the duty of the Statistical Office to rectify the data. If the data will fit into the figure as drawn above, we could be inclined to accept them. In its essence the graph indicates an increase about half the size actually reported, but more in agreement with the international configuration. We all know by now that the gap separating Hungary from its closest and most frequently visited neighbour, Austria, did not close but

in fact became wider. We certainly did not lead the way but actually lagged more and more behind.

Let us try to phrase these findings in a less offensive way. The average rate of growth for the period from 1949 to 1990 was probably below 3 percent per year, but it was reported as surpassing 5 percent. The repercussions of this smallish difference are multifarious. The missing 2 percent could be rooted in an understatement of gradual inflation by a similar yearly 2 percent, leading to a like overstatement of the growth in real wages. This, considering the official claim of its yearly 3 percent growth, will have to be reduced to 1, or even nil. This confession may harm national pride and consequently may not be very comfortable politically. Still, I see no other way out from the conundrum.

The research economist will shake his head for a while over the rectification, observing that perhaps it was not the overworked psychological factors which were responsible for all the mistrust towards the statistical reports of our economic situation, and particularly of the living standards. Investigations into economic policy during this period were severely hampered. Nevertheless, the learned papers about cycles and fluctuations provide some corners to remain proud of. Hungary ruined much of its original fame in statistics. It was the first country in Europe to publish yearly reports on national income. These reports became shabby because of bad calibration, even though they still furnished ample material on fluctuations and cycles. The statistical service has not been dishonest, only captive to an obsolete ideology, stone-age methods, and administered prices. This is not a crime but something which is worse in practice: a very severe fault.

Economic and political leaders, instead of leaning on the statistical services to publish favourable data, would do better to leave them alone and even extricate such services from being responsible to the government or the prime minister. Favour, in such cases amounts to disservice. In the short-run it may cover mistakes and perhaps offer some political protection, but in the long run it is suicidal, both for the protector and the protected.

A cycle-sensitive proxy

How can we now improve our proxy if the data for telephones are so badly distorted and raise only bitter memories instead of providing help? We have to search for proxies that perhaps react less steeply to general growth but reflect its minute ups and downs in a better way.

In this respect other indicators and physical magnitudes come to mind. We want them to mirror the most heavily fluctuating parts of the economy—i.e investments. Consequently, we experimented for a long while with concrete, bricks, stone, iron, steel, and machines. The computations showed that because of the

general erosion of product quality it is difficult to compare the present quantitative results to those of the twenties or thirties.

This complication did not occur with electric energy, because a kilowatt-hour remained, by and large, a kilowatt-hour, even if we became all too familiar with minor drops in the voltage or periodicity of the current every now and again. With telephone lines the great number of twinned stations and the overburdened trunk lines caused frequent and long waiting times, as well as a multitude of switching errors. Hence the use-value, comfort, and reliability of a Hungarian phone was certainly overtaken by a comparable Jamaican or Austrian station. The shabby exterior of Hungarian phone reflected plainly all the various services it was not meant to offer.

Because of the deterioration in quality, and the missing data, it is only the last four decades which have been suitable for more detailed analysis. We tried to prove that by the admixture of further proxies we can indeed improve the sensibility of the short-cut method in time-series analysis, without at the same time ruining the general orientation it is able to furnish.

Hence we turned first to investment goods. Data for steel and concrete do exhibit cycles clearly and reflect the fluctuations of an economy rather well. However, what we gained here was lost with changes in quality and technology. This is a symptom that had already been noticed by Jánossy. It is not impossible to extract the information with sophisticated econometric techniques (by, say, separating the qualitatively and technically incongruous regimes) without distorting the general trend. Still, our goal was to find a more routine treatment.

The best indicator in this respect proved to be the production and consumption of paper, the most mundane carrier of information in the period considered. Hungary certainly did lag behind in introducing new variants of sanitary and cosmetic paper and there was no great pressure to improve packaging either. Nevertheless, the bulk of paper used for books, periodicals, weeklies and dailies (besides, of course, for ever-increasing administrative purposes) was produced with virtually the same technology and was of constant quality. Its time series sensitively mirrored cycles and its general trend could be fruitfully utilized.

With the help of the remarkably simple technique of singular value decomposition (similar to factor analysis), which does not require matrix inversion and relies only on the robust information carried by a time series, we succeeded in arriving at a combination which approximated to official GDP very closely. The coefficient of correlation was greater than 0.999 and the coefficient also remained for the first difference above 0.86, and did not drop for further (second, third etc.) differences below 0.76.

Again a figure will depict our findings in the best way. We also show the annual deviations in percentages on the right axis. These deviations reached 6 percent only in three early years (in 1954, 1956 and 1957) and their average remained under 2 percent. This implies a deviation which hardly exceeds the magnitude

usually attributed to the inexactness of the most detailed GDP computations. We cannot call for or require a smaller tolerance in economic statistics today, given the basic obstacles of precise measurement.

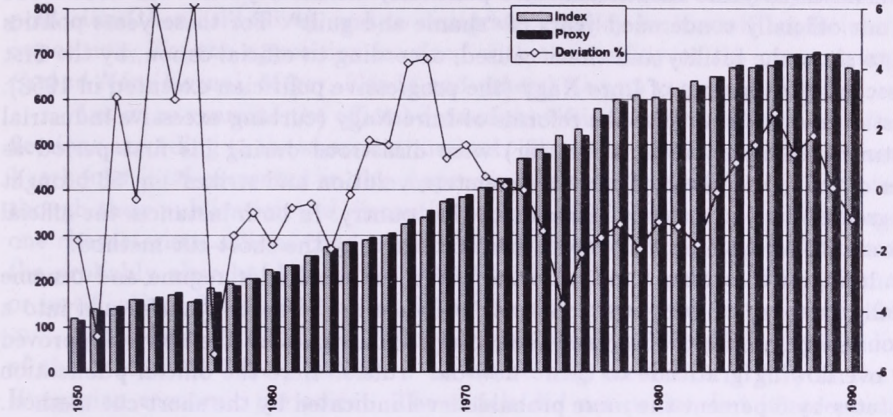

Fig. 5

We have to stress that our compound of electricity and paper shows here a slope parallel to official GDP only because we calibrated its fit to satisfy this stipulation. Its scale is therefore wrong, but we were aware of this. We wanted to check the fit to the fluctuation, maximizing the correlation of the first difference. We will again return to the question of calibration in the sequel.

It is clear therefore that even the choice compound of the select proxies will never replace the detailed computation of GDP, however lengthy and painstaking the latter become. However, it is eminently suitable to yield a fast forecast for its value when the detailed computation is not yet ready and we urgently need a first estimate. Yet, as also became clear, its role will not be finished with the publication of the definitive value of GDP. It may be used to check it and to ask questions and find faults.

Pondering over the maximum deviations found in the figure we are again placing trust in the fluctuations of the proxies, and certainly more trust than the officially published picture. We first rejected the official trend and found the calibration with the average international exponents more enlightening and appropriate. Then we turned to a shorter period to inspect the fluctuations. The rejection now reflects an even deeper mistrust, as well as a wariness with regard to the detail. However, before we zoom in on a particular period, we have to stress that the short-cut method served us well not only for the secular stretch of data, but for the shorter, four-decade interval as well, and without any change or modification. This could hardly be claimed by the GDP computations themselves. They regularly underwent modification in coverage, specification, methodology and so on.

Statistics in the fifties

The three years mentioned were politically sensitive years. 1954 and 1956 were our officially condemned years of "shame and guilt". For these years politics tried to show the futility and chaos caused, according to official canon, by the first and second premiership of Imre Nagy (the progressive politician executed in 1958). Statistics had to prove that the reforms of Imre Nagy (curbing excessive industrial investment and preparations for war) were disastrous during his first period as leader of the government. Then the "counterrevolution and strikes" in '56 brought even greater disgrace: a deep recession to the country. In both instances the official index stands about 6 percent lower than indicated by the short-cut method.

1957, on the other hand, saw the advent of the Kádár regime and became officially the year of "workers' solidarity". Hence it had to be transformed into a glorious surge, where the workers, immensely rejoicing under the new rule, proved their overflowing gratitude to their "new-old" rulers. Here the official publication overstates by 6 percent the more probable level indicated by the short-cut method. (We will see how this climb was performed in two separate steps.)

The statistical task, to be performed for the turn from '56 to '57, has been the less problematic. In December of '56 numerous things happened but, contrary to Decembers of the past and the future, something did not happen. The end of year rush (so characteristic in all the planned economies) that habitually doubled monthly average production, did not take place. This "rush" had always occurred before, and was to remain afterwards, being a purely administrative ritual of window-dressing for fulfilling the yearly plan. However, at the end of '56 the new rulers were only in military and not yet in actual power; consequently there had been no compulsory plan in existence which could be fulfilled. It also has to be pointed out that most workers and clerks were on strike. Thus about 6 to 10 percent of yearly production, previously overreported for Decembers, was quietly registered only in the following year. No statistical fanfare was needed and it was only necessary to keep quiet about changed circumstances.

To deny the actual achievements of 1954 proved to be more tricky. By then the Statistical Office had already got used to the fact that the official report and the Yearbook had to be cleared with the Party before publication. Until 1956 this meant these had to be cleared personally with E. Gerő, the first secretary of the communist party. He habitually and repeatedly sent back the "homework" for minor and major adjustments. The Statistical Office diligently adjusted the details to arrive at the politically correct numbers and proportions.

Yet, interestingly enough, it is easier to distort reports upward than downward. It is always simple to find or invent something, not disclosed before. It is cumbersome to take back your word and declare an item missing, especially when it has already been reckoned with and published. Now, the President of the Statistical Office, György Péter, a prominent intellectual, could not assuage his reservations by

convincing himself that this "fixing" could help the "great cause". (This help, with greater or lesser remorse—but who can judge conscience?—he had been willing to offer in the past). However, now he had to manipulate data to crucify an honorable politician (then still alive), and to denigrate a policy he himself appreciated. His opposition, like the opposition involved with the mutiny at the party newspaper, *Szabad Nép* (Kornai, Mérey, Kende and others) had its very origins here.

Let us re-examine the official data of the fifties and check them with their reflections according to the short-cut method. The data, published in the consecutive Yearbooks (and presented in the *Appendix*) were never modified or retracted (although their publication was discontinued from 1976 onwards). Yet there has been one characteristic official change. The 1958 Yearbook (published in '59) increased the probably already bloated 1957 GDP by a further 4 points, without comment or justification. This was the already-mentioned second step in the manipulation.

Much later, in 1967, with reform-winds blowing, Mrs. Mód, deputy director of the Statistical Office, published an interesting tabulation (1967) in the main Hungarian economic periodical. The article did not praise, but it accepted some of the message generated by Jánossy's work. She quoted the table's sources as being based on a revision going on in her office. The new data published had a certain short-lived circulation. Nevertheless, if a revision had been going on, its ramifications and final results never came to light and were never seen. The original data continued to be reprinted in subsequent years up to 1975, when their further appearance was terminated. The famed table carried the following information (exhibited here in a shorter notation and in changed order):

Table 1
Indexes of GDP

	officially published	revised with weights of the		
		base year	final year	average
1950/1938	1.40	1.32	1.18	1.25
1960/1938	2.60	2.48	2.02	2.25
1960/1950	1.87	1.82	1.72	1.77

As we can see, there is absolutely no justification on earth for the indexes, as published. Base year prices create a well-known heavy upward bias, not surpassed by any other index number, and even these do not explain away the inconsistency of the unbelievable success reports. The whole exercise served only to mitigate the overreporting in the fifties. The chaining to the pre-war 1938 level was not considered really important at that time. (In the paper itself Mrs. Mód tried to convince the reader that a historical time series is anyhow impossible to maintain).

Re-checking the table today strengthens my original impression that the revision was never taken seriously. The allegedly revised 1950/1938 comparison is

reported with an acceptable ten percent spread between its *Laspeyres and Paashe* (base and final year weighted) indexes. For the next period, 1960/1950, a further five percent spread was registered. This is fairly high for such a short period. Yet these spreads, even when added together, fail to explain the more than twenty percent discrepancy found for the 1960/1938 comparison. The revision, therefore, had been either faked or was not consistently carried through.

Furthermore, here is the place where we should stress the real and greatest service Jánossy rendered to our profession. He showed that there is no place for shabbiness and slipshod work in a domain where the regularities, as amply verified by data, are valid and extend along a scale from 10^0 to 10^3 and even 10^4. The laws encountered in physical sciences are effective only for much smaller intervals. He gave us all the hope that economics, after all can be turned into a "hard" science—with hard work!

Two further observations are needed to pave the ground and piece together the real picture. It was already well-known in the Jánossy-shop[8] that, by applying the short-cut method to the situation of Hungary in the thirties and the fifties, the growth (reported as 2.6-fold, and above fleetingly and without consequences, reduced for a while to 2.25) could not possibly go beyond an actual rise of 60 percent. This is the main reason for the Statistical Office wanting forget its first 15 years after the war.

Secondly, the Hungarian price system was distorted in such a way that faster growing branches received rising price boosts, while the prices in the laggard branches relapsed more and more. This is the exact opposite of the usual path taken by market prices, where a fairly significant negative correlation can be found between growth and prices in the individual branches and with particular products. The acceptable index number in Hungary cannot be computed as some average of the base and final year weighting. It will be limited from above by the lower of the two indexes. According to this conclusion the real path must be somewhere below the lowest data indicated by the tabulation above.

Now let us introduce the last figure, computed and drawn for the fifties. It contains three full trajectories and a sporadic path.

The first path is traced by official data. The second path is offered by the short-cut method, but is calibrated, in a faulty way, to fit the slope of the official report. Then comes the sporadic path—only 3 points—representing the temporary and partial confession of Mrs. Mód (not abrogated by her office, but not used either). Finally, deep under the whole gamut there sails the unadulterated short-cut-method—the only one which bears some affinity to what actually happened in Hungary in the fifties.

[8] Besides E. *Ehrlich*—his main helper with data and statistics—this meant a closer circle of research and planning economists working together regularly, like S. *Ausch*, M. *Augusztinovics* and others.

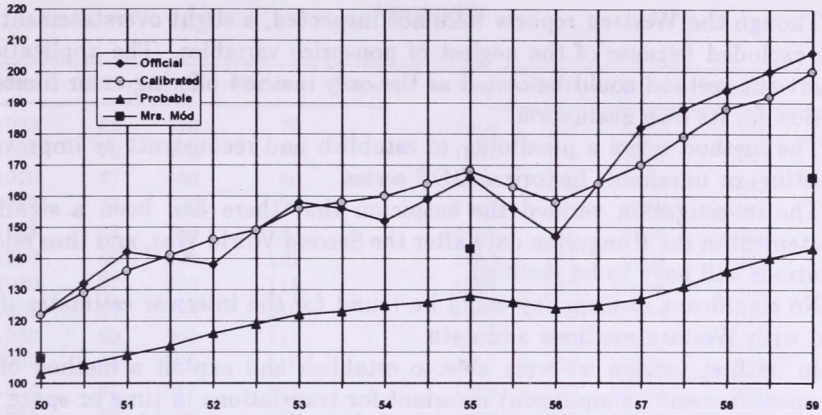

Fig. 6

To revise the past reports, quite a long list of problems will have to be disentangled. First there is the bias caused by the administrative price system (involving problems of aggregation and weighting). Then there is the coverage of entirely or partially missing branches (such as important agricultural activities, small scale production and commerce, artisanry, and services). Finally, we can mention the handling of foreign trade (here, besides pricing problems—exports and imports were usually reckoned in domestic and not in actual prices—the entirely missing financial balances will have to be reconstructed.)

I believe all this to be a fairly urgent agenda if the Central Statistical Office does not want to be blamed for willingly and knowingly misleading the country again.

Conclusion

The short-cut method is as useful for intertemporal comparison as it proved to be for cross-country measurement.

The steps are effortlessly programmed for the computer but this does not render them automatic. Without the usual economic consideration the whole method remains lame and without sense.

It is the correlation coefficients (for the levels and their first differences) and the singular values of the decomposition that give numerical answers concerning the goodness of fit. It is particularly advisable to compute higher differences and the condition number for the matrix of data.

If we apply the method for intertemporal comparison, the increase in reliability will not be as great as in the case of cross-country comparison. Yet it is still powerful enough to bridge the gap between the reliability of the biased Hungarian and the present Western statistical practice.

Though the Western reports were not inspected, a slight overstatement cannot be excluded because of the neglect of non-price variables. The application of the short-cut method could be tested as the only method offering error limits and dispersion for its own evaluation.

The method offers a possibility to establish and reconstruct or improve not yet existing, or unreliable historical GDP series.

The investigation verified the suspicion that there had been a significant overstatement in the Hungarian data after the Second World War, and thus relevant publications will have to be rectified.

No significant discrepancy could be found for the interwar estimates if contrasted with Western methods and data.

In its first version we were able to establish and exploit a method of economic measurement (comparison) invariant for translations in time or space. The method is theoretically well-connected to the reliable kernels of both the labour theory of value and marginalism. With thermodynamic measurement this theory exhibits a probably isomorphic—according to Samuelson only analogous, perhaps equivalent—relation.

Though numerical results in themselves are not sufficient to prove the coherence of a new theory, their objectivity helps to assess its possible merits. This investigation brought sensible and mostly acceptable results, vindicated the approach and verified the theory of the short-cut method.

Appendix

Year	GDP	Kwh	Phones	Paper	Year	GDP	Kwh	Phones	Paper
1924	63	520	79		1958	191	6210	221	110
1925	72	570	79		1959	204	6801	233	122
1926	77	630	80		1960	225	7441	243	138
1927	77	709	86		1961	236	8064	255	151
1928	82	750	93		1962	250	8779	266	161
1929	86	809	101		1963	266	9606	277	162
1930	87	823	115		1964	277	10618	291	173
1931	84	794	116		1965	279	11358	304	174
1932	80	759	111		1966	299	12233	319	192
1933	84	808	110		1967	322	13142	337	239
1934	87	913	121		1968	340	14084	360	258
1935	90	1036	130		1969	362	15119	383	251
1936	95	1153	139		1970	378	16521	399	259
1937	97	1266	150		1971	401	17852	424	269
1938	98	1312	167		1972	425	19063	451	290
1939	104	1505	181		1973	455	20536	471	319
1940	104	1743	201		1974	482	21821	494	333
1941	101	1866	223		1975	513	22762	508	343
1942	105	1982	240		1976	531	24290	517	372
1943	108	2008	250		1977	567	25890	523	424
1944	80	1684	200		1978	592	28045	533	444
1945	75	692	60		1979	601	28642	561	436
1946	80	1168	70		1980	601	29299	617	440
1947	87	1635	80		1981	619	30301	637	457
1948	92	2054	90		1982	637	31480	655	462
1949	100	2315	100		1983	641	32704	676	478
1950	121	2746	110	81	1984	659	34343	705	506
1951	141	3235	132	91	1985	657	35360	739	494
1952	139	3876	153	94	1986	666	36236	770	517
1953	157	4445	159	99	1987	693	37827	813	522
1954	150	4690	169	104	1988	693	37954	858	535
1955	164	5191	183	105	1989	695	38082	916	504
1956	146	5070	192	87	1990	666	37000	996	443
1957	180	5247	206	98					

Sources: *GDP*. A. Bródy (1992b) pp. 969–970.

Kwh. Magyar Villamos Művek Tröszt statisztikai évkönyvei. (Statistical yearbooks of the Hungarian Electric Company.) Gross consumption of electric energy.

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ON JÁNOSSY'S TRENDLINE AT THE END OF CENTURY, OR, CAN WE GET RID OF OUR PAST?

ZS. BEKKER

Ferenc *Jánossy*'s findings and results in the field of economic measurement and development theory, as well as in empirical analysis of development processes, are far reaching and have inspired the thinking of Hungarian economists to a great extent. He is one of those few who can be considered as a founder of a school of thought. On the basis of Jánossy's explanation of development processes this article attempts to evaluate the short-term and long-term economic prospects of the systemic change which began in 1989.

The study appraises the impacts of the main factors affecting the trendline during the state socialist period; it also re-examines the generally accepted belief in the existence of a system-specific growth rate under state socialism. It also examines the differences between the causes and characteristics of classic reconstruction periods after wars, and those between transformation periods after changes of social systems. Finally, recalling the concept of quasi-development, the author warns of the possible traps of being quasi-European or carrying out quasi-changes in the course of systemic transformation.*

For any Hungarian economist the terms "trendline", "reconstruction period" or "quasi-development" are inevitably associated with the name of Jánossy, the same as the categories of "consumers' rent" and "representative enterprise" are with *Marshall*, or the "liquidity preference" and the "marginal propensity to consume" are with *Keynes*. The comparison is by no means incidental. Original scientific achievements are far from common, but the three names just recalled are unmistakably linked with achievements which became classic at the time of their inception.

The ingenious thinking of Jánossy is striking for several reasons. The ways he puts forward questions, as well as his findings, are remarkable in themselves. However, the most impressive and fascinating detail of all is the manner he arrives at his conclusions. This manner seems to be such a distinct characteristic of his way of thinking that it is not surprising that it has had a lasting, inspiring impact. Reading his works or talking to him, one has the feeling that one is also a companion of and contributor to a creative process. This is why we are always inclined to think further about the issues he has dealt with, filter the events and processes of our age through his approach, and try to interpret them in terms of his categories.[1]

*The original version of this paper was read at a special session organised by the Mónus Illés Academy at the Atrium Hyatt Hotel, Budapest on 14 December 1994, to celebrate the 80th birthday of Ferenc Jánossy.

[1] The impact of Jánossy's work is significant both through its direct and indirect influence. Economists dealing with international comparisons of growth rates and development levels use his

Jánossy's development theory gave rise to a lively debate right from the time of its first publication. The stability of the trendline, its slope, the causes and the degree of its possible breaks, whether it assumes a predestined speed for the development process: these were the main subjects of the discussion.[2] The heat of the battle was not primarily fuelled by his unusual argument about the development process (which, incidentally, departed from the officially accepted line), but by the obvious consequences inherent in the concept behind the economic policy of the state socialist period. It was somehow very "humiliating" for state socialism that somebody doubted the higher dynamism of its development and questioned the superiority of the system. In addition, Jánossy's own concept was incompatible with the voluntarist economic policy of the time, since it underlined the existing limits of human actions.

It was another source of irritation that Jánossy's research concept attempted to argue through hard facts and figures, thus confronting the "looseness" of the verbal arguments predominant during that period. The well-arranged, systematic, quantitative approach carried a special weight in the debate against traditional views. Following Jánossy's work, a new current of research activity emerged in Hungary, and this dealt mainly with multilateral international comparison. This type of research also required meticulous care and quite a lot of circumstantial details—wherein *les chiffres parlants* entered into conceptual debates. The figures meant to talk of the history of "which" and "why" instead of the "bigger" and "smaller".

The *trendline* in Jánossy's development concept is the manifestation of *a great degree of stability in the long term development of countries*, the cause of which can be found in the nature of the most important factor of production in the labour force. *The stability stems from the interaction of certain factors built into the economic behaviour of men.* As a matter of fact he discusses the human potential for change and the dissemination of knowledge and information; he then

works as a point of departure. His famous article on "quasi-development" (Jánossy 1969) became axiomatic in reform-literature. In his capacity either as friend or as master Jánossy ispired *Bródy*'s interest in the theory of measurement (Bródy 1964; 1990; 1994), and has had a tangible impact in the research activity of *Ehrlich* in the field of measuring development levels and infrastructural development (Ehrlich 1970; 1975; 1991), as well as the work of the author of this article in her research into development patterns (Bekker 1970; 1988; 1995).

[2] The reaction to Jánossy's book on the trendline (Jánossy 1966) took different lines and forms. In the economic periodical *Közgazdasági Szemle* it was first of all the theoretical aspects of his concept that were debated (*Erdős* 1967, *Kemény* 1967, *Molnár* 1967, *Román* 1967, *Straub* 1967, *Stuber* 1967; Jánossy's closing response in 1968). The other line of the discussion was related mainly to *the quantitative results* of his work, without explicit reference either to his first or second book (Jánossy 1963; 1966), though everybody concerned had been well aware of this relationship (Bródy 1967), (*Mód* 1967). The real atmosphere of the reception of his activity could be best traced through informal sources, contemporary and unregistered discussions. The causes and arguments of neither the enthusiastic acceptance, nor the vivid refusal can be directly found in publications.

analyzes the interaction of his special categories—showing the interrelation between vocational and employment structure—and arrives at the concept of a steady long-term growth rate. In other words, in Jánossy's view the development potential of a country can hardly be changed in the short run.

In Jánossy's exposition the relatively stable, steady growth rate is a consequence of relationships whose inner logic regulate the dynamism of development and, by their nature, resist rapid changes. The age of voluntarism could not accept this thought and left it outside the texts of university manuals. In later years the "voluntarism" of the world economy seemed to collaborate in blurring the message of Jánossy's teaching. The capricious changes in the world economy in the 1970s seemed to question Jánossy's development explanation as the performances of many countries showed signs of collapse. The validity of the concept was at stake. In the next step it was the state socialist system itself which collapsed, thus diverting public opinion away from contemplating the truth in Jánossy's work.

However, in my opinion the radical changes, and the new conditions have not questioned Jánossy's basic idea. What is more, one can maintain that his theory can help in understanding the adjustment processes and difficulties countries face nowadays. Based on Jánossy's theoretical considerations we can assume that *the trend—that is the stable system of relationships—can serve as a point of departure against which responses to the new conditions can be appraised*. Though it seems paradoxical, the uncertainty about the true nature of bonds between past and present has generated a renewed interest on the part of several economists who are considering the present in Jánossy's terms. In addition to the solid pillars this theory can provide, the demand for easy explanations and reassurance also feeds this comeback.

The easy explanations that can be derived from the simplistic acceptance of the trendline concept refer mainly to the interpretation of the formation of reconstruction periods, which are coupled with the trendline. Several economists hold the view that when analyzing the formation or the outcome of the economic recessions that followed the systemic change in Eastern Europe, Jánossy's concept of reconstruction period can automatically be applied. This suggests that in a few years time, having established the framework for a market economy, there would be an almost automatic acceleration of economic growth, as experienced in reconstruction periods after wars. The speedy growth of the reconstruction period would then reach the trendline—i.e. the path of long-term development potential—and could continue along its original slope. The reassuring conclusion is apparent: given the trend concept, and given the known characteristics of reconstruction periods applied to the transformation periods, we can arrive at our goal—i.e. Europe—almost automatically.

However, the authentic interpretation of Jánossy's work is different. *Neither the existence of a predestined, single trend* (that cannot be changed at all), *nor an automatically accelerating transformation period* (transporting us happily along

the trendline to the much-wanted Europe in few years time) *can be attributed to his concept*. In the centre of Jánossy's world man is not irresponsible, passive or swimming with the tide. His man is conscious, he struggles with unfavourable conditions, and thought can change his behaviour only within limits.

If one tries to remain within the framework of "Jánossyism" when trying to decode the relations between past and present, (1) one has to examine the main factors that influenced the trendline of state socialism and ask whether there has actually been a break in the slope of the trend (i.e. whether there exists a system-specific rate of development); (2) the similarities and differences between the reconstruction periods and transformation periods also need to be analysed.

These are the two issues I would like to comment upon. Both problems demand qualitative and quantitative approaches. Jánossy's work provides inspiration in both respects.

Was there any system-specific growth rate?

Discussing the system of conditions for a steady growth rate, Jánossy himself underlined that all basic factors that "ultimately" determine the ascent of the trendline need to remain unchanged in order to avoid a modification of its slope, or a break in its path. (Jánossy 1966, Part 1, Chapter 1) Should these factors change, the trendline would suffer a break. In other words, the concept cannot be blamed for teaching predestination, or the existence of a single, fate-like trend for a country. In my opinion two main factors or conditions are able to have a lasting, albeit moderate effect, on a possible new slope of the trendline. On the one hand, the modification of the trend can come about under the impact of changing international conditions in a given period; on the other hand, a turn in the socio-economic system of a given country may have the same effect. Consequently, we have no reason to exclude the possibility of a state socialist trend. Moreover, the systemic change that has recently taken place in East Europe may typically be taken as a factor "ultimately" determining the development potential.

At the time of the publication of the trend-concept, in the debate which followed it was *not even mentioned* that a state socialist system-specific trend might not stand the test if compared with the long term dynamics of the competing economic systems. It already amounted to heterodoxy that Jánossy had forecast a future slowing down of the officially measured and rather high growth rates. He claimed that the fast speed was temporary and due mainly to the fact that the reconstruction period had not been entirely completed. He also proved that there were problems of measurement and comparison concerning the official growth rates, and that the figures published in official statistics did not adequately reflect the development process. In plain words: the published figures overestimated the real rate of growth.

The results of my research (Bekker 1993; 1995), if they had appeared at that time, would have contributed to further heterodoxy. My studies dealt first of all with the development of small- and medium-size countries; the Soviet Union was not the explicit target country of the research in the East European region. Admitting that a marked, system-specific development pattern characterises the East European region, and noting the fact that the growth rate in the decades after the second world war surpassed that of the interwar period, *it has to be denied that the long term development of the East European region would have manifested state socialist system-specific acceleration*. A properly selected *control-group from western countries* leads to quite astonishing findings. If the sample consists of countries whose development level, market size and development conditions permit an authentic comparison (Austria, Finland, Spain, Portugal), one can state that *their respective growth paths are faster in the long run* than that of their East European counterparts.[3]

The *East European growth pattern* had the appearance of a more advanced development path in many quantitative characteristics than it was in reality. Expressing this using Jánossy's proper terms, we can observe an advance along the path of "quasi-development"; the latter *seems to be deficient not only in qualitative but also in quantitative characteristics. Not only was it unable to bring about the quality of true development, but it also lacked the capacity for lasting, faster quantitative growth*. There was *no break in the trendline caused by system-specific reasons*.

There were, however, *general growth-inducing conditions* for economic development after the second world war. The market expansion due to economic relations growing evermore international and global, the international flow of know-

[3] The average annual growth rates of GDP in Austria, Finland, Spain and Portugal between 1960 and 1989 are 3.4 percent, 4.0 percent, 4.6 percent and 4.6 percent respectively. For the same period the average annual growth rate of national income in Czechoslovakia is 3.7 percent, in Poland 4.2 percent, in Hungary 3.8 percent and in Bulgaria 6 percent. With the interpretation of measured growth one has to take into account that in the case of East European countries the figures refer to national income, and not GDP, measured by the respective statistical offices. Long-term GDP data are not available for these countries. In general, at a given stage of development, the growth of national income shows itself to be more dynamic than that of the GDP. We would therefore have an even more unfavourable comparison for the East European countries if we could express their growth rates in terms of GDP. The data for Bulgaria has a further speciality. Expert estimates stress that there is a rather wide gap between official and expert-estimated growth rates. An alternative estimation expressed in GDP for Bulgaria has calculated only 3.3 percent average annual growth for the period 1960–1989, as opposed to the officially claimed rate of 6 percent.

The formation of productivity—which, in final analysis, determines the slope of the trendline—is even more eloquent with respect to the fact that there has not been system-specific acceleration of development: between 1960 and 1989 the average annual growth of per capita national income amounted to 2.7 percent in Czechoslovakia, to 3 percent in Poland, and to 3.9 percent in Hungary. For the four West-European countries these data in GDP terms are: 3.3 percent in Austria, 3.4 percent in Finland, 4.4 percent in Spain and 3.6 percent in Portugal.

how and technology, and the utilisation of abundant factors of production all contributed to a general and lasting increase of growth dynamism. The utilisation of the *catching-up effect* could improve the growth prospects of less developed economies even further.

At the same time, there is no doubt that the *issue of growth*—i.e. the speed of development—was a central problem in the state socialist countries. It was not simply a slogan, even though it also functioned in that sense. The whole system of economic relations was constructed in such a way that *all elements were supposed to serve this purpose*.

The contradictions between the existence of the rather high growth rates in the early years of the state socialist period and the difficulties and problems of bringing about a healthy, dynamic, steady, long-run growth rate provided a challenge for economists and the inducement for policy actions. *The issue of efficient, fast growth* loomed in the minds of policy-makers throughout the existence of the system but it remained *unsolved*, because it *could not be solved*. One way in which this concern was expressed was the introduction and discussion of the terms *extensive and intensive stages of development*.[4] We have to recall this question here since the slope or ascent of the trendline—i.e. the determination of the long term economic potential of the system—is intimately tied to this problem. These categories, by their definition, refer to the intended orientation of a system—namely, they reveal whether the development is growth-oriented or efficiency-oriented. The identification of a system's behaviour is important, since in the final analysis the *results achieved in resource efficiency determine the slope of the trendline for a country*.

The terms of "extensive" and "intensive" stages of development were widely accepted categories in East European economic literature and university manuals. Briefly, the term "extensive development" essentially referred to a path where the achieved growth could be basically attributed to an increasing quantity of the factors of production. In the intensive stage the engine of growth differed for in that phase improved quality, technical progress, and growing efficiency were considered to be the vital components. The state socialist economic literature, and the policy-makers especially, disseminated the view that these two phases had *a definite time-sequence as stages*. The policy target of entering the intensive stage of development having been through the extensive period, was a well-known objective. In another formulation, transposing to other categories, this goal would have meant changing from growth orientation over to an efficiency-oriented development path.

Paraphrasing the state socialist economy with this twin-category, one could describe it as being a system in which there was extensive development only, and

[4] We can all regret that Jánossy did not publish his views on this issue, though he had been dealing with the problem.

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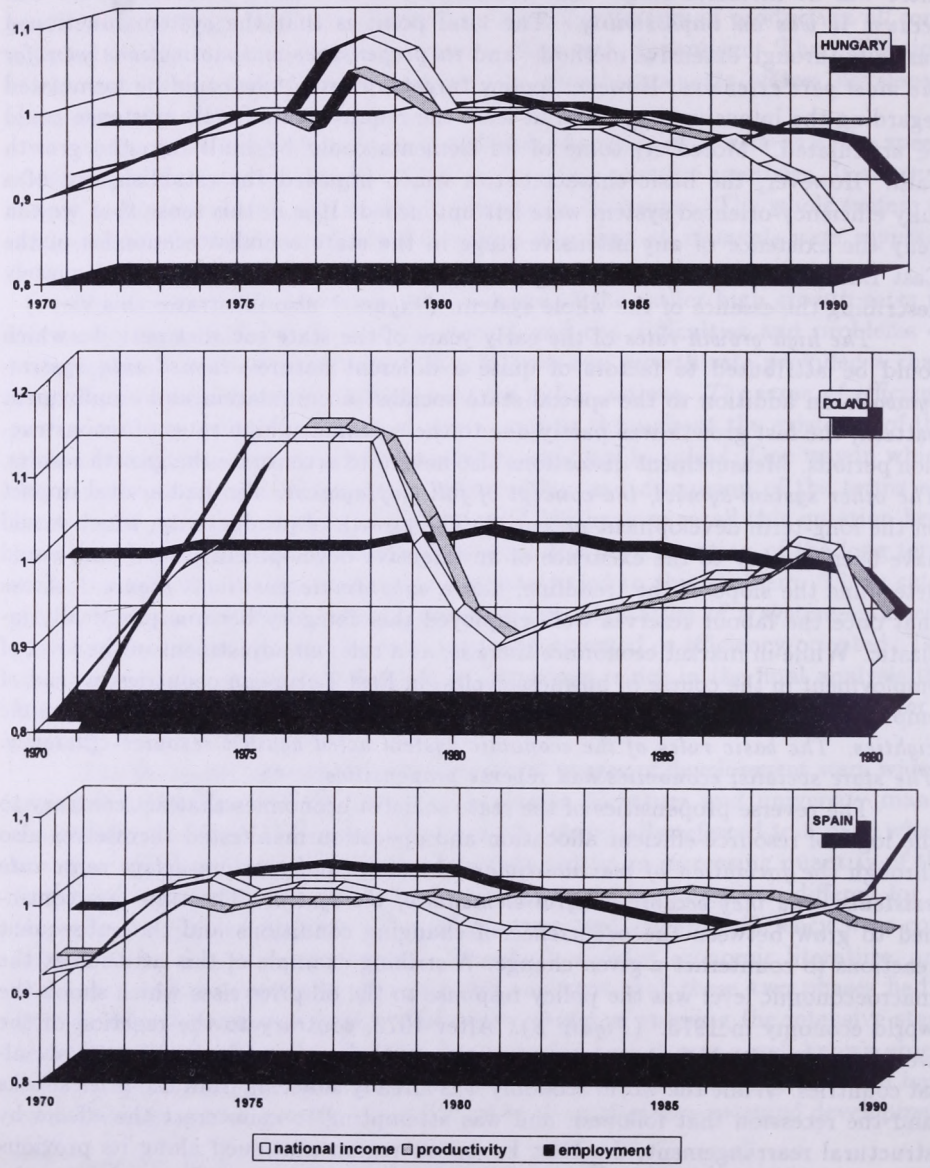
there was no intensive stage. The reason why there was *no intensive phase was because it was an impossibility*. The vital point is that the system functioned basically through extensive methods, and *its propensities and motivations were for the most part extensive*. However, policy targets or intentions could be formulated regarding the intensive stage, and at least the requirements for its existence could be articulated. Moreover, some of its elements could be built into the growth path. However, the basic characteristics which impeded the establishment of a fully efficiency-oriented system were left untouched. It is in this sense that we can deny the existence of any intensive stage in the state socialist economies of the East European countries and designate the extensive development as adequately describing the essence of the whole system. (*Figure 1* also illustrates this view.)

The high growth rates of the early years of the state socialist period—which could be attributed to factors of quite a different nature—*turned into system-symbols*. In addition to the special state socialist accumulation and employment pattern, the fast growth was partly due to the customary high rates of reconstruction periods. Measurement distortions also helped to accentuate the growth results. *The other system-symbol, the concept of full employment*, also had a vital impact on the long-term development potential. The growth of productivity, which would have been the key to the existence of an intensive development period and would determine the slope of the trendline, had a *subordinate position*. *Figure 1* shows that once the labour reserves were employed this category became practically inelastic. While in market economies there is, as a rule, an adjustment in the level of employment in the course of business cycles, in East European countries instead of employment adjustment it was *the trend of productivity that was broken during the eighties. The basic rules of the economic system acted against resource-efficiency. The state socialist economies had reverse propensities*.

The reverse propensities of the state socialist economies that act contrary to the logic of resource-efficient allocation and operation manifested themselves also through the *formation of reaction-times: decision- and reaction-delays came into existence, and they became integral elements of the system*. The time-lags continued to grow between the occurrence of changing conditions and the subsequent reactions to counteract a given change. A striking example of this attitude at the macroeconomic level was the policy response to the oil price rises which shook the world economy in 1973. (*Figure 2*). After 1973, contrary to the reaction of the world economy itself, a clear-cut regional boom began to unfold in the state socialist countries. While the world economy was already suffering from the price shocks and the recession that followed, and was attempting to counteract the effects by structural rearrangement, the East European region continued along its previous growth path as if nothing had happened. Along with this unconditioned reflex the non-action was actually reinforced by a certain degree of ideological support.

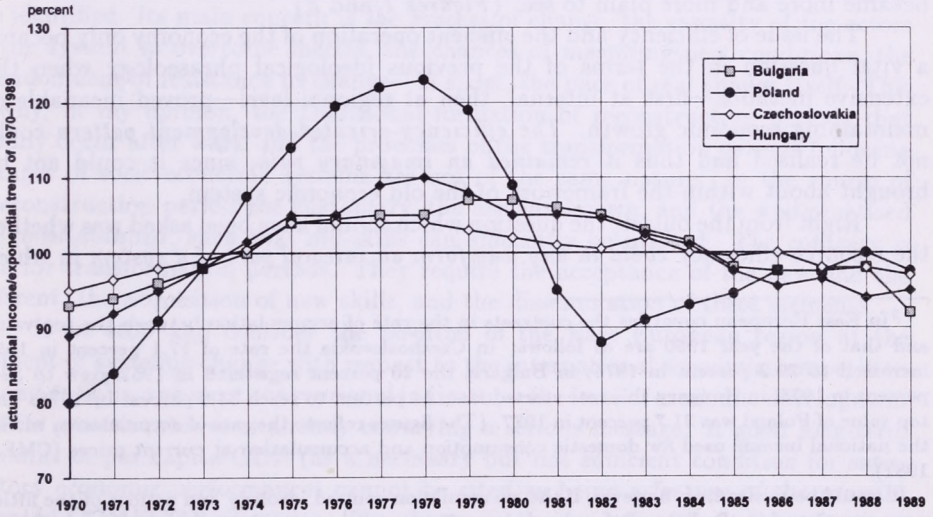
The situation can be best illustrated by pointing out the unfolding investment-boom which occurred in the state socialist countries at that time, and by an ac-



Sources: *CMEA* (1981), *OECD* (1992) and *UNECE* (1992)

Fig. 1 Ratios between actual and trend values

celerating, massive flow of exports to East European destinations. At a time when the world economy provided numerous gloomy signals, and when the reserves of the extensive development stage were supposed to be exhausted, the investment activity switched to a higher gear in the East European economies. The boom was fuelled by three main factors: (i) the goal of increasing intraregional exports; (ii) the plans of the countries to mitigate technological backwardness; and (iii) investment contributions (these were mainly for the Soviet Union, so that she could exploit her natural resources, thus increasing the supply potential of the CMEA in energy and basic materials). All this occurred in a period which had been officially recognised, even by policy-makers, as one having no more resources for extensive growth. Although *the policy-makers* emphasised all their intentions to switch over to an intensive type of development, they *behaved symptomatically. The policy response remained extensive in content: having exhausted the internal reserves of extensive development, the original behaviour was transposed to an international level.*



Sources: calculations based on the data of *UNECE* (1992)

Fig. 2 East European regional boom after 1973

Studies on East European development used to underline the accumulation-hunger of the early years of the state socialist period. In the response to the shocks affecting the world economy around 1973, we can observe the same attitude which had prevailed in the forced investment policy of the 1950s: the rate of accumulation increased like an unconditioned reflex. As a matter of fact, *the historic record rates*

of accumulation in the state socialist countries are linked to the regional boom which unfolded after 1973.[5]

The response was, in effect, a prolongation of the extensive development pattern, a solution which had the appearance of being able to disregard the need for fundamental changes. Relying on the demand of the Soviet market, making use of her energy and raw material supply, abandoning the concept of self-reliance in investment-activities (i.e. utilising external resources), and generating external debt—all these things meant that the *old type of growth pattern gained force* and gave way to the extensive propensities of the state socialist economies.

With some *6–7 years of delay*, it was around about 1979 when the imbalances and the disequilibrium generated by this response pattern became all too obvious. During the following one or two years *a path modification attempt* took place, causing a sudden halt in all countries. From that point onwards, up to the time of systemic change, a painful, gradual slackening of all performance indicators characterised the region, and the latent dysfunctions of the state socialist economies became more and more plain to see. (*Figures 1* and *2*)

The issue of efficiency and the efficient operation of the economy only became a vital question in the terms of the previous ideological phraseology when the extensive methods—first at internal, then at regional level—proved incapable of maintaining economic growth. *The efficiency-oriented development pattern* could not be realised and thus it *remained an imaginary path*, since it could not be brought about within the framework of the old economic system.

Right from the outset, the question which should have been asked was whether the resource-efficiency *could in any way form an integral part of a system* in which

[5] In East European countries the contrasts in the rate of accumulation between the top value and that of the year 1950 are as follows: in Czechoslovakia the rate of 17.1 percent in 1950 increased to 29.2 percent in 1975; in Bulgaria the 20 percent registered in 1952 grew to 32.5 percent in 1975; in Hungary this rate started from 14 percent to reach 31.9 percent by 1978. The top value of Poland was 31.7 percent in 1977. (The figures refer to the rate of accumulation within the national income used for domestic consumption and accumulation at current prices (CMEA 1981).

It would be misleading, however, if the accumulation-centred ideology and actions of the fifties were questioned in the light of the above data. Two points need to be emphasised. On the one hand, during the fifties the growth-orientation rested on an autarchic concept utilising *internal resources*, while in the early and mid-seventies external resources were also used. The other issue refers to a specially defined category, i.e. the formation of *public consumption*. The term public consumption covers the costs of labour and the use of materials as main items in the fields of administration, defence, institutions of law and order etc. At the same time, in the case of the armed forces it was not only the current expenditures that entered into the category but, with the exception of buildings, all investments into fixed assets came under this heading. The great fluctuations in this category reveal the strong influence which political considerations had on this field. The formation of the share of public consumption within the total consumption at current prices could throw more light on this point. In Hungary this ratio amounted to 16 percent in 1950, to 20.5 percent in 1953, while it was only 8.6 percent in 1960. In Czechoslovakia the figures for the same series are: 13 percent in 1950, 18.3 percent in 1955 and 7.9 percent in 1960.

growth-orientation prevails. To deal with the actual problems of the state socialist countries without facing the essence of the problem was self-contradictory. The crisis of growth-orientation was treated with some elements of a rational system, yet this took place without an examination of the inner logic of, and conditions for efficiency-oriented operation. Nevertheless, the economic reforms of state socialist countries can be regarded as at least partial efforts in that direction. *In the range of conditions two decisive components—namely, (1) turning to a market-economic system and (2) changing property rights—were intertwined with such problems that could not be solved without changing the totality of the socio-economic system.*

Reconstruction period—transformation period

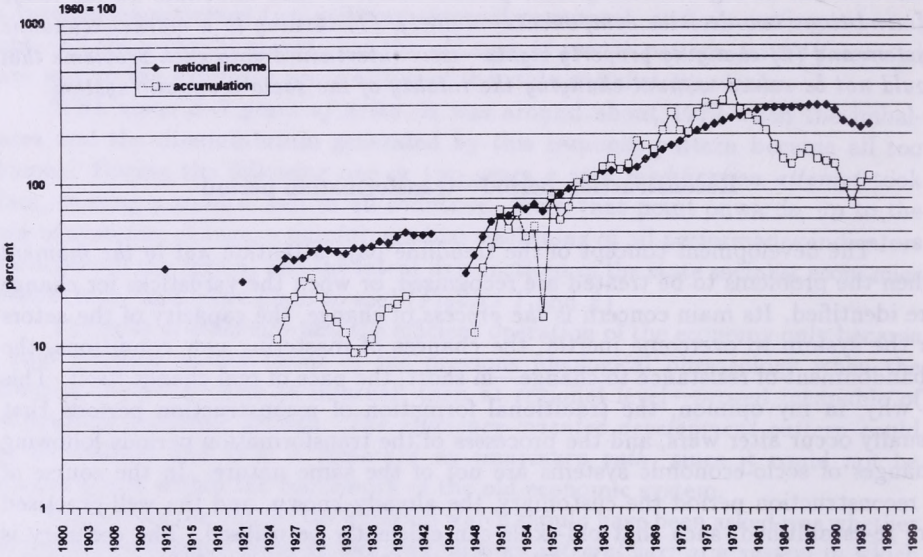
The development concept of the trendline pays attention *not to the moment* when the problems to be treated are recognised, or when the yardsticks for change are identified. Its main concern is *the process* of change, the capacity of the actors in the system to overcome inertia, the chances of mastering new conditions, the abandonment of resistance to change—in short, the pace of real change itself. This is why, in my opinion, the traditional formation of reconstruction periods that usually occur after wars, and the processes of the transformation periods following changes of socio-economic systems are not of the same nature. In the course of a reconstruction period the customary, the already-known, and the well-practised are re-established, such that old-skills can efficiently be utilised. The contrary is true for transformation periods. They require the acceptance of the new and the different, the acquisition of new skills, and the dissemination of these elements.

If we stop and consider the position of the East European region at the moment of systemic change with respect to the international economic competition among nations, the most conventional indicator—the level of economic development and its growth rate—was already conveying a serious message. A good long-term dynamic of per capita GDP (as a necessary but not sufficient condition for satisfactory economic performance) cannot be cited as being a feature of the growth-oriented COMECON countries. The change in their relative level of development between 1937 and 1990 suggests rather a *gradual slip towards the periphery*, rather than any catching up.

Using Austria as a yardstick for comparison, the development level of Czechoslovakia lagged behind by some 12 percentage points in 1937, but this unfavourable difference had grown to 49 percentage points by 1990.[6] It goes without saying that

[6] The comparison is based on the calculation of Ehrlich (1991) for the period 1937–1980. The Jánossy-method employed in her study allows for the longest-run comparison, utilising the same concept. The development levels of 1980 have been indexed up to 1990 by official growth rates (OECD 1992; UN 1992).

Austria also surpassed the development level of Hungary. By 1990 the Austrian level was twice that of Hungary, though in 1937 the difference had not yet reached more than 58 percent to the disadvantage of Hungary. The unfavourable tendencies prior to the systemic change, the immovability of long-term processes, and the crisis periods of development can be quite well observed for Hungary in *Figure 3*.



Sources: *Mitchell, B. R.* (1984) and *UNECE* (1992)

Fig. 3 National income and accumulation

Contemplating the consequences of different conditions in the past and at present, one might conclude that by re-entering the system of market economies the obstacles hindering efficiency-oriented development would disappear, and the problems of the previous contradictory situation would be solved. It is true that the taboos limiting proper identification of tasks, and the ideological pressures encroaching upon the liberty of action have ceased to exist. Furthermore, these countries are familiar with the experiences of existing market economic systems. One might also claim that the principles of re-establishing such a system, as well as the steps to be taken, form part of our knowledge. It is known that the physical structure of market systems, the institutional and legal framework, the property rights, the regulatory mechanisms and other customary features of such systems need to be brought about or re-established.

If the above list covered the full agenda, if "only these steps" formed part of the duties, the transformation period would not differ significantly from the re-

construction period. The "happy-end" of catching up would be an almost foregone conclusion. However, the smooth and efficient operation of a market economy presupposes a certain type of behaviour and propensities on the part of the actors. This is where *the true difficulty of transformation lies. To bring about the mentality and behaviour typical of a market economy and to make the actors accept new norms and values* intimately tied to such a change—these are the real challenges. The capabilities and inclinations of economic actors for such a transformation, and the existing resistance to alter built-in reaction patterns, seem to be the main reasons why the evolution of transformation periods after systemic change differs from that of the classic reconstruction periods.

In my view, *due to the establishment of a new mode of operation*, the speeding up of development in the course of transformation periods is much more uncertain and slower, and thus it needs a longer time span than in the classic reconstruction periods. At the same time, *the chances* of making the speeding-up effect of reconstruction periods unfold *are better* in the countries *where the introduction* of some components and elements of market economies *were already at a relatively advanced stage prior to the systemic change*. Such a situation provides a better foundation for faster transformation. The actual degree and evaluation of the process, however, goes beyond the scope of the brief exposure presented here.

Finally, thinking of the by now almost banal catchphrase of "joining Europe", I would raise an issue which can be best expressed with a famous term of Jánossy. As a matter of fact, the term "quasi-development" introduced by Jánossy (1969) almost automatically fits the argument we need for describing a situation that might emerge in the course of transformation. The analogical approach with regard to analysis, and the evaluation of attempts to arrive at a desired situation often set a trap—based on the occurrence of certain features and components—in which it appears as if the target state or the landmark for comparison has already been attained. Only after a deeper, complex evaluation can one conclude, paying due attention to the "soul", the "real essence" of the phenomenon, that it is but in fact an appearance, or a quasi-existence which we are facing.

The whole development process of the East European region after the second world war proves that a growth pattern which appears to be developed—being identical to more advanced countries in basic macro-structural shares and in certain other quantitative characteristics—could not achieve anything more than a state of quasi-development. In the final analysis, following the proliferation of dysfunctions the mode of its operation, this path became a dead-end for the economic development of the state socialist countries.

In the field of systemic change the same caution has to be exercised. In a political sense (the act of) change might be used as an adequate term. However, with regard to the economy, it is only (*the process of*) *changing*, or the gradual transformation that can be employed. We might cherish too many illusions about the possible degree and speed of transformation if the essence of Jánossy's theory

is disregarded. We might easily be caught in the trap of "quasiness" in the course of setting and evaluating targets, as well as in making judgements about existing conditions. As regards targets, the *pitfalls of ready-made receipts* might cause disillusion. In evaluating the conditions and possibilities of change we must face the grim fact that the notion of *stability itself relies on the difficulty of transforming human behaviour* and built-in reactions. The belief in an easy transformation is both an illusion and a real trap for "quasiness". Being aware of all these hardships we ought to visualise and realise a future which is neither quasi-European, nor a quasi-transformation of the system.

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IMMINENT OECD MEMBERSHIP OF HUNGARY AND THE REVIVAL OF JÁNOSSY'S TRENDLINE THEORY*

T. G. TARJÁN

This study examines the development trend assumed by Jánossy in 13 OECD countries with GDP indicators available from 1900. It shows relevant details concerning the trendlines of the USA, Japan and certain European countries.

Using Jánossy's time series from 1960, linked with OECD data, the author shows certain features of the 24 OECD countries.

The author indicates differences between Austria and Hungary and has prepared a purchasing parity-based "fitted GDP series" for Hungary. With Jánossy's trendlines he estimates when Hungary will again reach its trend value.

Introduction

The imminent OECD membership of Hungary necessarily gives rise to the problem of how to compare its economic performance with the development of the world. The 25-member OECD,[1] with its Paris headquarters, is a pioneer in the assessment, aggregation and publication of data necessary for the quantification of the performance of the leading countries of the world economy. At present we have at our disposal a 32-year long time series about the most important macroeconomic indicators of member countries (this can be found in the *OECD* (1993) publication). In our investigation we make use of their per capita GDPs at the price level and exchange rates of 1985 (US dollars) from 1960 to 1991, and at current prices and current PPPs (US dollars) from 1970 to 1991.[2] On the basis of these data we can obtain a sufficiently real picture of the economic development of the OECD countries over the last three decades (although nothing about Hungary). However, starting out on the basis of OECD data—at least in theory—there are two directions for extending our analyses to Hungary. We shall prove that it is only the data adjusted for PPP which can be used in the extension. To establish better our comparison we go back to the beginning of this century, this being made possible by using historical statistics. We shall try to apply Jánossy's trendline theory. The

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[1] With the admission of Mexico the number of member states of OECD has been increased to 25 from 14 April 1994. In our paper Mexico has not been taken into account.

[2] PPP=purchasing power parity.

present study tries to reveal—relying on constant price and historical per capita GDP data from the 20th century—whether the development of the world economy over the last quarter of this century was in line with or contrary to the theory of Jánossy about the trendline. We shall prove that the parameters of Jánossy's trendlines do not change when the GDPs are adjusted to PPP. This fact allows us to measure our development in comparison with Austria and Italy, which can be considered "model pupils" of the OECD. Finally, on the basis of the comparison of Hungary with Austria, we try to give a forecast up to 2030.

Economic development of the most important OECD countries in the 20th century

As is well-known, Jánossy's book about the reconstruction periods (1966a, b), which appeared in the course of mechanism debates (preceding the Hungarian economic reforms in 1968), elicited a lively professional debate and had a positive acceptance. Five years later, in an article (1971), Jánossy had to modify the elegant theorems of his book in order to adapt them to the latest data. Thus his theory lost its main asset—namely its simplicity. Unfortunately professional economists today—in our view, wrongly—consider the work and results of Jánossy on the trendline as an interesting episode of the reform debates, but which were eventually refuted by reality in every important respect. I hope that the data of the present article will convince the reader that Jánossy's theory is still relevant.

For me the main message of Jánossy's work is that for long-term development the human factor is fundamental or, to put it otherwise: from among the two factors of production which mutually depend on one another it is "human capital" which is decisive. This statement is true for all countries and for the whole of the history of humankind. The two factors of production might have been separated for certain extraordinary—shorter or longer—periods, but this always brought with it immense human suffering. These are the periods investigated by Jánossy. A major asset of this method is that he proves his statement with simple arguments understandable for people not well-versed in mathematical economics too.

There were other people who also investigated the sources of economic growth. The most famous are the teams led by Robert *Solow*, John *Kendrick* and Edward *Denison*. Relying on the method of so-called *growth-accounting* they obtained results similar to those of Jánossy. In *Samuelson*'s (1983) textbook we can read on page 864 the following about the research of Denison, who investigated the sources of growth through US data for the period 1948–1981:

"Studies using the techniques of growth accounting break down the growth of GNP into its contributing factors. These studies find that capital growth is only a modest contributor, accounting for about one-fourth of total GNP growth.

Education, technological change, and other sources make up almost one-half of total GNP growth and six-tenth of the growth of output per worker". (Denison 1985)

In our paper there are three trendline notions:

In all three cases we apply a logarithmic scale for the economic indicator's (per capita GDP) time series.

(OT) *Ordinary trendline* is a straight line around which the data fluctuate over a period of time. We use the most widely accepted definition in statistics when the trendline is fitted by the standard method of least squares.

(BT) By the help of the standard least squares method even a *broken trendline* (BT) with one point of inflexion can be fitted over the same period of time. It is an important remark that the year of inflexion (breaking point) also arises from the method.

(JT) *Jánossy-trendline* by definition is a straight line which connects the largest per capita GDP data (local maxima) of a given period of time.[3]

The first and last notions are closely related, as will be discussed later. Generally it can be stated that they run parallel and the ordinary trendline (OT)—according to the meaning—runs below the Jánossy trendline (JT).

Conclusions to be drawn from OECD data

First let us see what kind of conclusions can be drawn from OECD data for the period 1960–1991. (OECD 1993; Table 20;[4] pp. 130–131)

After representing the time series of 24 countries on the logarithmic per capita GDP axis we can see that the actual data fluctuate—with moderate deviations—around a straight line, with one point of inflexion occurring somewhere in the early seventies. Therefore it seemed feasible to fit to the constant price, logarithmic per capita GDP data of the 24 OECD countries (with the standard method of mathematical statistics, the method of least squares) using a broken line with one point of inflexion (BT). Fortunately for the fitting exercise the break-point always fell—some extreme cases apart—to the middle of the period. Thus the year of the break and the gradient of the two lines obtained by the least squares method give a statistically reliable characterisation of the 32 years-long period (given that

[3] The advantage of this definition (JT), apart from the simplicity, is that its parameters do not depend on the fact whether we have any available or reliable data in a recession caused, for example, by war, nor does it depend on the extent of the recession.

[4] The per capita GDP data presented here are constant 1985 prices converted into US dollars.

both sub-periods are represented by at least 10 data). The main results of the computation are summarized in *Table 1*.

Table 1

The results of the fitting of the broken trendline (BT) with one point of inflexion, for OECD data (1960–1991)

Country	Breakpoint (year)	bt_1 rate of growth (percent)	bt_2 rate of growth (percent)	bt_1/bt_2 (ratio)	Break rank order
Canada	1976	3.69	1.94	1.90	17
United States	1968	3.24	1.44	2.24	12
Japan	1970	9.29	3.33	2.79	6
Australia	1972	3.51	1.57	2.23	11
New Zealand	1973	1.90	0.82	2.33	9
Austria	1976	4.22	2.02	2.08	15
Belgium	1974	4.27	1.89	2.26	10
Denmark	1969	3.79	1.95	1.95	16
Finland	1973	4.29	2.69	1.59	21
France	1973	4.34	1.77	2.46	7
Germany	1973	3.41	2.01	1.69	20
Greece	1973	7.12	1.61	4.43	2
Iceland	1981	4.14	1.91	2.16	14
Ireland	1973	3.67	2.88	1.28	22
Italy	1973	4.46	2.45	1.82	19
Luxemburg	1985	2.24	3.85	0.58	24
Netherlands	1973	3.92	1.22	3.22	5
Norway	1986	3.60	0.71	5.09	1
Portugal	1973	6.52	1.99	3.28	4
Spain	1972	5.79	1.67	3.48	3
Sweden	1971	3.51	1.58	2.22	13
Switzerland	1971	2.73	1.12	2.44	8
Turkey	1976	3.71	1.95	1.90	18
United Kingdom	1968	2.39	1.96	1.22	23
OECD—Total	1971	3.78	1.90	1.99	
OECD—Europe	1973	3.57	1.70	2.10	
EEC	1973	3.74	1.89	1.97	

Indication:

— the first column of the Table, called *break-point*, gives the year of inflexion

— the second and third columns, bt_1 and bt_2, give the rates of growth before and after the year of inflexion of the fitted broken trendline whereas in

— the column bt_1/bt_2 we can find the ratio of these two data. Finally,

— in the last column, called *break rank order*, we can find the 24 countries in decreasing rank order of bt_1/bt_2.

As it turns out, from *Table 1* our broken-line estimation corroborates the visually immediate observation that the break-point is situated at the beginning

of the seventies. The trend of OECD countries taken together has its break-point in 1971; that of the Common Market and of European OECD countries has its break-point in 1973.

Countries 14 to 19—namely, Canada, Austria, Denmark, Iceland, Italy and Turkey—are situated within a 10 percent band of the average 1.99 value of the relative growth-recession indicator (bt_1/bt_2). In other words, in these countries—within a 10 percent margin of error—growth was halved.

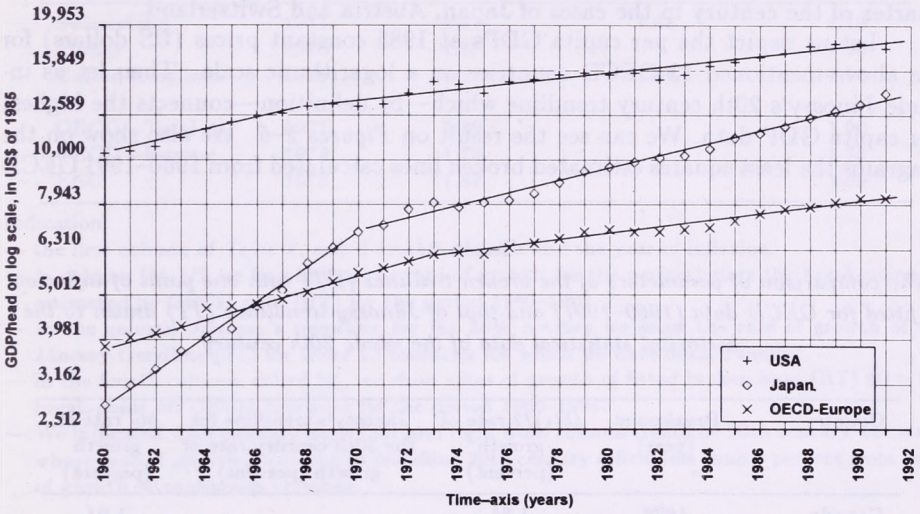

Fig. 1 USA–Japan–OECD Europe from 1960 to 1991

On *Figure 1* we can see the main representative developments of the three geographical regions of the world and their relative development over the last three decades. In all three cases we depicted the fitted broken line too. The break-point for the US is in 1968, for Japan in 1970, and for the European OECD countries in 1973. It can be seen that the difference (measured in logarithms) between the more developed part of Europe and the US hardly diminished during these 31 years; in other words, if we take the US as 100 percent, Europe could raise its 37 percent level of 1960 only to 47 percent by 1991. At the same time Japan not only overtook the European OECD countries but approached even the US; expressed in figures its development level relative to the US rose from 28 percent to 80 percent.

The lessons from the historical data for the 20th century

From among the 24 OECD countries we have GDP and population data for the whole 20th century for only 13 of those countries:

— we have a complete time series from 1900 to 1991 for the US, Italy, Sweden and the United Kingdom;

— we lack data only for World War I in the cases of Denmark and France;

— we lack data only for World War II and the Spanish Civil War for the Netherlands, Norway and Spain;

— we lack data for the two world wars in the case of Germany;

— we lack data for World War II and have incomplete data for the first quarter of the century in the cases of Japan, Austria and Switzerland.

Let us depict the per capita GDPs at 1985 constant prices (US dollars) for the above-mentioned 13 OECD countries on a logarithmic scale. Then let us include Jánossy's 20th century trendline which—by definition—connects the highest per capita GDP data. We can see the result on *Figures 2–6*. We also show on the diagrams the least squares estimated broken lines calculated from 1960–1991 OECD

Table 2

The comparison of parameters of the broken tredlines (BT) with one point of inflexion fitted for OECD data (1960–1991) and that of Jánossy-trendlines (JT) drawn to the historical statistical data of the whole 20th century

Country	Breakpoint (year)	$(bt_1)/2$ rate of growth (percent)		Jánossy's trendline for the 20th century rate of growth (percent)		bt_2 rate of growth (percent)
Canada	1976	1.85		–		1.94
United States	1968	1.62	=	1.74		1.44
Japan	1970	4.65		3.45	=	3.33
Australia	1972	1.75		–		1.57
New Zealand	1973	0.95		–		0.82
Austria	1976	2.11	=	2.08	=	2.02
Belgium	1974	2.14		–		1.89
Denmark	1969	1.90	=	1.88		1.95
Finland	1973	2.14		–		2.69
France	1973	2.17		1.92	=	1.77
Germany	1973	1.71		2.07	=	2.01
Greece	1973	3.56		–		1.61
Iceland	1981	2.07		–		1.91
Ireland	1973	1.84		–		2.88
Italy	1973	2.23	=	2.28	=	2.45
Luxemburg	1985	1.12		–		3.85
Netherlands	1973	1.96		1.72		1.22
Norway	1986	1.80		2.67		0.71
Portugal	1973	3.26		–		1.99
Spain	1972	2.89		2.10		1.67
Sweden	1971	1.76		2.76		1.58

Table 2 *(continued)*

The comparison of parameters of the broken tredlines (BT) with one point of inflexion fitted for OECD data (1960–1991) and that of Jánossy-trendlines (JT) drawn to the historical statistical data of the whole

Country	Breakpoint (year)	$(bt_1)/2$ rate of growth (percent)	Jánossy's trendline for the 20th century rate of growth (percent)		bt_2 rate of growth (percent)
Switzerland	1971	1.37	1.88		1.12
Turkey	1976	1.85	–		1.95
United Kingdom	1968	1.19	1.88	=	1.96
OECD—Total	1971	1.89			1.90
OECD—Europe	1973	1.78			1.70
EEC	1973	1.87			1.89

Indication:

— the first column of *Table 2*, called *break-point*, we find the year of inflexion

— in column $(bt_1)/2$ we find half of the rate of growth for the period before the break-point, as estimated by OECD data (BT) for the period 1960–1991

— in the column *Jánossy's trendline for the 20th century* we show the rate of growth of the Jánossy-trendline (JT) for those 13 countries for which we have data. Finally,

— in the fourth column, called bt_2, we show rates of growth of fitted broken lines (BT) after the break-point for OECD countries for the period 1960–1991.

— We indicated with equality signs, left and right from column trendline 20th century, countries whose rate of growth according to trendline 20th century differs less than 8 percent from rates of growth in contiguous columns.

data. *Table 2* summarizes the empirical findings that, in most cases, the broken lines are parallel after the break-point with Jánossy's 20th century trendlines (JT).

Table 2 suggests two rules:

rule a) from 1960 the broken trendlines (BT) of the 13 OECD countries grew twice as fast as their Jánossy-trendline (JT) up to the year of break-point

rule b) from the early seventies (from the year of break-point) their broken trendlines (BT) run parallel with their Jánossy-trendlines (JT) for the 20th century.

Let us now look at the 13 OECD countries one-by-one to see whether rules a) and b) are valid for them and, if so, how accurately (we use for this exercise *Figures 2–6* and *Tables 1* and *2*).

Jánossy-trendline (JT)—by definition—connects with a straight line the largest (on a logarithmic scale) output data of a given period. One advantage of this definition is that it uses simple notions of coordinate geometry. The definition appears to be simple is that the performance indicators used do not move symmetrically upwards and downwards. They are flexible downwards but upwards, as they approach the capacity constraint, they are increasingly rigid. In years of maximum utilisation of capacity the value of the output indicator is equal to that

of total capacity (namely, a figure characterising the whole economy and changing only slowly).

As we have already mentioned, the trendline was conceived—within Jánossy's theory—as a kind of average, around which the data fluctuate according to a regular or non-regular cyclical movement. Jánossy's definition of the trendline is different precisely because, during times of war and subsequent reconstruction periods, the trendline defined as an average would depend strongly on the extent of wartime recession, given that the latter is independent of the general production capacity of the economy. Jánossy noticed that it was precisely that trendline defined through local maxima which did not depend—within certain limits—on the extent and duration of the recession. This definition proved to be feasible in most cases and it does not lead to inconsistencies. This is not the case with the US. (*Figure 2*)

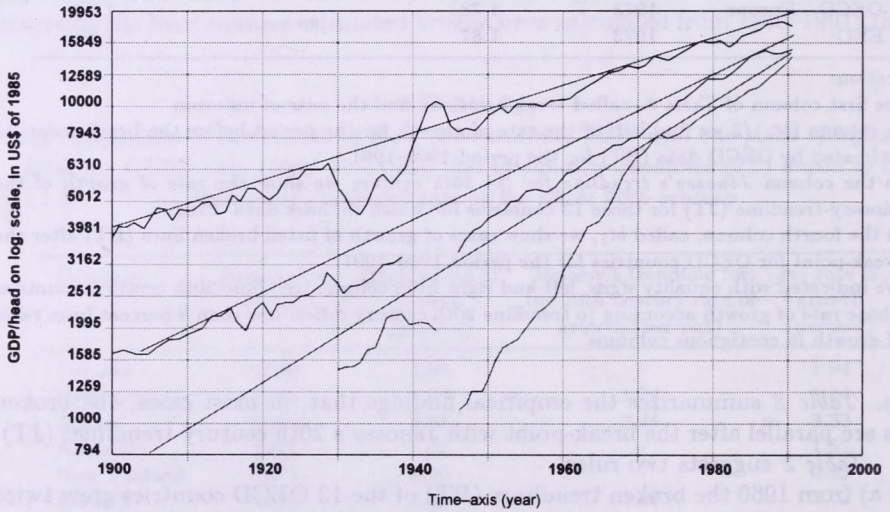

Fig. 2 Development of Ja–No–US in the 20th century

With regard to the per capita constant price gross output, the US has "overfulfilled" expectations on two occasions in its 20th century history: in 1906–1907 and in 1943–1946. When drawing the Jánossy-trendline we should leave out the overfulfilment data during World War II, when the United States was in an exceptionally favourable situation relative to other countries devastated by war.

Let us remark that if we were to draw the trendline not in Jánossy's sense but in the ordinary sense (OT), we would need to apply not a symmetric measure of distance but an asymmetric one. This would shrink distances below the trendline so that recessions would pull down the trendline as little as possible. This requirement is easy to formulate but difficult to implement mathematically. I tried to avoid the problem in the following way. As a first step I fitted with the ordinary least squares

method a straight line to the US data for the whole 20th century. I obtained a line with a rate of growth of 1.78 percent. I then cancelled points below the line. As a second step I fitted the remaining points with the above method to a second line. In its calculation there were no "bad years". Thus I obtained a line with a 1.72 percent rate of growth. This is parallel to the Jánossy-trendline (JT) of *Figure 2*, only it goes somewhat lower. I did not perform further iterations, but one can easily see that the procedure produces, in a few steps, the Jánossy-trendline depicted on *Figure 2*. The rate of growth of the latter is 1.74 percent.

On *Figure 2* can be seen 20th century data for the US and its Jánossy-trendline (JT). *Table 2* shows that the rate of growth of the Jánossy-trendline is 1.74 percent, whereas the rate of growth in the broken trendline (BT) after the 1968 break-point is 1.44 percent. Since the difference is out of the margin of error, we can draw the conclusion that the US 20th century trendline (BT) has been mildly broken during the last third of the century. The Jánossy-trendline (JT) breaks just slightly later, in 1973.

Despite the fact that in the case of the US there is no reconstruction period (since in the period investigated there were no wars only the Great Depression), rule a) is true (within a margin of error of 8 percent, but rule b) is not. The US departs from its trendline—even if only with a meagre 3 thousandth point recession—just when the other countries first attain their centennial trendline after World War II.

Jánossy starts his (1966) book by examining the so-called "Japanese economic miracle", since Japan had produced perfectly, up to the end of the sixties, the "classical" traits of a reconstruction period. In his article of 1971, Jánossy stressed more the German case because, during the five years which elapsed in the meantime, forecasts for Japan were largely refuted by facts.

Looking at the 20 years which followed, we can safely declare that Japan is a "classical" example of the reconstruction period. *Figure 1* shows that the broken line (OT), with one break-point fitted to OECD data, breaks in 1970, but true recession began only later, in 1973. Rule a) does not hold since growth in the sixties was three times as high as in the 20th century Jánossy-trendline (JT); however, rule b) is perfectly fulfilled (within a 3.5 percent error margin).

For *Austria, Denmark and Italy* (see *Figures 3* and *4*) both rules are true with great precision. Austria and Denmark fulfil rule a) with a 1 percent margin of error, and b) with a 3 percent margin of error. Italy fulfils a) with a 2 percent margin of error and b) with a 7 percent margin of error.

With regard to these three countries it needs to be mentioned that they are precisely those OECD countries for which GDP indicators are available from the beginning of the century, they are the six OECD countries taking up positions 14–19 in the rank order of growth recession (shown in *Table 1*), and they are countries which halved (up to 10 percent error margin) their rate of growth after the break-point. These countries fulfil both rules a) and b) as we demonstrated in the previous paragraph. It is clear that if a country fulfils both rules a) and b) its

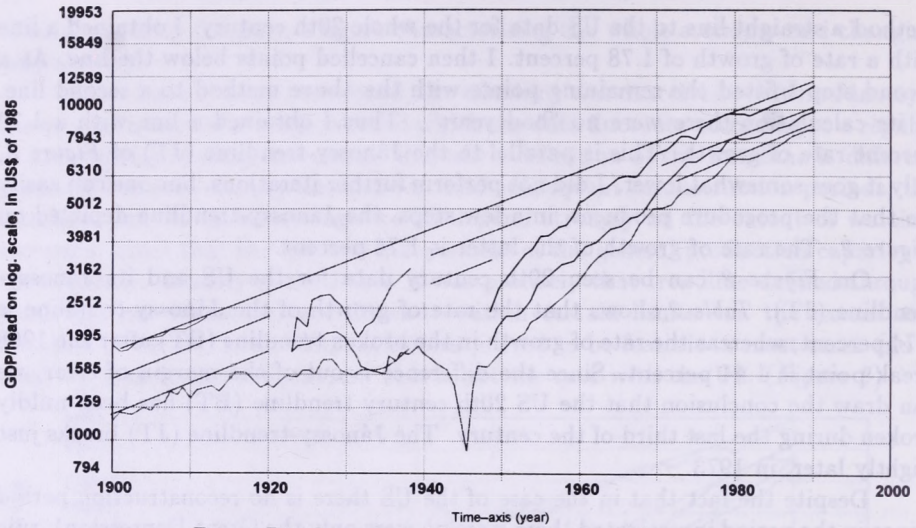

Fig. 3 Development of It–Au–D in the 20th century

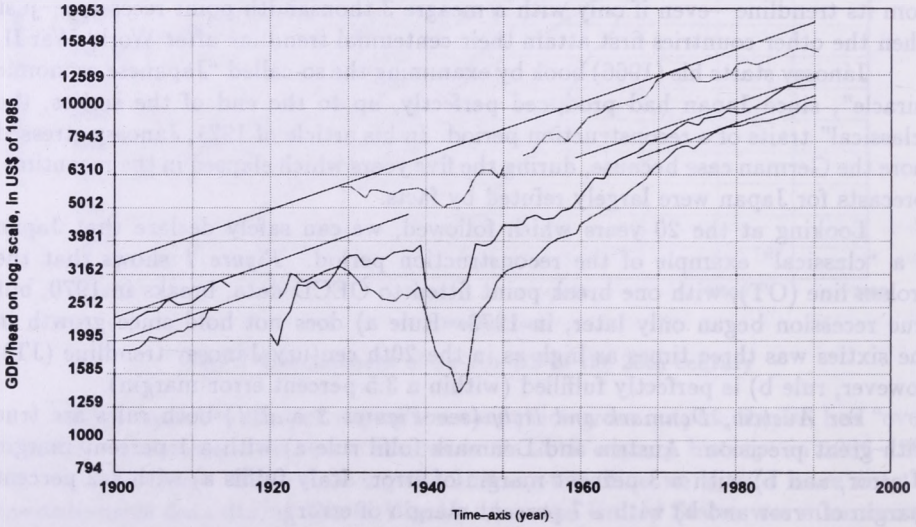

Fig. 4 Development of Fr–DK–CH in the 20th century

relative growth-recession indicator is 2 ($bt_1/bt_2 = 2$). For the 13 OECD countries for which we have 20th century data the reverse of the statement is true:

If the value of the growth-recession indicator is 2, with a reasonably broad (10 percent) margin of error, then rules a) and b) hold. Rule b) is the more important.

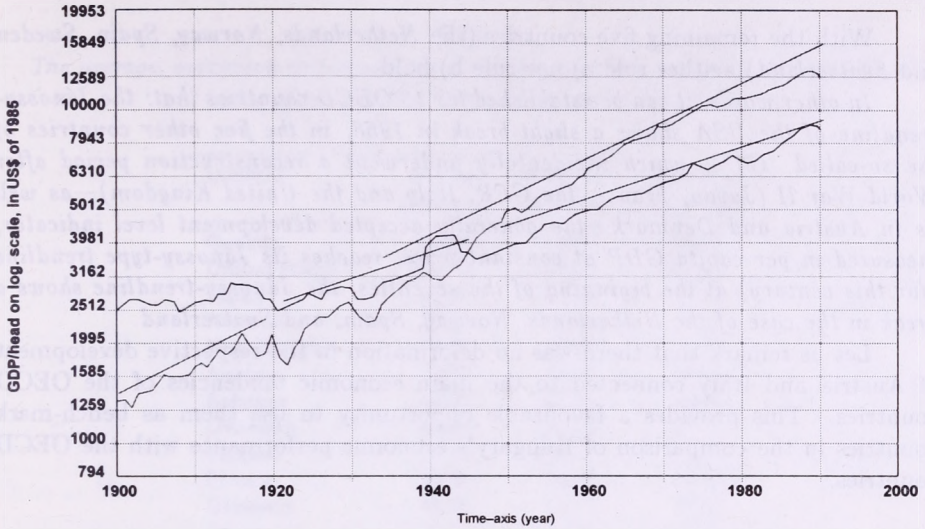

Fig. 5 Development of UK–Swed. in the 20th century

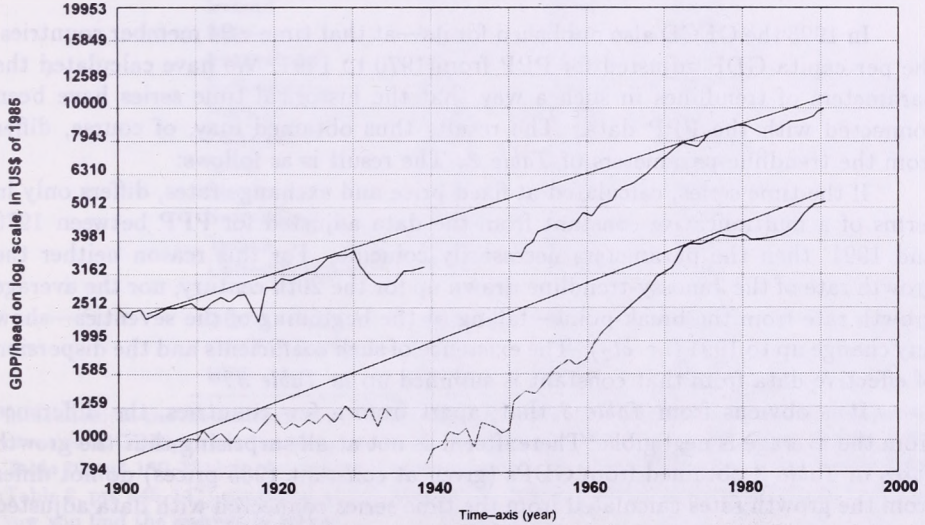

Fig. 6 Development of Sp–NI in the 20th century

It says that after the break-point of the early seventies the country moves on its 20th century trendline within an 8 percent margin of error.

For France, the GFR and United Kingdom rule a) does not hold for any of them, whereas rule b) does, with margins of error of 8 percent, 3 percent and 4 percent respectively.

With the remaining five countries (the *Netherlands, Norway, Spain, Sweden* and *Switzerland*) neither rule a) nor rule b) hold.

In other words, it can be established for 13 OECD countries that: the Jánossy-trendline of the USA shows a slight break in 1968; in the five other countries of the so-called "G7"), which incidentally underwent a reconstruction period after World War II (Japan, France, the GFR, Italy and the United Kingdom)—as well as in Austria and Denmark—the generally accepted development level indicator, measured in per capita GDP at constant price, reaches its Jánossy-type trendline (for this century) at the beginning of the seventies; the Jánossy-trendline shows a break in the case of the Netherlands, Norway, Spain, and Switzerland.

Let us remark that there was no deformation in the respective development of Austria and Italy connected to the main economic tendencies of the OECD countries. This provides a favourable opportunity to use them as bench-mark countries in the comparison of Hungary's economic performance with the OECD countries.

Conclusions stemming from the OECD data adjusted for PPP

In 1993 the OECD also published for its—at that time—24 member countries, the per capita GDP adjusted for PPP from 1970 to 1991. We have calculated the parameters of trendlines in such a way that the historical time series have been connected with the PPP data. The results thus obtained may, of course, differ from the trendline parameters of *Table 2*. The result is as follows:

If the time series, calculated at fixed price and exchange rates, differs only in terms of a multiplicative constant from the data adjusted for PPP between 1970 and 1991, then the parameters necessarily coincide. For this reason neither the growth rate of the Jánossy-trendline drawn up for the 20th century, nor the average growth rate from the break-point—falling at the beginning of the seventies—show any change up to 1991 (i.e. bt_2). The existence of such coefficients and the dispersion of effective data from that constant is summed up in *Table 3*.

It is obvious from *Table 3* that, apart from a few countries, the difference from the average is negligible. Thereafter it is not at all surprising that the growth rates in *Table 2* obtained from GDPs (given at constant 1985 prices) do not differ from the growth rates calculated from the time series connected with data adjusted for PPP. Since the difference from *Table 2* is negligible *Table 2** is not published here. It may be established that the statements formulated up till now are well confirmed by the calculations made from the data adjusted for PPP. In spite of the facts that the per capita GDPs measured at the price levels and exchange rates for 1985 may differ considerably, as might the price levels adjusted for PPP (see *Table 3*), these have no influence on rules a) and b), nor on the validity of Jánossy's theorem. Therefore Austria and Italy may serve as bench-mark countries, even if

Table 3

The average, maximum and minimum of relative numbers, compared to the USA, of rates of per capita GDPs at fixed and PPP prices

Country	Average (percent)	Maximum (percent)	Minimum (percent)
Canada	94.28	94.30	94.27
United States	100.00	100.00	100.00
Japan	92.43	92.44	92.41
Australia	82.45	82.46	82.44
New Zealand	59.80	59.80	59.79
Austria	70.99	72.00	70.93
Belgium	68.62	68.96	68.60
Denmark	88.15	88.21	87.11
Finland	93.16	93.17	93.14
France	73.98	74.02	73.48
Germany	74.98	75.01	74.97
Greece	58.04	58.07	57.80
Iceland	94.34	94.36	94.34
Ireland	75.75	75.80	75.18
Italy	64.13	64.15	63.98
Luxemburg	68.75	69.06	68.73
Netherlands	74.54	75.85	74.17
Norway	111.10	111.11	111.09
Portugal	37.75	37.82	36.54
Spain	54.11	54.16	53.13
Sweden	92.74	94.82	92.63
Switzerland	89.38	89.42	88.95
Turkey	44.52	44.55	44.49
United Kingdom	70.44	72.25	70.34
OECD—Total	86.08	86.30	85.87
OECD—Europe	70.74	71.16	70.44
EEC	69.45	69.69	69.29

Indication: In the first column of the Table called *Average* you find, from 1970 to 1991, the average of ratios of GDP per head at the price level and exchange rates of 1985 (US dollar, OECD (1993) Table 20, pp. 130–131); it also indicates current prices and current PPPs (US dollar, OECD (1993) Table 2, pp. 146–147) expressed as percentages. To express it in the form of a formula, in the i-th row you find the average of ratios:

$$(GDP_{i1985}/GDP_{iPPP})/(GDP_{USA1985}/GDP_{USAPPP}).$$

In the column *Maximum* and *Minimum* you find the maximum and minimum of the ratios in time, respectively.

later it must be accepted that for the extension to Hungary only data adjusted for PPP can be applied.

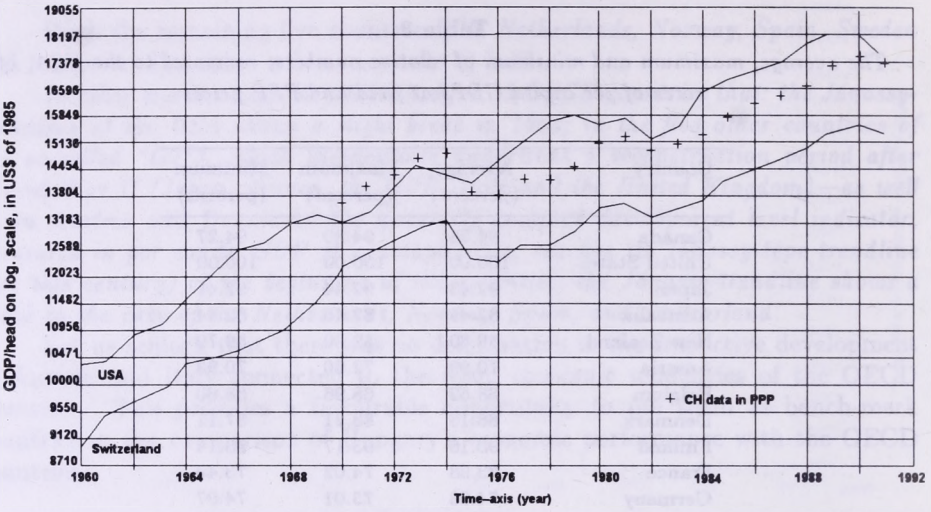

Fig. 7 Comparison of USA–CH from 1960 to 1991

In the case of Switzerland, the integration of our investigation with data adjusted for PPP presents us with a positive step forward. *Figure 7* shows the GDP per head data of the US and Switzerland, measured at the price level and exchange rates of 1985 (US dollars) from 1960 to 1991 (continuous curves). After this we suspended data for Switzerland (indicated by crosses from 1970 to 1991) on the above-mentioned continuous US data, as a cable bridge is suspended on its cable. Since the per capita GDPs for Switzerland differ slightly (less then 4 percent up and 9 percent down) from that of the USA at current prices and current PPPs, they go together "hand in hand". This explains—to a certain extent—the astonishing fact shown in *Table 2* that, among the 13 OECD countries (albeit not considering Norway, which is in every respect an extreme case) the growth rate (bt_2) for Switzerland is the lowest after the break-point. In all probability it comes into collision with the absolute upper limit determined by the development trend of the USA.

Hungary's economic growth in the 20th century

In an article András *Bródy* refuted, by relying on an analysis of long term time series of growth and investment, the then popular thesis that "what should be done now or within five years cannot depend on what we have done thirty or forty years ago" (Bródy 1967, p. 417). Jánossy and Bródy, already at the time of the mechanism debate which preceded the 1968 economic reform, proved that in a period of transition medium and long term forecasting should be based on long term

tendencies. Ironically, this thesis is once again the subject of actual debate. Jánossy laid stress on the investigation and the specifics of the trendline. Bródy (1992a) dug even deeper by investigating the laws of investment and production cycles. Based on this, at the time, heretical research topic, he established in the Institute of Economics a research team in order to investigate the business cycle. This team had undeniable merits in revealing the errors of so-called "feasible socialism", using scientific, irrefutable, mathematical language. Much later, Bródy produced an article (1992b) which provided an overview of the quarter of a century-long activity of this school and its still relevant results. In his study Bródy gives a forecast for the period 1992–2004. Although I also count myself as a pupil of this school (Tarján 1992a), my present forecast will rely rather on the trend approach of Jánossy. Nevertheless I will use Bródy's (1992b) medium term forecast to find the starting point of the reconstruction period.

The only problem is whether we can assemble long term time series to be used in our medium and long term forecasting. Both Jánossy and Bródy struggled with this problem. In the case of long term, constant price time series, we can only guarantee for individual sub-periods that the data are strictly based on the prices of the same year. We know from experience how difficult it sometimes is to find data even for 10–15 year-long periods. For 50 year-long periods this is an almost impossible task. Successful efforts by Jánossy and Bródy show that even calculations based on concatenation of constant price shorter sub-series should not be rejected out of hand. (See *Table 2*)

Hungary's bench-mark countries for analysing its development (Austria, Italy and Finland)

The idea that attention should be concentrated on three particular Western European countries in order to compare Hungary with the developed West is due to George F. *Ray* (1991). Below I shall sum up the historical reasons why they are so important as bench-marks in the process of comparison.

Austria

In the last third of the 19th century, right up to the end of World War I, for some 50 years Austria and Hungary formed a common Monarchy. Both countries found themselves on the losing side in the two world wars. They are similar with regard to area and population. The area of Austria is 90 percent that of Hungary, while its population is 70 percent. Both countries are poor in natural resources. Hungary has good endowments for agriculture whereas Austria already

Table 4

Per capita GDP in the Austro-Hungarian Monarchy for 1850, and the average for the years 1911–1913 (in crowns)

	in 1850		1911–1913 average	
	Austria	*Hungary*	*Austria*	*Hungary*
Agriculture	61.0	50.8	174.0	230.3
Industry and extraction	29.7	7.2	241.4	93.1
Trade and communication	16.2	4.2	101.6	36.6
Per capita GDP	107.0	62.2	517.0	360.0

Source: *Hanák* (1974, pp. 374–375)

Table 5

National product of Austria and Hungary between the two world wars (in constant prices)

Year	*Austria* GNP in billions of shillings at 1937 prices	*Hungary* NNP in billions of pengő at at 1938–39 prices
1921	–	3.30
1922	–	–
1923	–	–
1924	9.57	–
1925	10.21	3.84
1926	10.38	4.60
1927	10.70	4.40
1928	11.19	4.60
1929	11.36	5.00
1930	11.04	5.16
1931	10.15	5.05
1932	9.11	4.81
1933	8.80	4.68
1934	8.88	5.10
1935	9.06	5.14
1936	9.32	5.39
1937	9.82	5.76
1938	–	5.63
1939	–	5.91
1940	–	6.36
1941	–	5.93
1942	–	5.96
1943	–	6.26

Source: *Mitchell* (1975, pp. 783 and 786)

had considerable industrial potential under the Monarchy. Hungary was the bread-basket of the Monarchy. This division of labour was favourable for Austria. It was not in the interests of Vienna for Hungary to be strong in industry. Thus during the Monarchy, in Hungary it was primarily agriculture and industries connected with it that developed. In the second half of the 19th century Hungary surpassed Austria in the sphere of agricultural production and the lead of Austria in productivity (measured by per capita GDP) diminished considerably (see *Table 4*). In the period between the two world wars the respective development patterns of Austria and Hungary were more or less parallel.

Table 6

Per capita GDP of Hungary relative to Austria, adjusted for PPP from 1970 to 1990 (Austria=100)

1911–13	1925–34	1970	1973	1975	1980	1985	1990
70	72	69	73	71	54	47	41

Sources: We have data for the ratio of per capita GDPs for the period 1911–1913: 360/517=0.7 (see *Table 4*). For the average of the period 1925–34 this ratio is 0.72 (Ray 1991, p. 21, *Table 3.1*). In 1970 the purchasing power parity ratio of the Hungarian to the Austrian GDP (our own estimation relies on *Table 1.3*, p. 13 of the Central Statistical Office—KSH 1976) is 0.69, whereas in 1973 it was 0.73 (our own estimation relies on *Table 2*, p. 13 of KSH 1978). Our own estimation was made necessary by the fact that Austria did not figure in KSH (1976, 1978) comparisons. Therefore I used current, purchasing power parity per capita GDP data for the OECD countries (OECD 1991, p. 145). A similar result would be obtained if per capita GDP were to be converted by the current dollar exchange rate (OECD 1978, p. 133). In 1975 the ratio of purchasing power parity per capita to the Hungarian-Austrian per capita GDP was 0.71—(according to *Tables 1* and *2*, p. 12 of Kravis, Heston and Summers 1921). In 1980, according to *Table I.4*, p. 11, (KSH 1989) it was 0.54; in 1985, according to *Table II.4*, p. 18 (KSH 1989), it was 0.47. Finally, in 1990 the ratio of Hungarian-Austrian purchasing power parity per capita to GDP was 0.41 (Hüttl 1993).

After World War II Hungary started out on the "road to socialism". Following the Soviet model it started forced industrialization. Since it overlapped with post-war reconstruction, the economy produced spectacular results up to the early sixties; from then onwards it became clear that the possibilities for extensive development were definitely exhausted. At that time the country experimented with introducing market elements into the economy. As a result the development of the Hungarian economy was more favourable than the average of the other socialist countries. However, by the eighties it turned out this was still not enough. The backwardness of Hungary compared with Austria (measured by purchasing power parity per capita GDP) was steadily going down from 71 percent in 1975 to 54 percent in 1980, to 47 percent in 1985 and to 41 percent in 1990 (see *Table 6*).

Comparison with Austria is relevant for Hungary since Austria is another country trying to join the Single European Market (even if from much a better starting position).

Finland

Comparison with Finland is important (apart from the remote kinship) because it is another small European country like Austria, and because both Austria and Finland are contiguous with the former CMEA and aspire to membership in a Unified Europe. Finland is particularly interesting for Hungary since it had a strong economic relationship with the Soviet Union and profited from this relationship much more than Hungary did.

Italy

Italy is important because at times during its history North Italy had strong ties with Austria. Over the past 15 years Italy has produced spectacular economic results, yet in the half a century before this its development was not so different from Hungary's. This was true with regard to both the level and dynamics of the GDP, and also with regard to living standards. Also important is the fact that in Italy, for a long time, one third of GDP has been produced by the underground or black economy. It is the same with Hungary.

How many years is Hungary behind Austria?

In 1990–91 a wide ranging international comparison project was carried out. This was under the leadership of George F. Ray, a scientific adviser to the London based National Institute of Economic and Social Research, and the aim of the project was to reveal the extent of the technological lag of the former East-European socialist countries. (Ray 1991) The research project concentrated on the situation in 1989 in smaller CMEA countries similar to Hungary. Research workers from Bulgaria, from the former Czechoslovakia, Poland and Hungary participated. When this research began nobody anticipated the rapid collapse of the statistical systems of the CMEA and the Eastern-European countries. Now we know that this was a last minute effort at measurement.

The research included the most important industrial technologies introduced in developed industrial countries after World War II. The latest so-called "high-tech" production systems and products were investigated, along with energy production and consumption, international patenting and research and development.

The above-mentioned project was completed in 1991, and it was estimated that *the technological lag* (both in introduction and diffusion) of Hungary's industry *behind* that of *Austria* was about *20 years*. This is an average, for the figure is larger in heavy industry and smaller in light industry. It is important to remark, especially in the case of Hungary, that our research did not include the agriculture and food industry. Meantime the investigation was also extended to the agriculture and food industry and it was found that the lag in these areas was smaller.

Data on Austria up to 1960 were taken from Mitchell (1975), and for the period 1960–1991 OECD statistics (1993) were used; the former are GNP data, while the latter refer to GDP. For Hungary NNP data were found for the pre-1949 period in Mitchell (1975), and for the period 1950–1992 I relied on the national income data of domestic statistical yearbooks. (*KSH* 1989, 1993) Time series from 1910 up to 1992 (1949=100 percent) can be found in *Table 7*. My Hungarian data up to World War II are the same as those of Bródy: later they are somewhat (and increasingly) smaller (Bródy 1967, p. 430) since in the meantime the data for Hungarian national income were corrected. (*Ehrlich* 1990, p. 37)

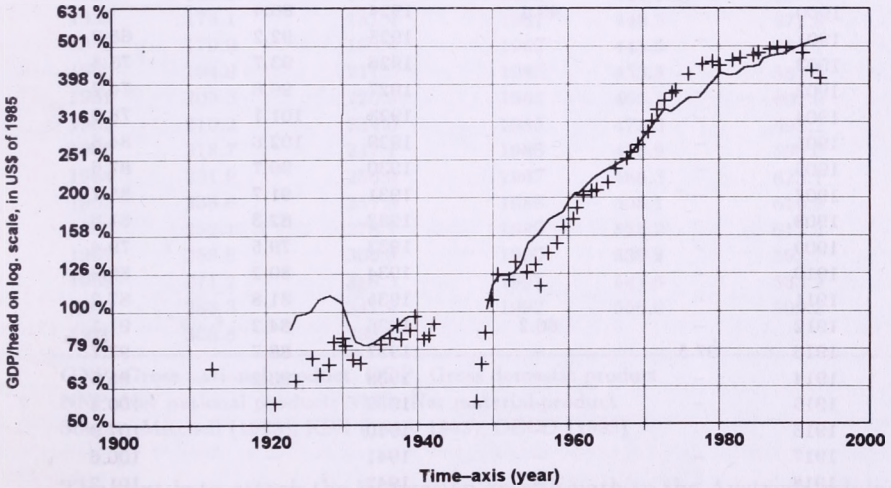

Fig. 8 Development of Au–H in the 20th century

There are several possibilities for comparing the two series after normalization. In principle all the methods should provide the same result. If the two series were started from the 1913 ratio, the year preceding the separation of Hungary and Austria (see *Table 4* indicating that per capita GDP of Hungary was 70 percent that of Austria), we obtain the diagram shown in *Figure 8*. In the latter the continuous line represents the Austrian data and the crossed line indicated the Hungarian data; the results show that the per capita national product of Hungary was ahead

of that of Austria in the period 1973–1989. This is nonsense since in this period, according to *Table 6*, Hungarian GDP per head adjusted for PPP was 71 percent that of Austria in 1975, 54 percent in 1980 and 47 percent in 1985. Thus this is not a feasible means of comparison.[5] It is for this reason that we must put up with the comparison made by data adjusted for PPP.

Therefore let us first look at Austria's development taken by itself, since for Austria we have a relatively "homogeneous", 80 year-long time series. It has already been demonstrated in the first half of this paper that Austria is a "model pupil" among the OECD countries.

Table 7

The volume of national product and national income in Austria and Hungary in the 20th century (1949=100 percent)

Year	Austria (GNP/GDP)	Hungary (NNP/NMP)	Year	Austria (GNP/GDP)	Hungary (NNP/NMP)
1900	–	49.4	1924	86.4	–
1901	–	–	1925	92.2	65.2
1902	–	–	1926	93.7	78.8
1903	–	–	1927	96.6	74.7
1904	–	–	1928	101.1	78.0
1905	–	–	1929	102.6	84.8
1906	–	–	1930	99.7	87.6
1907	–	–	1931	91.7	85.7
1908	–	–	1932	82.3	81.6
1909	–	–	1933	79.5	79.4
1910	–	–	1934	80.2	86.6
1911	–	–	1935	81.8	87.2
1912	–	66.2	1936	84.2	91.5
1913	97.5	–	1937	88.7	97.7
1914	–	–	1938	93.2	95.5
1915	–	–	1939	–	100.4
1916	–	–	1940	–	107.9
1917	–	–	1941	–	100.6
1918	–	–	1942	–	101.2
1919	–	–	1943	–	106.3
1920	–	–	1944	–	–
1921	–	56.0	1945	–	–
1922	–	–	1946	–	–
1923	–	–	1947	–	61.2

[5] This problem has already been dealt with by several people, e.g. Ehrlich (1990, p. 37), Bródy (1992b, p. 956).

Table 7 *(continued)*

The volume of national product and national income in Austria and Hungary in the 20th century (1949=100 percent)

Year	Austria (GNP/GDP)	Hungary (NNP/NMP)	Year	Austria (GNP/GDP)	Hungary (NNP/NMP)
1948	–	80.3	1971	324.6	379.6
1949	100.0	100.0	1972	344.7	402.6
1950	112.4	119.4	1973	361.5	430.9
1951	120.2	138.5	1974	375.8	456.0
1952	120.5	136.1	1975	374.5	484.6
1953	125.2	152.8	1976	391.6	498.9
1954	136.0	145.6	1977	409.4	534.7
1955	151.1	157.6	1978	409.6	556.2
1956	158.8	139.7	1979	429.0	562.2
1957	168.1	171.9	1980	441.5	557.4
1958	175.1	181.4	1981	440.3	571.8
1959	179.9	193.4	1982	445.0	586.1
1960	194.9	211.3	1983	453.8	587.3
1961	205.3	220.8	1984	460.1	601.6
1962	210.2	234.0	1985	471.3	593.2
1963	218.7	247.1	1986	476.9	598.0
1964	231.9	256.6	1987	486.3	623.1
1965	238.6	257.8	1988	505.1	619.5
1966	252.1	278.1	1989	525.2	612.3
1967	259.6	300.8	1990	539.2	592.7
1968	271.2	316.3	1991	547.8	533.2
1969	288.3	341.4	1992	556.0	509.2
1970	308.8	358.1			

GNP: Gross national product; GDP: Gross domestic product
NNP: Net national product; NMP: Net material product
Source: Mitchell (1975), KSH (1989, 1993), OECD (1993)

The next is to attach the Hungarian growth path to the Austrian, relying on the above-mentioned European GDP comparisons.

The investigation of the Austrian time series

What might Jánossy have said about Austrian economic development in the mid-sixties, had the present data been available to him? In *Figure 9* we can see that the trendline from 1910 to 1990, and from the mid-seventies fits the continuous line of per capita Austrian GDP. Austria reached its trendline characteristic for the

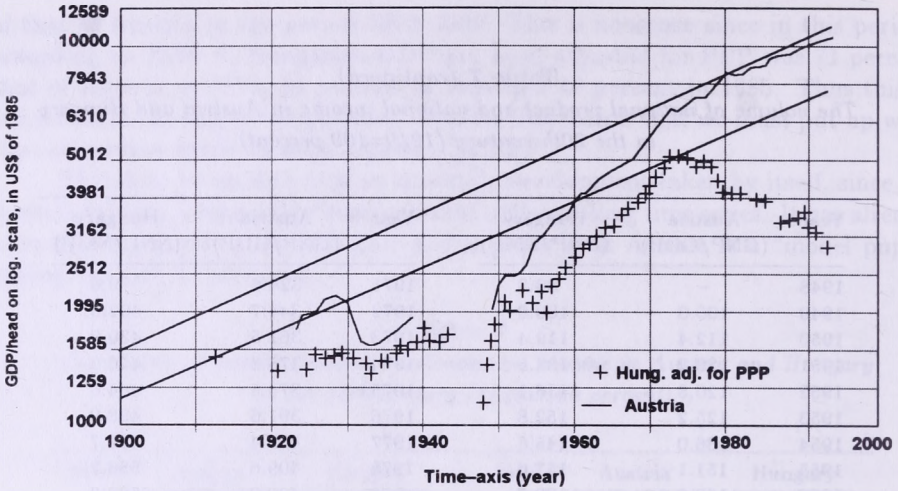

Fig. 9 Comparison of Austria and Hungary

20th century only in the seventies; this is due to the effects of World War I, the Great Depression and World War II. It can also be seen from *Figure 9* that, in the case of Austria, post-World War II reconstruction lasted up to the early seventies.

The fitting of the Hungarian time series to the Austrian data

The Hungarian data have been fitted to the Austrian time series (and not *vice versa*) because the former are more homogeneous: there was no planned economy after World War II, and the functioning of the statistical system was fundamentally different from that of a market economy; on the other hand, Hungary cannot dispense with the comparison with Austria, and reference to the experiences of Austrian economic development during her transition to a market economy and her catching up with other parts of Western Europe.

The crossed Hungarian time series of *Figure 8* has been fitted to Hungarian per capita GDP data obtained by multiplying the data of the Austrian time series by the ratios of *Table 6*. To use a graphic image we have again suspended the Hungarian data from the Austrian, in the same way as a cable bridge is suspended on its cable. The distance between the two time series is exactly the logarithm of the per capita GDP ratios. We call Hungarian data thus fitted to the Austrian—indicated by crosses on *Figure 9*—"fitted Hungarian per capita GDP". In this way the fitted data are removed from the twice apparent distortions of Hungarian

national income mentioned on page 956 of Bródy (1992b). If we also draw this trendline we can see that it is parallel with the Austrian, albeit 30 percent lower.

Forecast for the next century

Relying on Jánossy's theory we could say that the only chance for Hungary is to reach again the trendline reached before World War I, and for a few years in the early seventies:

The "only" remaining question is *when* we will reach this "hoped for" Hungarian 20th century trendline so that it will be exactly parallel with the Austrian. The almost one hundred years-long time series of Austria and Hungary justify the general opinion that reconstruction periods after wars bring abrupt recovery, whereas after the trough of the business cycle growth comes slowly. This recognition does not depend on the Hungarian time series based on original (*Figure 8*) or fitted (*Figure 9*) data. In my opinion the present crisis—although it is not a purely economic crisis—will be similar in this respect to other economic crises. András Bródy, in his forecast for the period 1992–2004, based on a long (68 years) time series, sketches such a future (Bródy 1992b, *Fig. 4*, p. 966). I have investigated, with a two-sector Leontief model, the issue concerning the way in which the transition will (or more precisely how it should not) happen. (Tarján 1992b)

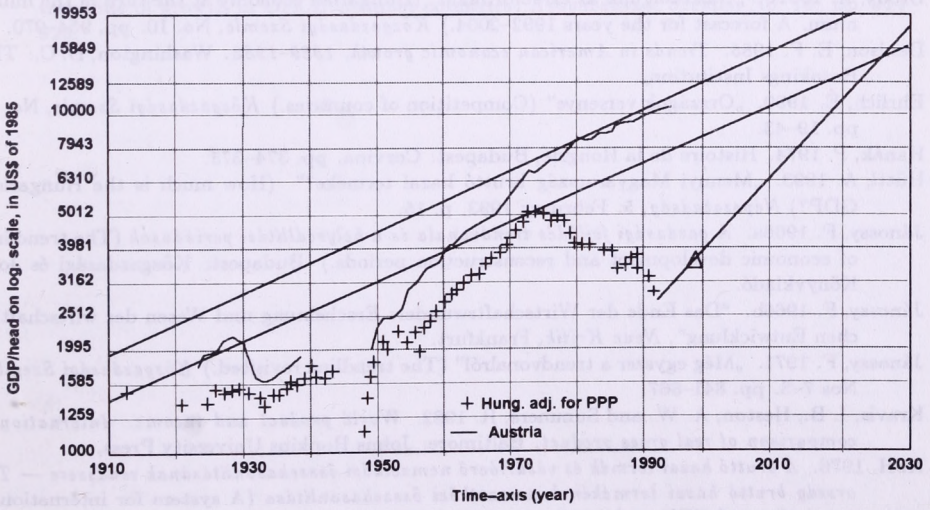

Fig. 10 Forecast up to 2030 for Hungary

The most recent official data available are for the year 1992; for the years after 1992 we have only estimates. Let us depart from the optimist but realistic

assumption of Bródy that, by 1999, we can attain the purchasing power parity real per capita GDP of the year 1989, and afterwards the Hungarian time series will grow at its top 20th century speed (i.e. above that of the fifties and sixties,[6] when the rate of growth was 5 percent). Given this, *we can attain our 1910 and 1970 relative position to Austria in 2025 at the earliest*. This result can be read from *Figure 10*, which is a continuation of *Figure 9* to 2030; moreover, a parallel shift of the trendline (OT) of the fifties and sixties into the starting point of the 1989 real per capita GDP can be assumed to possible in 1999. The real per capita rate of growth of 5 percent might seem to be unjustifiably high, but what is surprising is the fact that even this high rate can provide us with a modest catching up with our Hungarian 20th century Jánossy-trendline. This—on the basis of our research on the trendlines—is supposed to run parallel with Austria, although it is 30 percent lower and will not be crossed before 2025.

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[6] I.e. the post-war reconstruction period.

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SOME INTERRELATIONS INVOLVED IN THE SUBSIDIZATION OF THE AGRARIAN SECTOR

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The policy of subsidization is one of the elements of agrarian policy closely linked to the rest of the constituents of agrarian policy, being aimed at the efficient operation of the agrarian sector. In the given situation, in the advanced industrial countries the policy of subsidization is also a customarily well-organized tool for serving the development and modernization of an agrarian system, complying with the conditions of a market economy. At the same time, the assistance of the activities of the food economy can only be contemplated if it depends on available budgetary sources. This is why the more effective utilization of subsidies is basically important. The subsidies primarily have to lay down the basis for the bringing into motion of the self-organizing powers of the agrarian sector, and the advance of successful long-term enterprise—all this being at its own risk. This paper examines the main constituents of subsidization and the aims and methods necessary for a more efficient system of subsidization.

In international practice a multifarious and complex system of agricultural subsidies has developed. This system is linked to several aims traditionally and generally not separable from one another. In compliance with international usage, it also seems to be expedient to build up the Hungarian system of agricultural subsidies. Adjusting to the given conditions, to the task of developing an up-to-date agrarian system, and to the international standards, in Hungary a desirable domestic agricultural subsidization system ought to be composed of the following elements: 1) An *interventional and export supporting system*, which serves to balance the domestic market, and promotes exports. The aim of subsidizing exports, beyond easing export transactions, is to prevent the domestic market from an overpressure of supply. 2) *Supporting new investments*, because of the lag of replacement, and the necessity of restructuring. Subsidizing new investments is important from the aspect of the farms' equipment, and the livelihood of the provinces. Subsidies are needed because, owing to limited resources and the underdevelopment of the participants and the institutional system, the capital market is unable to finance the restoration. Some part of these subsidies help the stabilization of settlements, the establishment of watering systems, road construction, and associations (e.g. for plant protection). Owing to the present ownership structure in Hungary, the *acquisition of property* is also in need of support, in order to develop more balanced, healthy agricultural property relations (of land, assets, and business shares). 3) *Income complementing subsidies which serve the purposes of regional protection and social politics*.

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The claim for and purposes of a subsidization system which is more efficient than the present one

The Hungarian agrarian subsidization system that was in force, and is still in force today, covers a wide range of subsidies (*Mészáros et al.* 1994). It includes *cost-reducing and income-complementing subsidies* (i.e. subsidies for sowing, for the purchasing of diesel oil, and subsidization of the interests of credits for operations within the economic year); *subsidies to the agrarian market*, (i.e. supporting exports and amounts spent on intervention in the agrarian market); *types of subsidies for development* (i.e. subsidies for reorganization, for agricultural funds, and from 1995 on, for the consolidated Agricultural Fund, as well as for forestation, melioration, and infrastructural development); *subsidies which help in the acquisition of property* (i.e. for purchasing business shares under favourable conditions, for promoting the purchase of arable land and forests); and *other subsidies* (for coping with catastrophies, and for supporting the Credit Guarantee Foundation for Agrarian Enterprise).

Quite a few elements of the subsidizing system which have been in force up until now (Table 1) can be transferred into an agricultural supporting system of a more favourable composition. This system, however, has to have a structure which is more clearly arranged. Moreover, it has to correctly orient the participants of the food economy, so that they concentrate on the main central tasks represented by the constituents in question. In short, it has to be more efficient. Simultaneously, it also has to cope with the contradictions and dilemmas of the system which has been applied up until now. It would be expedient to lay down the basic principles and rules of agrarian subsidies with some legal provision.

In Hungary, because of the role of agriculture in the employment level, and for the sake of supplying the domestic market on a high-standard level, a food economy in good working order is needed. Under Hungarian conditions a well-operating agrarian sector requires budgetary support. Behind the high capital-intensity of the food economy, complicated forms of social co-operation are inherent. A cooperation system providing the coordination of social groups of varied cultural levels cannot build up itself. In order to realize this some kind of external (state) venture is also necessary.

With reference to the support of agriculture, several interdependent tasks have to be solved: 1) The *capital-attracting capacity of agriculture* has to be strengthened. This is so that it can assist the arrangement of the vertical chains of production-processing-distribution according to products, with the aid of central sources. Namely, production can be adjusted to the goals (possibilities) of the market *via* the vertical chains. Consequently, the disadvantages stemming from the atomized state of agricultural producers (e.g. the extreme effects of the agrarian scissors, the lack of an image of the future, and production without a firm market will be eliminated. Solving the coordination of agricultural activities also

Table 1

The structure and value of subsidies granted to the agrarian sector (million Ft)*

	1992	1993	1994
Export subsidies	23,000	25,531	35,000
Agrarian market intervention	7,000	9,000	5,000
Sales of stocks for intervention	–	2,000	–
Subsidies for reorganization	2,000	1,225	6,000
Cost-reducing production subsidies	–	–	15,000
Forestation subsidies	650	980	600
Agricultural Development Fund	–	650	13,200
Infrastructural subsidies	1,500	1,000	2,300
Other (enterprise subsidies, forest damage compensation, regional subsidies etc.)	4,550	16,314	900
TOTAL	39,000	56,700	78,000

*The significant fluctuations from year to year are due to the changing titles and denominations of the subsidies.

Source: Ministry of Agriculture

improves the possibilities for developing future prospects, as well as the capacity for attracting capital. Namely, it is production without the purpose of utilizing it because of disintegration or lack of the vertical chain, which entails the greatest wastage. 2) Agriculture is in need of subsidization, for under the given conditions in Hungary *many more people are forced to be dependent on it*, (than would be the number if agriculture could be organized into viable enterprises in an open market system. Only a small proportion (about one fifth) of those engaged in agriculture is linked to agrarian production such that it has to provide a full existence. For the majority, farming plays only a complementary albeit—from the aspect of total income—important role. Partly from a social aspect, it is also essential to maintain the activities of these. 3) Agriculture needs subsidization in order *to be able to adjust to the future division of labour in Europe*. The participants in the agrarian sector have to be driven towards those standards of production, co-operation and distribution which are accepted in the advanced countries. Assistance has to be given so that the people active in the food economy can find forms of cooperation which can also fit into the cooperative system of the European Union. 4) It is also necessary to support agricultural activities in accordance with *nature-, soil-, and water-conservation*. Starting out from such considerations, the possibilities for some types of agricultural cultures have to be limited in certain areas. Hence, in such cases, some recompensation (i.e. some income-complementing subsidy) is needed. International experience indicates that under such circumstances a solution based on the work of local inhabitants is much cheaper than the operation of independent bodies dealing with nature conservation.

The support of agriculture being discussed here is radically different from the central intervention customary in centrally planned economies. Namely, the state is not willing to take on the responsibility of individual participants on the market; making decisions is basically up to participants themselves. The state will not tell persons engaging in agriculture what to do, but it aims to promote the development of such roles and/or forms of collaboration which stimulate competition and efficiency, and which encourage participants to assume risks independently and appear in the market. The state does not define, but adopts enterprise programmes which are marketable, and it is ready to participate in sharing the risks associated with these. On the other hand, the state's intervention is forced by the circumstance that, in the case of the food economy, the government is subject to powerful social-political and political pressure. Namely, a vast number of people's existences depend on the agricultural sector—i.e. in effect, on measures taken by the government.

The basic principle of the agrarian support system is that it must be *calculable*, and foreseeable with regard to time, for the participants of the economy. Hence it is expedient to organize support around *political objectives of trade and/or development*. This is how the aims of the support policy become clear. For example, the government has to declare that it supports developments that are exportable or based on harmonized mechanical systems, projects which serve regional cultures, trends in animal breeding, provides guarantees for the production of high-quality meat, and encourages the coordination of enterprise programmes. Participants in the economy are able to comply with such *basic principles* for, among other things, they will adjust those of their concrete business plans which are aimed at obtaining subsidies, given that they are competing with others. At the same time, *it is necessary to significantly improve the supply of information for participants in the food economy*. This must mean that they precisely know what elements of support are available, as well as when, how long, and under which conditions they can be reckoned with. They will then be able to rely on such information in their own trading and development policies. The supporting policy contains some *individual* and some *normative elements* (and both groups assert a range of efficiencies). Those of the rival programmes (such as bio-programmes, the establishment of milk-programmes, and the renewing plant cultures) that are worth supporting can be helped until a predetermined time (i.e. until stabilization), and in an individual way. After this, they have to be supported in a normative manner, or grow such that support becomes unnecessary. Normative supports may be applied for export stimulation and in order to implement cost-reducing projects.

Owing to the limited possibilities of the national economy (the budget), and because of international agreements, the amounts which can be spent on subsidizing the food economy are limited. Only some rather modest opportunities for increasing their real value are available. Thus, there is a need for an agrarian system which

meets market requirements, operates with the greatest possible efficiency (i.e. with the least additional losses), and utilizes the subsidies effectively.

The conditions and constituents of a more efficient supporting system

Support aimed at balancing exports and the domestic market

(1) With respect to *export subsidies*, it is necessary to break with the current practice. The subsidization of exports has two objectives: a) to stabilize the security of those producing for export markets, (thus improving international competitiveness by simultaneously asserting selection among economic units; b) to link up with the intervention on the domestic market, by channelling the occasional oversupply towards foreign markets. The basic condition for realizing this double objective is to be able to get beyond the, so far, often *ad hoc* measures of intervention and export subsidies. What is more, the fixed usages of support have to be given up.

Up until the end of 1994 the decision-makers, when defining the rates of subsidies expressed as a percentage of sales returns converted into forint value according to products (*Table 2*), generally adjusted to the worries of the food processing enterprises, and to the changing atmosphere among producers. They did not want to endanger the situation of those producers who were in an adequate position. Yet in doing this they often hindered the entry into the market of new producers or new products. At the same time, they gave preference to products requiring higher levels of processing, and thus granted a favourable position to the processing industry. On the other hand, they wished to increase the capital safety of a food processing industry which needed capital. They did this with export subsidies, and at the same time they provided sources necessary for buying-up agricultural raw materials. This not only stiffened the system, but protected several areas from the selection of competitiveness. The development of the subsidies' rates was also influenced by the question concerning those market problems—or risks to production, sales or stockpiling—which caused waves in the political line. Such problems were feared by the competent ministry. In the background, uncertainty with regard to information on the market segments could also be found.

In the new system of export subsidies the role of *the tools helping positive selection* has to be strengthened; in opposition to the forward transactions to be subsidized, priority has to be given to *subsidies for annual stocks*, because these make it possible to make calculations concerning economic management beyond time limits. There is a need for an export supporting system *which aids marketable producing and trading programmes*. Such support should *give assistance to as many producers as possible*, and it should allow the implementation of an *anti-cycle policy*

Table 2

The rates of export subsidies granted to some major agrarian products as a percentage of the sales returns, converted into forints

	January 1991	April 1992	from March 1993	Sept 1993	in 1994
Beef-cattle	20	20	20	20	20
Beef with bones	30	30	30	30	30
Pork	20	20	20	30	20
Slaughtered chicken	35	30	30	30	30
Slaughtered turkey	10	10	15	15	15
Slaughtered duck, goose	10	10	10–15	10–15	15
Eggs	0	20	20	20	10–20
Sunflower seeds	0	10	10	10	10
Vegetable oils	10	10	10	10	10
Butter	35	30	30	30	10
Cheese	35	30	30	30	30
Tinned food	25	25	25	30	30
Frozen raspberry	25	25	25	30	30
Wine in barrels	25	25	25	25	25
Bottled wine	25	30	30	30	30
Apple juice	25	25	25	30	30
Sowing seeds	10	10	10	10	10
Breeding stock	10	10	10	10	10
Wheat	0	0	0	0	0
Maize	0	0	0	0	0

Source: Ministry of Agriculture

(e.g. it should cope with the swine-cycle); the *future restructuring of agriculture*, and the problem of areas to be narrowed down should cause no problem.

For supporting exports either normative or non-normative methods can be used. In the present stage of preparing decisions, mention has been made of applying a *normative* subsidy to all products, proportional to the sales return. This subsidy would be at a rate of 8–10 percent—i.e. the so-called *green price rate*. This seems to be a step in the right direction. In the case of *products quoted on the exchange*, it is expedient to conduct open competitions so as to determine which organization is ready to deliver the given lot of products at the lowest price, and requires the least subsidy.

With non-normative elements the running-in of concrete programmes can be promoted. Export subsidies can be granted in order to complement the arsenal of tools for *marketable projects. These must have strictly determined time limits* which should be known by the recipients. Such programmes should be in confirmity with GATT rules, lay the foundations for appearing in a given market, and/or

stabilizing it. Thus they will assist in the adaptation to, and contact with, the changing conditions in the European Union. For example, these could be subsidies which establish special dairy farms and plants (processing goat-, or ewe-milk), which extend bio-farming plantations, which collaborate with the process of putting products on the market, which build up systems of cold-storing and sorting, and which renew the plantations of viticulture and apples. The programmes organized in the wake of formulated trading and development policies may, for a certain period (1–3 years), be granted non-normative subsidies. However, afterwards (i.e. after their stabilization), the products stemming from them would be transferred to the *sphere of normative subsidies*. Even in this case, the state would not determine activities of the economic units but would only encourage the initiation of export enterprise programmes. In the latter, export subsidization would last for a certain period. For most programmes of this nature the contract for subsidies would merely complement the other agreements on investment and capital accumulation.

A dilemma which is difficult to solve with regard to export subsidization is the way in which the *differing interests of those involved in processing, trading, and of the agricultural production* should appear when the subsidy is determined. From 1995, the amounts of subsidies related to weight will be defined. The measure of the subsidy according to the weight units of raw products is smaller than that granted to the finished articles processed from them. The definition of these measures of subsidies is problematic (which is the same situation with regard to the rates in percentage related to the sales return): namely, one can never know in advance, how much the selling price of a weight unit of the export product in question will be. It is a difficult task to elaborate measures related to subsidies such that the interests of all the participating partners are taken into account. This is why the so-called *export concession subsidy* seems to be a favourable solution. It is already applied to the exports of apples; this means a subsidy is granted to the enterprise transacting the export business if the cost of purchasing the agricultural raw material exceeds a certain price-limit. It is not expedient to grant the subsidy for a duration lasting up to the expiry of a given time-limit. In order to avoid some secondary market manoeuvres, it is expedient *to announce a subsidy which is granted to a definite volume of given products*. This means that, while the given stock is not exported from the country, a subsidy can be obtained.

Subsidies have to be announced well in advance *before the season*, so that the economic units can adjust their business policy to it. It is, at the same time, indispensable to improve the level of information and the provision of news for both the participants and the central decision-makers. Therefore, the promotion of the establishment of institutions serving the agrarian market, such as product councils and agricultural chambers, (*Halmai* 1992; *Lányi and Fertő* 1993; *Szabó* 1993) is absolutely essential. This shows that the *measures related to agrarian policy and policies for agricultural subsidies are closely interconnected.*

(2) It is basically coping with market problems which makes a *domestic intervention or an export subsidy for the purposes of exports* necessary. Owing to the given capital supply of the food economy, other types of intervention are also needed. The requirement of intervention arises following the harvest in every year: e.g. *storing and financing the stocks of the produce* necessitate state intervention. The building-up of public storehouses has started in recent years.

It is expedient that the state should make a contribution to the storing of the stock of the produce (just as in the advanced countries).This is an important means for regulating the domestic market. One of the ways to use up the stock stored in this way is the export, whereby the whole stored product volume is finally drawn out of the domestic market. Warehousing supported from central sources has several forms: (1) Favourable credits can be extended to the producing enterprises, so that they can store their products for a shorter or longer period. (2) The state may also buy-up a certain volume of produce, which it stores and sells itself (partly by exporting it). This is, owing to the need for a large proportion of current assets, is a rather expensive solution. Nevertheless, it is the most safe one from the aspect of market regulation. In the given financial situation in Hungary the state is unable to choose this costly solution. (3) Under present domestic conditions a better policy is one in which the state lets some enterprises which are engaged in storing to compete for the supported storing of products; another option would be that some agencies organizing storages would compete for the subsidized storing of given products. In such cases, however, it is expedient to make reservations. In other words, the firm implementing the storing should be authorized to sell the products in question at the time determined by the state. The firm making the most advantageous bid could be commissioned to transact the business. In this way the state is also able to influence stockpiling aimed at exports.

The condition for successful interventions is that, in the background of the decisions, *realistic market information should be* available to decision-makers. Therefore, just as in the case of export subsidies, the progress in building up the market, establishing market institutions, and the comprehensiveness of the market are of fundamental importance (*Halmai* 1991). It is also *expedient to develop different types of treatment for different market segments* (e.g. those of cereals, meat, horticultural products etc.). At present, however, the regulation approaches them all in a similar way. Consequently, the effectiveness of interventions (i.e. of supporting and utilizing) is reduced.

The subsidization of new investment projects, of investments for restructuring, and for the acquisition of property

Subsidies granted to investments for restructuring agriculture. The subsidization of agricultural investment projects is necessary because agrarian production is

quite capital-intensive. At the same time, a smoothly operating food economy requires a harmonized order of production—processing—distribution. This means an arrangement has to be implemented *via* investment projects. Without the support of the state, the sector would be unable to initiate such ventures. By influencing investments, pressure can also be exerted on the restructuring of agriculture. The central promotion of agrarian investments is also needed because, owing to the protracted agrarian crisis, over the last 6–7 years the replacement of equipment has declined significantly. Therefore, investments have to be aimed at bringing about a new structure for the assets of agriculture, as part of the progress of transformation.

Some investment subsidies assist in machinery investments. The current conception of support for agriculture puts strong emphasis on subsidies for purchasing machines. This is primarily to resuscitate the process of replacement which has been missing in recent years; the interest on loans received for buying machines is subsidized to the extent of 70 percent. However, according to all indications, the whole of the amount destined for subsidizing interest repayments cannot be fully utilized. This is because the banks have medium-term sources which are insufficient to cover the machinery investments with credit. Such measures for improving the conditions for purchasing machines are needed, and these should exert favourable effects within a few months or, at the most, within 1–2 years.

One such supporting measure might be that, for those who invest in machines, the first one or two and half years of the credit would be granted some complementary loans to help pay the first instalments; for instance, such assistance could come from the Hungarian Bank of Investment and Development. Thus banks would be able to "dare" to finance the purchase of machines with a greater feeling of confidence and safety. For the sake of accelerating the provision of machines and for counterbalancing the limited nature of bank sources, investment subsidies could also be extended to leasing transactions. This construction could be widened so that (a) the sellers would be interested in obtaining the sources, (b) the supply of a consistent stock of machines would be available for economic units, (c) it would help to link the production of agricultural machines with the international division of labour. What is more, by licensing the firms engaged in leasing, a system could be promoted in which a selected and harmonized supply of machinery would appear on the domestic market. This, in contrast to the present chaotic situation (which is harmful to efficiency and gives the economic units no image of future technology) might lay the foundation for the spreading of machinery systems and technological models which would be favourable in the long-term. This solution has, at the same time, some relations to industrial policy. Namely, preference is given to those foreign firms which have some contacts with Hungarian machine production (i.e. Hungarian producers or Hungarian deliveries are switched into the existing system).

The other part of subsidies aimed at promoting investments is linked to *other programmes*. Therefore it is (1) linked to programmes and/or development projects

aimed at improving the infrastructural conditions. This refers particularly to agricultural investments which lay down the foundations of watering, drainage, amelioration of the soil, cooling, storing and packaging of the products of horticulture, as well as the maintenance of some species, including the production of sowing seeds. This can be imagined if subsidies were to be given to interests in a more constructive manner, by extending interest-free loans. (2) The re-utilization of some of the implements of the former large-scale farms could also be an objective; this could be brought about by re-organizing the credits of subsidized interests. Furthermore, it could possibly be achieved by recourse to the EBRD, or to World-Bank development-credits. (3) Investments serving investment and restructuring projects of agriculture can also serve some objectives with regard to the creation of institutions, to organization, and the organization development. The utilization of investment subsidies granted for purchasing machines, or programmes for building up future natural programmes can only be effective if measures for creating institutions and improving organization (and/or subsidies to them) are also linked to these. Subsidies would be wasted without these conditions. For instance, encouragement to purchase machines is effective only if, at the same time, it helps to establish servicing enterprises for purchasing clients (e.g. for tilling, plant protection, lending machines, etc.). Moreover, the utilization of the infrastructure of one-time large-scale farms should also be effective if independent economic business units carry it out. In other words, the destination of subsidies is not the stabilization of existing cooperatives, but the establishment of new, separated enterprises, which operate given groups of capital and assets.

The creation of institutions and the development of organizational facilities are also intended to help in the *financing of business transactions*. Effective management of subsidies (interest subsidies) necessitates the establishment of *credit cooperatives* to serve those who receive the subsidies. In this way, the sources of credits would be widened beyond this sphere and would involve sources for mediating money suitable for investment. (The thinking of domestic banking specialists about credit cooperatives is misleading, for it considers the credit cooperative to be a type of a savings bank. For instance, not all the great agrarian credit cooperatives in America, which have great organizing power, collect deposits; rather, they mediate money obtained in the money market to the economic units.) Even the state can promote the creation and stabilization of these. The state may, for example, undertake the complementation of the guarantee capital of the credit cooperatives. (For example, this happened in the US in the late thirties.) The agrarian sector will be able to raise long-term credits if the Land Mortgage Institute, which would provide the secondary market for agrarian credits, could be established and organized for the utilization of agricultural landed property. *Land-mortgage crediting* is a tool for helping the equipment of the agricultural farming units. It is also needed for the raising of credits which are aimed at serving investments (i.e. at obtaining interest subsidies). The establishment of a Land Mortgage Institute has to be ac-

celerated, for it would indicate the final guarantee of extending credit. At the same time, the conditions of granting land mortgage credits, as a business branch, also have to be created. The state must, even in this sphere, take on some part of the financial risks. This is why it should instigate the implementation of the extension of mortgage credits, even with the involvement of foreign sources.

The *acquisition of landed property*. The law on compensation did not solve the earlier problems stemming from ownership relations. What is more, its (irksome) implementation made them even more difficult. The interconnection between landed property, agricultural enterprise and labour have not come to become closer but, in fact, they have loosened. The practice of establishing state farms and cooperatives has helped to only a certain extent in the economically reasonable articulation of oversized large-scale farms and the improvement of the conditions of private farming. Owing to these circumstances, the problematic farming system of agriculture based on the dominance of large-scale and small farming units—i.e. on the relationship of partners of differing powers—survives. Not only this, for it is also born in a new form (with the aid of large entrepreneurs). Capital- and quality-intensive agricultural production is endangered by the (social) separation of property and the utilization of land (this is due to the growing, albeit unjustified, insecurity of economic operations). It is necessary to link up more closely the property of land, agricultural labour and agricultural initiatives. In other words, *the concentration of landed property and the harmonization of ownership and utilization* are needed.

In Hungarian agriculture there are *landowners' groups which have various motivations and planned endeavours*. 1) One of the groups, for instance, (i.e. the major part of those compensated, the pensioners, who live far from the village) attempt *to let property on lease*. They wish to enjoy some income from the property as a kind of rent. 2) The second group (e.g. the former cooperative members, and employees etc.) think about the property of land in accordance with their earlier model of cooperative property (i.e. *as a member of a cooperative*). On one part of the land they would like to conduct operations in the same way as they once did on the household plot. Along with everything else, these groups participate in "common farming", which provides them with a workplace, and the services needed for their own farming activities. 3) The third group of landowners (former cooperative members and employees) only *wish to assure a workplace for themselves linked to their own property*. They keep their land in a cooperative and this more or less guarantees the opportunity for work. 4) The fourth group of landowners (agronomists and tradesman who have become independent) want to *perform the operations themselves. In their endeavours the "ideal of a farm" appears* such that it requires the increase of their present area. 5) The fifth, relatively narrow group of landowners thinks in terms of realizing *a model of the middle-peasants' farmsteads*.

To fit together the above-mentioned landowners' endeavours requires various measures aimed at avoiding hindrances. Namely, geographic and social obstacles

hamper the meeting of potential partners. In order to surmount these, in addition to finishing the process of compensation as fast as possible, there have to be legal and organizational conditions. The realization of the latter can also be quickened by utilizing agricultural subsidies in an appropriate way.

With regard to regulatory, legal and organizational aspects, the following measures have to be taken:

1. A multiplication of the forms of collective ownership. Some collective forms of ownership should be made possible not merely in the sense of civil law, but also according to the special law on land property (i.e. land use). In other words, there should be communities dealing with pastures and forest utilization, etc. Often, the property of large fields is divided among a great number of smallholders. Tilling each small area separately is not efficient. In such cases, a community of owners organized by the special logic of the shareholders' community could efficiently carry out the work of tillage in the area.

2. It is expedient to apply the legal coercion for making land utilization agreements on neighbouring landed properties. Namely, close neighbours would act more correctly if they implemented agreed production programmes.

3. Free movement—i.e. concentration of land property—has to be promoted. In the law on land, instead of the present limitations on acquiring landed property, a more marked formulation of the preferences is needed. So, for instance, for the possible concentration of land which is partitioned into small pieces, special rules of inheritance, the pre-emptory right of the neighbour-owner and/or of the user (tenant), and favours connected with duties and taxes on the purchase or inheritance of land, ought to be employed. Taking into account the rational utilization of land, the consolidation of land-strips needs to be regulated. For the safe economic management of land and agricultural investments, foundations have to be laid down for the protection of the user (tenant) of the land. Acquiring arable land by foreign citizens is, at present, prohibited. Alongside the consideration of local possibilities and preferences (i.e. solving the problem of employment and the appearance of new capital investments), this provision has to be loosened. Specific provisions on the institutional system of land mortgage have to be elaborated, with attention being given to the frequent separation of the landowner and the user. Furthermore, linked to this, a special system of external agricultural credits ought to be established.

The joining of landowner groups with different but reconcilable endeavours can also be stimulated *by using financial tools (subsidies)*. Such a construction of land-credits needs to be developed. This would assure, beside the still low prices of land that a significant number of the land users would be able to gradually purchase the land they are using. This would be in such a way that the financial burdens of doing so would fall upon them only some years later. This is why the foundation of the Land Mortgage Institute is indispensable. For implementing this, the state, as organizer and supporter, should grant the initial capital. As the ultimate guarantor, the need for the state is unavoidable. Thus chances could be created for foreign

banking institutions interested in the domestic money market, and they could even take part in granting credits.

This construction would only work, however, if some *stable source of financing* could be provided. *On the one hand*, it is possible that, with a state institution acting as guarantor in the background, the bank (organization) extending the credit would collect the sources itself. It could do this by issuing bonds, the coverage of which could come from the land to be purchased. *On the other hand*, by doubling the land mortgage institution, a separate organization could come into being. This, with an institution of state guarantee in the background, would collect sources by issuing bonds in order to grant credit for the purchase of land. Even in this case, the coverage of the bonds would be the land in question. Thus local banks would not collect the sources, but would engage in the transaction of credit business. In Hungary, the creation of the latter construction seems to be the one which could be achieved more rapidly.

The state may help in the implementation of the aforementioned solution by various *measures*: (1) One of the directions of supporting the agrarian sector would be the provision of an ultimate guarantee by the state, by establishing an institution of guarantee. (2) The state may actively contribute to bringing about the Land Mortgage Credit Institute and/or its doubling, for the sake of promoting the purchasing of land—i.e. in arranging ownership relations. (3) The State Development Institute Ltd. and the Foundation for Developing Small-scale Enterprising may grant *complementary credits* to purchasers of land in order to finance their first instalments. (4) In order to bring about—via state assistance—some sources of long-term credits for the purchase of land, it would be expedient to involve the *EBRD* and the *joint banks* working in Hungary. In this case the state would take upon itself the ultimate guarantee of repayment of the credits, and it would make various organizational measures, (e.g. the setting up of an institution of guarantee, a "double" for the land mortgage institute etc.). Then financial institutions and banks with international interests (rich in capital and able to mobilize free sources, such as the EBRD, the Bayerische Landesbank, the Westdeutsche Landesbank—all of which are present in Hungary), would probably be encouraged to participate in the credits to land purchasing transactions. The main trend in the movements of the domestic joint banks today is that, among other things, they are searching for adequate clients for agricultural credits. However, they can only find a few of the latter. This is why there is good chance to involve them in the restructuring of land ownership.

The development of a healthier property structure necessitates the change of ownership of about 2 million hectares of land. Owing to the size of this land area, the necessarily slow ripening of decisions on the part of those undertaking the purchasing or selling the property, due to a scarcity of sources, indicate that the process of changes in the structure of ownership will be very long. In the coming years there will be a chance to mobilize some tens of thousands of hectares.

However, a general change can only be imagined throughout the period of several generations. Yet despite this, the process of changing owners has to start as soon as possible.

The redistribution of landed propery can only be effective if it takes place simultaneously with the above-mentioned measures. At the same time, the equipment needed for the new farming units developed by land purchases will require additional investments. These should also be encouraged by state sources of money. Real efficiency can only be achieved by jointly applying subsidies to the acquisition of property, and to investments (i.e. investments aimed at projects of restructuring).

The turnover of business shares. In the course of the agrarian transformation, almost half the property of cooperatives in business shares has come into the ownership of non-active members. If this were in the hands of working members, it would help to bring about a more efficient operation of the cooperative, and it would also mean a contribution to coping with the present social tensions. The *first dilemma* linked to the turnover of business shares is that the support of the turnover (for instance, with tax favours, or interest subsidies for loans granted for the (purchase of transactions) increases the value of the shares. Consequently, those who enjoy the benefits are precisely those who, by selling their shares, give up agricultural production. The intention is that the concentration of property should grow stronger, but the fact is that the additional sources created by the subsidies do not primarily serve the development of agriculture. The *other* dilemma is that the principles of market conformity and fairness are in opposition to one another. Namely, the principle of market conformity postulates that, with the aid of property concentration, ventures should come into being which are able to fit into a future market structure. At the same time, the principle of fairness claims that those who, as a result of the implementation of a compensation law, are within the owners' community of cooperation, should not be afflicted by the fact that the state only supports the strengthening of some particular groups of proprietors. However, it is unlikely that the banks interested in business profit will take into account this point of view. Thus, they are not going to grant loans for purchasing business shares.

With regard to this question, it is worth taking action which is not in accordance with equity directed to the past (or to the given present), but which is in accordance with a market orientation related to the future. The disintegration of cooperatives into self-supporting legalized enterprises has to be encouraged, for it will create clear and economically reasonable conditions, although the latter might be socially unjust. The granting of subsidized credit to the acquisition of property may be related to groups of entrepreneurs who have well-defined business policies, organized to operate a certain volume of assets (e.g. a dairy farm). This means that subsidizing purchases of business shares is reasonable and efficient only together with the preparation of a package of a suitable economic arrangement (e.g. arranging the use of land, or fixing the position of assets). This is the case when the

property in question can be the real coverage for the credit granted for the transaction. What is needed is not the promotion of the purchase of business shares but the bringing about of viable projects, the establishment of which might also necessitate the buying of some business shares. This is the way to bring about a situation in which the banks, in the future, would face reasonable ventures which they would be prepared to finance.

Subsidies for income complementation, cost reduction and regional protection

The complementation of incomes and cost-reducing subsidies. From among the cost-reducing subsidies the *subsidy to sowing* has to be stopped in the long run. However, while it is in use, it must be changed into a normative instrument, and it is expedient to grant it so it is linked to producing regions, and to definite production and commercial programmes. In other words, general employment only makes it devoid of any conception and thus it becomes purposeless.

The *subsidization of the interest on credits with terms within the year*—raised for the purposes of economic management—has to be, for the time being, maintained by all means. In the longer term, however, the chains of vertical collaboration organized for some definite commercial–political aim have to have the service of capital for their aim. This alone is reason enough for bringing these stimulations into play.

Subsidizing the purchasing of breeding stock and sowing seed has to be maintained permanently. Such subsidization should, however, be effective and it should be utilized in the framework of marketable projects of breeding and production. This is why the creation of up-to-date organizations producing and utilizing breeding materials and sowing seeds is important. This means, among other things, organizing breeding associations, and the fitting of sowing seed- and milk-treating institutions into the chains of production and processing of the food economy.

It is expedient to grant subsidies (even, partly, of a social–political nature) to regions with an unfavourable economic environment. These should be such that they do not hinder the organization of local bodies searching for solutions. Subsidies to be spent on such purposes have to be given within the frameworks of regional programmes, and they should pay attention to nature conservation and the protection of land quality in the region. It is a vital requirement of both these programmes, as well as of the smallholder peasants forced to conduct farming in these regions, that elementary tilling- and plant-protection services should be available to them (even if these require subsidies). The organization of programmes of regional maintenance, of forest management and land utilization, should be applied not only to areas with unfavourable farming conditions, but also to those where the new large entrepreneurs have not yet begun their activities, and where the

earlier agricultural cooperatives have disintegrated. This is why state organization is needed for the treatment of such troubles. The areas involved here include the counties of Baranya, Somogy, Borsod-Abauj-Zemplén, and Szabolcs.

Regional protection and the question of forests. Regional protection (i.e. the protection of soil, forests and water) can be divided into two elements. One of these is *regional maintenance.* This is done in the above-mentioned areas in which there are unfavourable farming conditions and where subsidies are granted for the employment and maintenance of local inhabitants. This is a much cheaper solution than direct regional maintenance organized into enterprises. Another element of regional protection is *nature conservation.* In certain areas, for the sake of protecting the region, the possible types of cultivation have to be limited, and it is necessary to regulate the use of land. Economic units in such areas have to be compensated for this. The government (or its representatives) must make agreements with the local people to encourage the latter to fulfil the tasks of regional protection (such as the treatment of grass and forests). This can be efficient if the inhabitants can be stimulated to organize their own communities of land- or forest-utilization. (For instance, subsidies will be granted if such organization is brought about.) Namely, beside the agricultural large-scale enterprises which concentrate on such tasks, these communities are able to protect the region; such protection is in accordance with uniform principles, and ensures the harmonized organization of the local society. Also, the state is able to conclude clearer agreements with such organizations.

The question of forests is an organic part of regional protection. The protection and development of forests needs subsidization, for several reasons: (1) because of the exaggerated measures of hunting and of the stock of game, the biological foundations of several forests have been harmed. Thus their "natural" renewal is difficult. The short-term interests of those engaged in the cultivation of forests have turned towards cheap solutions. Therefore, the level of the growth of stock—planted for replacing wood-felling and cutting—does not reach original levels. (2) By turning a part of the subsidies destined to the areas of unfavourable endowments to forestation, the granting of labour to the population of disadvantaged areas can be promoted. Also, due to some harmful environmental effects, (e.g. the drying-out of the soil in the area in question), forestation may be restricted. (3) Owing to the large extent of the recent changes in the property ownership, the legal responsibility linked to forests has often been left with vague terms. Therefore it is necessary, beside providing basic legal coercions (e.g. the passing and implementation of a law on forests and commonage), to urge the organization of forest owner societies. Cultivating enterprises should be established on the basis of profitability, as should the birth of contracts between the owners (i.e. the state and owners' communities) and these enterprises.

The normative income of the united Fund of Agriculture and Forestry (i.e. the fees on wood-felling) is insufficient in comparison with the tasks of forestation and those associated with it. Owing to the reduction of legal felling, this income

is decreasing, while the needs of forestation are on the increase. Therefore, a *long-term policy of forestry necessitates additional sources*. However, the utilization of the available monetary means can be made more efficient. Separation of the state management of forests from the forestry farms creates a system which reduces costs and makes it easy to implement a long-term forestry policy. Namely, the monopoly position of the forest managing associations can be unbound, some parts of it can be privatized, and the cultivation of forests can be solved by competition, or by concession contracts. Thus the profits of forests showing positive results can be used to recover losses. (The system of concessions also makes it possible to encourage long-term external investments in state-owned forests.)

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METHODS FOR STABILIZING AGRICULTURAL PRICES IN DEVELOPING COUNTRIES

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Price stabilization is one of the most important objectives of agricultural policy. Different methods of price stabilization (buffer stocks, floor-ceiling prices, buffer funds, export/import taxes and subsidies) can be observed in their purest form in developing countries. The most important lesson from the experiences of developing countries for transforming Eastern-European agricultural systems is that, given an underdeveloped system of agricultural trade and finance, market-building by the state cannot be restricted to creating legal frameworks. The government can regulate efficiently only well-functioning markets.

Price stabilization is one of the most important agricultural policy objectives in developing countries. There are two large categories of price stabilization methods (*Knudsen and Nash* 1990). To the first category belong those methods in which products are traded in a material sense, and to the second those in which they are not. Buffer stocks and marketing boards belong to the first group, while turnover taxes, subsidies and different forms of restrictions belong to the second. In what follows we present, through examples, the actual functioning of certain price stabilization tools.

Buffer stocks

Government agencies often use buffer stocks for the stabilization of prices and incomes of producers and for securing food for the population. Agencies and marketing boards buy up the produce when it is plentiful (i.e. when prices are "too low") and sell it when the produce is scant (i.e. when prices are "too high"). Buffer stocks, if they function efficiently, might stabilize producer and consumer prices. If the prices announced are widely known they are more predictable.

The operation of buffer stocks has many obstacles. It can only be used for products which are not traded, or where the government controls exports and imports. On the other hand, if the sales prices of the agency are lower than the world market price it is profitable to export stocks, and therefore stores are emptied rapidly. In the opposite case, if the purchase prices of the agency are higher than world market prices, it stimulates imports and its sale through the buffer stocks. This results in a drain on financial resources. Efficient operation of buffer stocks

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assumes direct or indirect government control over private stores in order to prevent speculative actions. In case of a durable shortage one ought to have a large enough buffer stock for prices to be held at the level required. If stocks run down, prices increase. Speculators feel the situation in advance and speed up the process by buying up stocks before marketing their own reserves. Produce stored should be storeable, of high value, almost homogeneous, and should have no substitute. As an example, the case of Zimbabwe will be considered in the following section.

Zimbabwe

On the corn market there was no sizeable government intervention in Zimbabwe (formerly Rhodesia) up to 1931. At that time the grain marketing agency was created in order to shield farmers from the export price collapse due to the Great Depression (*Masters and Nuppanau* 1993). The agency functioned as a monopoly and held prices stable at a level higher than world market prices. The agency restricted the functioning of local markets by quotas distributed primarily among white settlers. In 1941 the country became a net importer of corn. The quota system was abolished and separate buying-up channels were opened up for white settlers and the indigenous black farmers and their small farms.

The activity of the marketing agency reinforced the spatial isolation of black farmers. The agency built its stores near the capital, along the main routes connecting the production centres of settlers. Under such favourable conditions white farmers could easily secure a large volume of goods for the agency. Grain bought up was sold to mills located in urban districts, and the latter spread the processed products (flour) all over the country.

The monopoly and monopsony position of the agency was secured by banning the activity of private traders outside specially designated places. The ban concerned all the main roads, railways and cities. Thus there could be no situation in which, besides the agency, a parallel private trade network or a wholesale market could arise as a competitor. Without direct trade contacts between producers and consumers producers located in distant places had no choice with regard to whom to sell their produce, and consumers also had no choice about where to buy flour. Since differences between buying up and consumer prices were small this compelled small farms to operate on a self-sufficiency basis. The price-gap was not large enough to stimulate illegal trade.

After the declaration of independence in 1980, the new government tried to open up the same marketing opportunities for small farms, which large farms already had. During the following decade the number of buying-up stores increased gradually from 34 to 66 and in 1985 large, seasonal buying-up stations were established. The above measures drastically reduced the costs of forwarding the produce

from producers to the market. The expansion of the marketing agency had no serious effect on grain buyers in the countryside. Private transportation and wholesale grain trade for local processors remained illegal, and industrially milled corn flour cost more than it would have cost if marketed directly through grain traders.

The enlarging of the network of the marketing agency in the eighties did not change earlier position of the agency as a buying-up organ of industrial mills (*Jayne and Rubey* 1993). Smaller mills continued their milling-in-commission services all over the country, urban districts included, but with large seasonal fluctuations. Their performance was high after harvesting, when producers would sell their produce for milling. However, afterwards it decreased when local supply drained up.

The agency had uniform buying-up and sales prices all over the country. The primary effect of this system was that it helped the area producing a surplus (which otherwise had to acquiesce in lower prices) at the expense of other areas. Regionally unified prices meant an implicit tax on smaller producers and a subsidy on large farms (Masters and Nuppaneu 1993).

Zimbabwe's corn market is characterized by strong fluctuations. The fluctuation of production is caused by technological development, political tergiversations, weather shocks and price changes. Producer and consumer prices are determined and announced before the harvest by the government, after reaching an understanding with the farmers' representatives. Seemingly, central to price negotiations is the estimation of production costs. In reality, however, prices since 1980 have followed the world market price trend.

The operating costs of the grain marketing agency rapidly increased after independence. A large part in this cost increase can be accounted for by the increased cost of storage. It was caused, beyond the larger stocks overall, by the larger share of produce bought from small farms. Small farms were further away from stores and more widely scattered than large farms. Consequently, the share of small farms in production increased substantially.

In the eighties the government did not want to raise consumer prices in order to finance increased marketing costs, and therefore the agency fell into deficit. This was a new phenomenon since, before this situation arose, the agency had a sound financial basis. The latter position was achieved by skimming off the benefits arising from the agency's monopoly, and the benefits came from both producers and consumers.

Corn generally obtained half of agricultural subsidies. In the eighties subsidies and prices both went back in real terms, and this contributed to the reduction of arable land. Scant rain and low prices resulted in a reduction in the activity of the marketing agency in 1991–1992. Therefore the stock of corn gradually diminished, and in March of 1992 the country had to import corn.

Floor-ceiling prices

In many developing countries prices are stabilized through upper or lower price limits or both. Individual countries interfere with the operation of markets through government agencies or other semi-autonomous organisations. The minimum price is called the floor price, and the maximum price is the ceiling price. If both are applied it is called a band.

The floor-ceiling price regulation means that there is a wide spectrum of such kinds of tools which differ considerably from one another. In many cases the lower (or upper) price limit is so low (or high) that it is hardly ever transgressed. Consequently, the government has to interfere, annually, with the functioning of the market. The yearly price determination by the government does not necessarily mean that prices become more stable and more predictable. Political changes and the fluctuation of fiscal constraints make the prices determined by the government more capricious than they would be if they were determined by the market. In other instances floor-ceiling prices are effective only in years when market conditions are extraordinary. Prices determined by the government refer to a certain segment of the market (e.g. low consumer prices only for poor people) or to all producers and consumers.

In order for the floor-ceiling price regulation to be successful several conditions have to be fulfilled. In the case of tradeable goods, for prices to function efficiently the domestic market has to be insulated from world market by taxes and subsidies, or by quantity restrictions, trade licences and state trading monopolies. Such measures have considerable costs and lead to a flourishing black market. As non-tradeables many goods are not well-suited for lower limit regulation. For instance, in the case of perishable goods the surplus supply has to be sold at a low price and this causes considerable loss to the marketing agency. Efficient operation of price stabilization assumes the consistency of government policy. If a marketing agency cannot buy up enough stocks due to a shortage of finances, it loses credibility and therefore prices will not be stable and cannot be forecast. Let us look at the case of Indonesia.

Indonesia

The main objective of agricultural policy after 1967 was to make the country self-sufficient in rice. This was attained by 1984 (*Barbier* 1989). Due to the piling up of perishable stocks the government ceased the subsidization of rice production after 1985. The key to regulation of the Indonesian rice market is a state marketing agency called BULOG (*Baram Urusan Logistik*) that was established in 1967 (*Timmer* 1986). The task of the agency is to secure a suitable supply of basic food

(especially rice) for consumers, as well as stable, remunerative prices for producers. The above objectives were attained by regulations involving domestic buying-up, the control of total imports, and by holding own stocks (of rice). By 1979 the price stabilization programme was extended to wheat, corn, soya and ground nuts. The Planning Agency of National Development, the Ministry of Agriculture, the Ministry of Finance and the Directorate of Universal Cooperatives determine the policy to be followed jointly with the BULOG.

At the start of the harvesting season BULOG determines a lower limit producer price for husked and unhusked rice. Rice is bought up by 2,000 cooperatives (which act as the buying-up agents of BULOG), and by the private traders and mills. BULOG controls the total rice import, and this is kept away from the market until the upper price limit can be maintained on the consumer market. The agency operates two kinds of stock: buffer stocks and mandatory stocks. Husked rice is sold on the free market and comes from the buffer stock, whereas mandatory stock is distributed among the army, civil service, the employees of state firms and those working in dangerous jobs. In early 1983 BULOG had two thousand rented or owned buying-up points and the system had up-to-date computer records of its stocks.

The domestic purchases of BULOG increased in the early eighties (sixfold in five years). Nevertheless, this amounted to only 10 percent of total domestic production. 90 percent of the domestic buying-up of rice was performed through BULOG in 1984. In the same period the lower price limit of unhusked rice did not change in real terms; this meant a favourable situation compared to other large rice producer countries. Producer prices did not go below the lower limit for the whole period and market price of rice remained relatively stable.

In the sixties the share of producers in the consumer prices for rice was around 60 percent and in the eighties it approached 85 percent. The main factors of the change were the following: the level of transport and communication improved considerably; the expansion of mills in the countryside was coupled with electrification and this led to an increase in local processing (in turn, bringing about a reduction in marketing costs); BULOG had a constant influence on the trade margin through the system of upper and lower limit prices; and local political leaders did not interfere with arbitrage operations.

The introduction of new sorts of rice had a healthy impact on seasonal price changes (*Ellis* 1993). Early ripening strains of rice made it possible to have multiple harvests. Yet, despite the introduction of these new strains, production invariably evinced large seasonality. Almost 60 percent of produce is harvested between February and May, 30 percent between June and September and 10 percent between October and January. Assuming constant consumption in the peak period, 6 million tons of surplus arises, and this amounts to almost one fourth of the total market. Due to the strong seasonality of production there are considerably imbalances both in the peak and the trough season, and this situation creates the danger

of seasonal price fluctuation. BULOG buys up 1.3 million tons in the peak season, which is only 20 percent of the surplus rice available for sale in the trough season. Consequently, private traders and farm households have to carry over 80 percent of seasonal stocks. According to estimates, farm households store two million tons, meaning that two-thirds of the surplus is household stock. The remaining three million tons are carried forward by private traders and mills between the peak and the trough of the season.

Farmers store mainly to secure consumption for their own families between seasonal cycles. The main motives of traders are to bring about a situation in which unhusked rice is sold continuously to mills, and to ensure that consumers are supplied continuously with rice. The period of seasonal stockpiling is not long, the maximum duration being three to four months. It is not in the interests of farmers and traders to hold larger stocks of rice than is absolutely necessary for operation. The main aim of farmers is to try to secure their own food supply and therefore, in the main season, they buy only so much as to secure their own needs. The stockpiling is restricted by the cash needs of the household after the seasonal trough, by limited capacity to dry wet rice, and by the preparation of lands for the following season. Traders have to take into account the high interest on credit, the deterioration of quality, as well as other risks.

The quantity of private seasonal stocks is relatively insensitive to the seasonal margin. The seasonal margin has to increase considerably and with it the degree of price fluctuation. This is so that the private sector might take over from BULOG the function of seasonal stockpiling.

BULOG can only solve the task of price stabilization in a large country if it interferes with market functioning at seasonal peaks. If in a peak period there is an extraordinarily large harvest, then 7–8 percent of the whole produce is bought up; if the harvest is small these figures fall to 3–4 percent. Compared to its counterparts in other developing countries, BULOG is successful but oversized, for it unnecessarily employs many clerks and has an oversized stocking infrastructure. However, its success lies in the fact that it enables private traders to operate freely.

Export-import taxes and subsidies

A mechanism often used to reduce the domestic price fluctuation of tradeable goods is the system of variable export or import taxes and subsidies. If export tax producer prices turn out to be lower than the world market price—converted by the official exchange rate—this mechanism is used. The tax is at the level of the difference between the world market and the domestic price. If the export tax is progressive (high if the world market prices are high) then it smoothes the fluctuations of the world market price. The import tax acts in an opposite direction:

it raises domestic prices above the world market price. Price stabilization in this case is served by the low rate if the world market price is high.

Many developing countries use progressive tax rates for their exports. In the case of imports, taxation is less uniform. In many countries progressivity is not an explicit and systematic characteristic of the tax system; rather, it is determined yearly, changing the tax rates in an *ad hoc* way. When designing the progressive tax table it has to be taken into account that marginal tax rates should remain on an acceptable level. This is in order to secure a high income for producers if world market prices are high. Thus in case of lower prices, when production is in deficit, incentives should be enough to maintain and enlarge production. It is worthwhile keeping tax rates at a lower level since efficiency losses due to export tax increase progressively with rising rates (*World Bank* 1986).

Progressive export taxes efficiently reduce the fluctuation of producer prices. The changes of tax rates should be handed on to the producers. In many countries, especially where marketing agencies have a large role in pricing, it depends on the will of exporters and market intermediaries as to how much these price signals are forwarded. Generally, if there is competition on wholesale markets, traders are less able to influence prices. Chile will be taken as an example demonstrating this mechanism.

Chile

In Chile, the main objective of the agricultural price policy of the sixties was to maintain low food prices in order to suppress the demand for higher urban wages. Price policy was supported by a strong price control, and this concentrated on those products which had a large share in the consumer price index. Negative effects of low prices on producers were partially compensated by input subsidies. Control was reinforced under the Allende government, which led to a black market for basic products. The degree of intervention increased considerably. At the end of 1973 a large proportion of price controls was abolished (exceptions included wheat, corn, rice and sunflower seed). These prices were determined by the state buying-up agency up to 1977. Subsidization of agricultural inputs was abolished in 1974. Due to the negative impact of price increases, consumer subsidies were temporarily maintained for low income families. The 1982–83 recession also brought changes in agricultural policy. The government introduced price bands for wheat, oilseeds and sugar. At the same time, the prices of other agricultural products were influenced. The unitary tariffs were raised in March 1983 to 20 percent, in September of 1984 to 35 percent, and by 1988 it was gradually reduced to 15 percent.

In Chile in 1983 the wheat policy switched from price subsidization to a scheme of price stabilisation supported by state purchases. When introducing the

wheat policy, the country was in a net importer position. Self-sufficiency caused many problems in the operation of price bands.

The aim of the wheat policy in the first phase,—i.e. between 1982 and 1984—was to stimulate production by raising producer prices above the level of world market prices at the time of the harvest. The Copagro private marketing agency attained a situation in which the government would support its activity (in case of wheat and, later, other cereals too) in order to prevent price reduction in the period of harvesting. The aim was to increase competition on a market dominated by an oligopolistic milling industry. Copagro, however, went bankrupt at the end of 1986 and the state property marketing agency—namely, Cotrisa—remained the only actor on the wheat market. However, the weight of Copagro was not important, since it bought up only 4–7 percent of the wheat produce.

In a second phase price bands were established for wheat, and import tariffs were applied to wheat imports; floor-ceiling prices tracked down medium-term world market price trends. The main objective of price bands was to hinder the spread of world market price fluctuations to domestic prices. Here, it has to be taken into account that Chile was an important wheat importer. World market prices fluctuated considerably from one year to the other, and this could not be taken into account when making decisions about production. The cost of domestic production was lower in the medium-term than unit import cost (including taxes and transport costs). It was assumed, in an implicit way, that as a result of reduced price fluctuations wheat production would increase, since price risk and uncertainty would be less.

The main steps of the yearly establishment of price bands were the following: collecting the highest and lowest monthly average fob wheat prices over a sixty months period; the elimination of the lowest and highest twenty percent of values; and conversion of the 13. and 48. fob prices into cif prices, including tariffs, costs of transportation from harbour to Santiago, and other transportation costs. These became the lower and the upper limit of the price band. Based on the above, the central bank estimated the impact of the variable tariffs and subsidies on import cost in order to make it equal to the lower (or upper) price limit. If import cost was below the price band, a special bonus was applied, and if it rose above the upper limit tariffs on total imports were reduced.

The mechanism of price bands changed several times. One reason for this was to bring about improvement in its operation. Another was to put political pressure on wheat producers. The changes meant modifications in the calculation of fob prices by eliminating the impact of outside inflation (i.e. expressing the sixty monthly prices in constant dollars). On the other hand, not 20 but 25 percent of prices were left out, being considered as extremes.

The mechanism of price bands, coupled with a regulated marketing agency, operated differently under net importer, self-sufficiency and surplus positions. Later, wheat became a non-traded product and domestic prices fell below the lower

limit. Cotrisa had to face the problem of maintaining the floor price, but selling its stock below this price caused considerable losses. Cotrisa offered a price to wheat producers which was near the floor. This price was announced in October–November, at the end of domestic wheat transactions. In this period mills had to import cereals.

Cotrisa announced its prices. These covered storage costs and were adjusted in line with inflation in December, right before the harvest. Prices offered to farmers increased according to a predetermined table. The actual value of the lower limit was calculated by relying on a discount rate based on the likely profit of storage by private traders.

Lower limit prices increased up to mid-1985, and then they gradually diminished up to 1989. Producer prices were lower than the lower limit prices of the band, at a time when the latter was the lower limit price of wheat import from the world market. Prices paid by Cotrisa were generally similar to wholesale prices, apart from 1987 when a sudden wheat surplus pressed prices down. By the end of each year Cotrisa prices did not attain the potential maximum, except for two seasons when farm cooperatives pressed the government to raise buying-up prices above the prices announced by the agency.

The aim of the price band scheme was to prevent the spread of international price fluctuations to the domestic market and to stabilize the real income of farmers by reducing risk and uncertainty. It was assumed that risk-avoiding farmers would respond to stable prices by increasing production. With the reduction of price uncertainty, and with predetermined floor prices, the government expected an increase in wheat production.

Muchnik and Allue (1991) investigated the impact of wheat policy on prices by comparing the average and the difference of domestic and world market prices. The results show that direct intervention on the wheat market does not reduce price fluctuations. However, one should be cautious with the interpretation of averages since the period investigated had two differing sub-periods: the period of net import and the period of self-sufficiency. In reality, in the first three years (when wheat had to be imported), price interventions increased producer prices. This led to a level of 28 percent average nominal protection, which was higher than the general tariff level. In the periods of self-sufficiency and surplus, domestic prices fell below the import cost of wheat.

The policy of price bands resulted in higher protection of wheat in a period when wheat was imported (i.e. higher protection relative to periods of self-sufficiency and surplus). This is not surprising since the mechanism of price bands was set up in the period of net import and not in a situation of self-sufficiency. Before 1987, price fluctuations could be reduced by relying on the price bands. Yet the average price fluctuation was only mildly less at home than abroad, the 1987–89 period included. Prices were no more stable from 1983 as a result of intervention, but wheat production increased considerably. The growth of production in the pe-

riod 1983–89 was due largely to higher yields, the latter being a result of technology development. Therefore it is not easy to say what role the policy of price bands had in increased supply.

Buffer funds

Buffer funds are a variant of the general mechanism of trade taxes and subsidies. If the world market price of export products is high, then prices for producers are reduced by a high tax. Tax income is collected in a fund used for the subsidization of producers when world market prices are low. Thus producer prices are held constant at a relatively low level, and this more or less stabilizes the income of producers. This stabilization scheme has an immense advantage relative to buffer stocks, since it avoids the amassing of physical stocks.

One of the most serious problems of price stabilization methods concerns the method by which durable shifts in price movement can be separated from transitory market impacts. In other words how can the desirable price level be determined and when is it appropriate to modify prices as a reaction to changing market circumstances. One of the most frequently used methods is to base prices on the longer term average of the world market price of a given product. The amount of tax or subsidy represents a certain percentage of the difference between the target price and the actual market price. Target prices are based on the past movement of world market prices. Consequently, they reduce shorter term world market price fluctuations and ensure that domestic prices do not depart, in the long run, from world market prices. At the same time, they secure that subsidies given to exporters are shifted on to producers, and that producers are regularly informed by the government about prices.

Since chance factors have a large role in price formation, all redistributive funds should face—sooner or later—the problem of accumulating or depleting reserves. Such situations arise less frequently if the level of the target price is determined accurately and it does not depart significantly from actual world market prices. To determine this, it is necessary to know not only past prices but also to have available a reliable forecast about future prices. Another important criterion is that taxes and subsidies in the given year should only amount to a small fraction of the difference between the target price and world market price. If several funds are operated in the given country, then costs might be minimized by combining the resources of all the funds. In this case it is very likely that a consolidated budget would cost less than the aggregate of separate funds. The reason for this is that the world market prices of different products only correlate in an imperfect way. Papua New Guinea will be taken here as an example of the above variant.

Papua New Guinea

In Papua New Guinea, up to 1977 the government tried to stabilize the price of the three main export products: copra, coffee and cacao. Later on, palm oil was also included. Government agencies set up a price which secured for small producers an income on the same level as the minimum rural wage. This was established as the official subsidized price. For copra a stabilization scheme operated right from the beginning. However, the government (due to causes which will be presented later on) changed the tools of price stabilization for cacao and coffee, and similar changes were also put in train for copra. In what follows we present in detail the scheme used for the regulation of the cacao market. This is appropriate here because similar tools were used for other crops. (Knudsen and Nash, 1990).

The cacao industry agency was originally created in order to stabilize production prices. Prices were stabilized through export taxes and subsidies under the principle of cost plus. Minimum prices were determined in such a way that they slightly surpassed the rural minimum wage. Attached to this was a progressive tax scheme, the marginal rates of which rose parallel with world market prices up to a maximum of 50 percent. A huge advantage of this method, relative to *ad hoc* export taxes used in several developing countries, is that tax rates are predetermined. Thus there is no additional uncertainty due to the inconsistency of yearly rate changes.

Up until the time the price stabilisation system was based on costs of production, it successfully stabilized producer prices and reduced uncertainty; this was due to forecasting. In 1977, however, the system was revised, and there were several causes for this. First of all, the world market price of cacao remained at a steadily high level and therefore cacao producers were heavily taxed. (Up to the end of September 1976 the fund amassed $ 2.3 million). Second, the recognition of costs of production as a price factor became increasingly dubious. Costs of production depend on several factors, and the latter differ largely among individual producers. The problem was that, if prices were established too high or too low (relative to longer term world market price trends), the operation of the programme entailed considerable costs. If the floor price was too low, the fund rarely paid subsidy to producers (if ever)—unlike a pure taxing scheme. If, however, prices were set too high, the fund would run out of money, thus over-subsidizing an industry.

Due to the above causes the government decided in 1977 that it would change the criteria of target prices, bringing them nearer to world market prices. As a basis for prices, the ten-year average of past world market prices adjusted in line with inflation was chosen, instead of production costs. Full price stabilization at a price level based on an exactly determined moving average would have been impracticable. Instead, the programme determined the amount of subsidies and taxes such that it was equal to a half of the difference between the average of world market prices over the past ten years, and the world market price of the

current year. Thus the yearly price fluctuation of producer prices ought to be half of the difference between changes in world market prices and changes in the moving average.

With this method fluctuations in the price of cacao were reduced by 46 percent (Knudsen and Nash 1990). This scheme had three important advantages relative to the price stabilization tools used by other countries. The first was that the agency regulated prices only through the taxation and subsidization of export prices; thereby it avoided the costs and other problems of the price stabilization programme which stemmed from direct purchase and transportation of produce. Price information was disseminated by radio among the producers of underdeveloped areas in order that subsidies and taxes could reach producers through traders. The government tried to improve the bargaining position of producers *vis à vis* traders by supplying them with suitable information. Another advantage of redistribution funds is that, by relying on them, it is possible to avoid undesirable macroeconomic effects. The tax and subsidy system is self-financing, and therefore it does not destabilize the central budget. Furthermore, 60 percent of the fund is deposited at the central bank. Consequently, it can easily sterilize undesirable fluctuations of exchange rates in order to neutralize their inflationary or deflationary effects. Finally, the fund does not require physical storage of produce, and thus it avoids the costs of keeping buffer stocks.

Some lessons

The price stabilizing activity of different state or semi-state agencies is extremely expensive, both for the budget and for the whole economy (*Blanford* 1979; *Denis* 1982). Agencies are generally created for the guidance and implementation of price policy, and therefore they have to take into account other goals beyond the stabilization of prices (e.g. they are responsible for the growing of the given produce, with regard to input subsidies through subsidized credits to special consulting). This considerably distorts the efficiency of economic incentives. In some developing countries these agencies play a very important role from the point of view of the development of the whole economy (*Helleiner* 1964). As a result, they are natural targets of the rent-seeking activities of different interest groups. The experiences of most developing countries show that, from the point of view of price stabilization of internationally tradeable goods, variable tariffs and subsidies are much more efficient and generally less costly than marketing agencies (World Bank 1986; *Ahmed* 1988; *Schiff and Valdes* 1992).

The fear that the application of different tariffs and subsidies would not result in suitable changes in domestic prices—i.e. that they would not be so efficient stabilizing domestic prices as would direct interventions—has proved to be unfounded.

Empirical research shows that the sensitivity of wholesale prices to world market prices, and the sensitivity of producer prices to wholesale prices, were both high (Knudsen and Nash 1990). Another often used argument against trade policy tools is that, if there is a bad harvest, one cannot import basic food quickly enough. In such cases private stocks are not enough for domestic supply. Experience has shown, however, that where private trade was not restricted, the task of seasonal storage was assumed more efficiently by private stocks than by marketing boards (apart from cases in which there were extremely low world market prices). In Kenya, for example, state agencies work with 15–20 percent higher costs (World Bank 1986). The most important lesson from the point of view of price stabilization, is that government trading with different products should be avoided.

Physical storage of individual goods is often difficult to avoid and therefore buffer stocks are needed. In this case the aim should not be full price stabilization, for it costs much. High level or full price stabilization requires larger store capacity and broader infrastructure. The result of price stabilization policies on the basis of similar institutional backgrounds might differ due to differences in the level of infrastructure (e.g. differences in the trade margin between Africa and Asia: see Ahmed 1988). A similar problem is that, very often, several marketing agencies operate in parallel and therefore costs multiply. This is because the institutional background of storage has to be created for every product (e.g. Tanzania: see Ellis 1982; *Bevan, Collier and Gunning* 1993).

If production fluctuates considerably between years, price stabilization through storage entails costs which are so high that agencies are brought to the verge of bankruptcy. Schemes operating buffer stocks most successfully do not aspire to full or high level price stabilization, but take care that the domestic prices of the most important produce do not deviate considerably from long-term world market price trends. The South East Asian "stabilization school" (Timmer 1991) is a good example of stabilizing prices with least interference. Governments try to filter out only extreme world market price fluctuations, and at the same time they stimulate private stockpiling.

An important lesson from the price stabilization practice of developing countries is that these methods are very expensive and it is not absolutely clear that they make domestic prices more stable, compared to world market prices. The costs of government-operated stabilization schemes are so high that market forces should be given the highest possible role. At the same time, from among the price stabilization methods, trade policy tools are easy to harmonize with the functioning of the market.

In those countries where the trade and the system of financial mediation of agriculture are less developed than in other parts of the economy—or where they are not developed at all or have some lacunae—the possibility and probability of both market and government failure are high. More concretely: the past experiences of East European agricultural transformation show that where market institutions

are underdeveloped, it is there that market-building activities of the government do not end with the creation of legal frameworks (Fertő 1994). Market institutions cannot be replaced by government-instituted product boards. The regulation of the agricultural market is possible only where the market is functioning.

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RESEARCH INTO THE HOUSING MARKET IN BUDAPEST*

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The study makes an attempt to point out how socio-economic changes, taken place in Hungary in the last four years, exerted their influence in one of the most sensible fields, in housing, and within this in housing market in the capital.

The presentation consists of four parts: It discusses the methodological aspects which are considered to be desirable and used in international practice to define the price and value of dwellings and shows the characteristics of data served for basis of price index computation. It gives the results of the hedonic price index computation, indicating changes in the prices of dwellings and family houses which appeared in the private housing market in the years 1990–1993. It analyses the basic factors of the housing market of our days. Finally an Appendix comprises the method of price index computation, and the equations applied.

The economic system which denied the market and endeavoured to artificially regulate all spheres of the economy was one which, among the former state socialist countries, collapsed earliest perhaps in Hungary. In all probability it was in the sphere of housing that the role of the state, and the external influence on the processes involved lost their power first. The elements which provided the greatest obstruction to the development of a market had already begun to decay in the late 1970s. This process was closely connected with the ground gained by the second economy. For the surplus incomes the only area of safe investments was, right up to the end of the 1980s, building and renovation, or the purchase of real estate. This activity of the population resulted in a situation in which, over the last twenty years, the Hungarian housing situation—together with all its problems and disproportions—has significantly improved and at present is on a relatively higher level than the rest of the economy. From a comparison of a few specific housing indices and the GDP,[1] it can be seen that—with respect to some indicators of housing—Hungary, in the rank order of European countries, is in a more favourable position than it is from the aspect of GDP.

The seeds of a housing market

The favourable domestic housing situation—in addition to the huge investments of the population in labour and materials—is due also to the fact that

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[1] See A lakáspiac... 1994, pp. 40–41.

through the gaps that came into being in the wake of weakening central influence, unconsciously and spontaneously, the seeds of a housing market were sown. These elements were separate from each other, and some independent market sectors were created. At the end of the 1980s already at least three—among them, one illegal—market segments could be observed in the Hungarian economy.[2] The most significant market sector and the one with the closest resemblance to a classical market was the turnover of selling and buying flats in the private sphere. For measuring this, only estimations are available which, based on the records of the offices of rates and duties, put the number of transactions linked to dwelling estates in the late 1980s, at an annual 200–250 thousand, on a national level. This lively turnover can be well characterized by the fact that the number of advertisements regarding dwellings in the greatest advertising newspaper, the *Expressz*, grew sixfold between 1985 and 1992. By the early 1990s 7000 advertisements per month were appearing in the *Expressz*. Within this, the announcements of sales increased by 800 percent, while those advertising exchanges of flats grew "only" threefold.

The selling of flats made in the form of investments by the National Savings Bank (OTP)—even if, in comparison to the foregoing, it cannot be called a market—nevertheless, strongly influenced its development. Up to the mid-1980s this had been coloured by the sales of flats in the ownership of the local councils, at favourable prices. Both forms belonged to the sphere of the allocation of flats by the councils which was connected with queuing but was at least carried out on the basis of norms. Though these transactions were not pursued under real market circumstances, one can still speak about a market of flats allocated (sold) according to certain social viewpoints, where the flats soon came back into circulation and their price relations affected other segments of the market, too.

The illegal selling and buying of tenements belonging to councils, by selling the right of renting, could also be considered as an independent market segment. From the early 1980s a widespread business branch was built upon this activity.

In addition to the foregoing, two important phenomena have to be mentioned, which also influenced the development of the market. One of them was the legal exchange of the dwellings in council ownership, which constituted a significant share of the housing turnover. The other one was the selling of flats, then still in state ownership, to the tenants living in them. The privatization of dwellings in a significant quantity commenced in 1988–1989. Then, after the state-owned flats came into the property of the local governments, this process accelerated, but the price relations and the conditions of sales were already taking shape in 1988–1989, and did not change until the spring of 1994.

Of course, it cannot be stated, that this housing market—in an economic sense—was in conformity with all the criteria of a market. However, with regard to the development of the present situation, it has certainly had a determining

[2] For more details on this subject see: *Farkas and Vajda* (1990).

significance. This can be seen clearly if we compare it with the uncertainty or, often even the anarchy, dominant in some other spheres of the economy.

Since 1990, with respect to the housing market, significant institutional changes have come about, and the legal frameworks regulating the operation of the market have also changed in several areas. The essence of the changes is that, due to various reasons, the segments of the market are gradually ceasing, and their transformation shows a trend towards unification.

With the acceleration of the privatization of tenements and the coming into force of the law on housing (and, in the wake of these, the appearance of the statutes of the local governments on dwellings), it can be expected that the illegal purchasing of the tenants' rights, and the coming of property into private ownership by fictitious exchange (still going on to a significant extent) will be reduced. By 1991, the building of flats with investments by the OTP—which until then, in the framework of social provisions, was destined to meet the demand of those in a relatively better material position—came to an end. Namely, the OTP could only build so expensive dwellings that—with the cessation of the favourable state credits—there was no demand which could afford to pay for them. The market decided: a non-profitable form of building which had been artificially maintained for so long, ceased to exist.

The law on local governments placed the state-owned flats into the ownership of the local governments at the end of 1990. However, the lack of several decrees—among them, of the law on housing—prevented the local governments of the settlements from acting as real proprietors. Yet even more problematic was the deteriorated state of the stock of buildings received as new property as well as the social composition of the tenants living in them. The latter problems still exist but, by the end of 1993 and after the veto of the Constitutional Court, the legal regulation became final. The tenants were granted a year to decide whether they wanted to buy the flat they were living in or not. In 1995 this right was extended to one and a half years. If they decide to buy it, the local government cannot refuse the transaction. For the following five years the tenant has the right of pre-emption, i.e. if the local government wishes to sell the flat, it has to offer it first to the tenant living in it. Two other important changes are that the local government is, from the mid-1990s, authorized to raise the rents; moreover, in the case of selling the dwellings to the tenants, the price may reach the market value. The latter two changes also act in the direction of unifying the market, for these dwellings are directly placed in the turnover process.

Even with all the undeniable contradictions of the processes, it must be stated that there are more and more signs of the development of a housing market, where the prices are increasingly independent of the "person", the legal status of the buyer or seller, the ownership form of the flat, and of other certain external conditions; in fact, there are more and more classical elements determining the prices (such as the quality, exposure, environment etc.) and these are becoming dominant.

The present situation is the result of a long process, and its acceleration can be fostered if the legal frameworks defining the free operation of the market are adopted as the basic principles. Nevertheless, the regulations of the transition and, furthermore, the tensions found in other spheres of the economy which also affect this area, do not render it probable that in the near future a classical, steadily operating housing market, will develop in Hungary. We are only at the beginning of the process, so what is being emphasized here is the relative advances made so far. The housing market of the seventies and eighties was basically a clandestine one. It was prepared to evade the legal frameworks and ignore the criminal conclusions. Several traces of this can be found even in the current housing market and these are undoubtedly hindrances to the positive changes. They also accompany other problems, such as the conditions and availability of loans failing to follow the changing proportions between the prices of flats and incomes, and the lack of capital for investment.

Statistical observation of the housing market

From the unsolved problems belonging to the sphere of statistics we stress that there is a lack of databases arranged in accordance with uniform systems and accessible to anybody. Such databases would provide equal chances, and make information available on the prices of sold flats according to their quality, exposure, and environment. Briefly, the most important hindrance to the development of a market today is perhaps the lack of "publicity".

In economies which operate in an optimum way the information system on the prices of property is a natural element of the operation of the market. In this sphere, state statistics play an important part, but the most important point is that updated market information, which is directly accessible to all participants in the market, should be available.

The elaboration of a uniform statistical system which observes the prices of real estate is not the same as gathering market information which is available as a "by-product" of market activities. The knowledge accumulated in this way has to be systemized. A further aim is the development of a database rendering it possible to provide a systematic computation of the price indices of real estate over regular periods. The task of state statistics is the presentation of the long-range (annual or semi-annual) trends, which provide basic information for the decision-preparing activities of the government or for informing the public. These two requirements—namely, uniform information and the presentation of trends—are not met by the databanks of the estate agencies as if they were following some subjective viewpoints, nor by the data concerning the activities of the Stock Exchange, for these elements are still in their infancy. Even micro-examinations are not suitable,

for the information about the sales of goods having such relatively great values surely comes up against the natural resistance of both the sellers and the buyers.

Within the framework of government statistics an information system on the housing market could—understandably—only be set up in recent years. In the course of developing the system, it has been possible to rely primarily on the data of the offices dealing with rates and duties. Also, the computations applied in this essay rely on this database—i.e. we consider it to be a major task to take into account and analyse the factors which influence the prices of real estate in the capital, and property sold on the housing market of the population (in the "second-hand" market of housing).

For various reasons—which will be presented in detail in the following text—the share of the data presented which relate to the turnover of flats in Budapest can only be estimated. The database does not contain the flats of the local governments which were sold, new dwellings built in the given year, and illegal property sales in the sphere of the tenements of the local governments. Furthermore, the number of the flats allotted by the local governments, and the numbers of exchanges, are also not included. The latter two, though they are parts of the turnover, cannot be considered as market transactions. All these, however, according to our estimation, amount to no more than about 10–15 percent of the turnover as a whole. Thus it can be safely stated that the data of the offices of rates and duties cover the vast majority of the transactions in the Budapest housing market.

Our work is of a tentative character, but we publish it with the non-hidden hope that the results may urge the responsible or interested bodies to regard it as increasingly important to broaden and make the necessary information more precise.

The analysis consists of four parts:

— presentation of the methodological views considered desirable and already employed in international practice, and introduction of the characteristics of the data used for the computation of the price indices;

— presentation of the outcomes of hedonic computations of price indices, showing the changes in the prices of houses and flats which appeared on the private housing market between 1990 and 1993;

— analysis of the factors determining the housing market today (of which many were not applied in the computation of price indices, either because no appropriate data were available or because the factor in question cannot be statistically controlled; analysis of factors which certainly exert a significant effect on the development of the prices of housing, (some of these belong that group of factors which influence prices even in the developed and properly operating market economies, while some are typical products of a transitory economy);

— finally, in the Appendix of the essay we present the method used for computing the price indices and the applied equations.

The international practice of computing the price indices of residential property—some methodological considerations

International (especially American) literature has accumulated significant knowledge and practice with regard to the subject matter of the hedonic computation of price indices.[3] In the following, with the aid of the comprehensive study of Norman G. *Miller* (1982) we will introduce all the factors which were considered important, especially in the special literature which appeared in the 1960s and 1970s. This takes into account the development of the value of real estate and the changes in prices. These are the physical characteristics of real estate: its exposure, the financial conditions of the transactions, the costs of selling and buying, and the rate of inflation at the time of the transaction.

The brief summary below shows what the indicators contain:

Physical characteristics of the residential property

The size of the estate is expressed mostly by the basic area and/or by the number of its rooms. International literature characterizes the quality first of all in terms of the heating, but it is also customary to take into account the factors of the environment, too. In the regression models applied in the course of the researches, the year when the property was built proved to be the most useful, as well as being a price-developing factor.

Location of the residential property

This factor is the summary of several indicators:

— tax policy of the local government and the quality of public services;
— transport costs: distance from the town centre, access to place of employment, school, shops etc. (measured in time or distance);
— economic externalities;
— air quality;
— ethnic composition of the inhabitants in the neighbourhood;
— provision of the region with public facilities and the level of noise;
— social support;
— public housing in the region.

[3] As far as we know, this method of computing price indices was used first in Hungary by Gábor *Párniczky*, for defining the price index of the apartment houses built by the state. (Párniczky 1982)

Financial conditions

The interest level of a loan on mortgage, and the extent of credit that can be raised.

The costs of the sales transaction

The costs of gathering information, the length of time spent on the market.

Inflation

Miller summarizes the results of the various examinations, and comes to the conclusion that the prices of residential properties are explained by a property's physical condition, the site and locational attributes: almost in any model—in a statistical sense these factors account for more than 90 percent of the price-determinant.

This rough list should give some idea of how many of the factors which contribute to the values of residential properties were examined in the course of research work carried out over several decades. To repeat this in the case of the housing market of Budapest was not possible for many reasons. Had we had the possibility, we would have tried to fit a group of factors suitable for forming the value and price of the properties—as used by the American researchers—successfully into our model. Our research, however, was restricted by the data available to us.

The database and variables used for the computation

The data we used for the computations were received from the Municipal Office of rates and duties. The data represent a part of the data collecting system of the Central Statistical Office (KSH) and of the National Programme of Statistical Data Collection (OSAP). Unfortunately, it is only possible to take over data when the collection is made by computers. Such a system works at present only in Budapest and a few counties, and therefore the collected data covers at present only a small part of the country.

A further problem is that the chronological line analysed in this paper is only available with regard to Budapest since 1990. Thus, the fact that the analysis deals only with the housing prices in Budapest was somewhat "inevitable", albeit this is just the region where the housing market is the most widespread and most complicated. Another deficiency of the data sets is that not every transaction is

registered in them but, in general, this concerns only those transactions referring to types of flats or houses, for which there is as yet no information in the database. From the aspect of statistical accounts this does not mean there is a significant distortion, but the number of cases cannot be considered to mean the whole turnover, nor is it a representative model, since the aspects of the selection were occasional. One feature of the database is that the registration in the office of rates and duties happens only after several months (recently, even over one or one and a half years) after the transaction. In this analysis we could not sift out the distortion due to the time discrepancy. When processing the data of 1993, however it was possible to state the time difference between the transaction and its registration. According to this, in the case of flats registered in 1993, half the actual transactions took place before 1991, 42 percent of the flats changed their ownership in 1992, and altogether 8 percent were sold in the given year. The same proportions in the case of houses amount to 46, 47 and 7 percent, respectively; this means that they are almost identical. In the case of the transactions figuring in the registrations of 1993, the average time when the transaction was made, was July 1991; this means that the delay in question is about a year and a half. According to the information acquired from the offices of rates and duties, the delay became so big in 1993 because the enforcement of the laws on compensation significantly increased the customary tasks of the offices (mainly of the land offices). So, it is probable that, if we went backward in time, the delay would decrease. However, in the examined four years it can be put at an average of 9–12 months. Finally, when evaluating the data, it has to be taken into account that the specialists dealing with the mediation of estates deem the prices found in the offices of rates and duties to be 20 to 30 percent lower than the market prices.

The database contained several records where defective data were found. In the analysis only such cases were involved where information on all the variables taken into account could be found.

The data available for all the four years, thus being comparable, were the following:

— basic area of the estate
— the number of rooms in the estate
— condition of the building evaluated on a three-grade scale (good–medium–bad); this information was, unfortunately, available only for the first two years.
— the location of the estate within Budapest (the district)
— the market value of the estate.

The presentation of the stock of data available to us clearly shows that from the factors forming the values and prices which were applied by the American researchers, some could only be fitted into the regression model with difficulty. Furthermore, from the description of the price development, it is obvious that

there were factors which were available, but which in a statistical sense had very little explaining power.

In our initial hypothesis we had to reckon with the contents and quality of our set of data with the knowledge that this stock of data is extremely poor, and that several transforming factors are missing. At the same time, the demand for the data or the price formation of properties is conspicuous, and thus we held it important to create the most reliable statistics possible from the only comprehensive stock of data available to us. We made the assumption that the prices of houses (flats) are influenced by the size, the quality (condition of the house), and the exposure of the estate. We deemed the most powerfully acting factor to be the surroundings and the situation of the estate.

The stock of data contains some data about the size and physical condition of the estates, and we characterised exposure according to the district where the property is situated. A more detailed definition of zones within the districts, which we tried to use in an earlier phase of our research, proved to be not a really more explicative factor than the district itself, and it also made the analysis much more complicated. Therefore we returned to using only the district as an indicator. Regarding the facilities and closer surroundings of the estate, unfortunately we had no information, although in all probability they influenced market prices to a great extent.

Concerning the quality of the property, we inserted an indicator not figuring in the quoted literature but which, in Hungary, proved to be of a vital importance. This is the information on whether the subject of the transaction is a family house or a flat in an apartment house (hereafter: "house" or "flat"). To a certain extent, this can also be said about the qualification of the surroundings, owing to the fact that the family houses generally lie in the green belt with gardens, while the majority of the flats are in densely built-up zones. In a certain sense, using the district as a variable also represents the distance from the centre, and provides some information about the degree of environmental problems, the level of noise etc. At the same time, although we do not want to make a virtue of necessity, our results might have been greatly improved if there had been more details available about the surroundings of the flats, which could have been counted during the course of the regression analysis. The same remarks apply to the descriptions regarding the quality of the properties.

We also assumed that the rate of inflation influences the price development, but in our regression model the change of the consumer prices plays no part. Even in the initial phase of the research it could be seen that the rise of the prices of properties does not reach the increasing level of consumer prices. Since this statement is contradictory to public opinion and the behaviour of investors, we checked it several times from a number of different aspects, but the results remained unchanged. The outcomes are weakened by the fact that the sales appear in the records of the offices of rates and duties with the aforementioned delays. We are

also aware of the fact that among the properties, flats in housing estates have a special position. Namely, although with regard to their physical facilities they are not worse than the flats in the old apartment houses in big towns, still their market value is lower than that of the latter. Unfortunately, the stock of data borrowed from the Municipal Office of rates and duties contains no information about this, so we could not control this assumption.

The data missing from the material received from the office of rates and duties was considerable in its extent. However, we considered it more important, on the basis of the available foreign and domestic sociological experience of methodology in connection with the housing market, to attempt the implementation of a computation which should be considered as a tentative one. This is summarized in the following section.

The price changes of houses and flats in Budapest between 1990 and 1993

A direct comparison of the average prices of residential properties—houses and flats—changing their owners in different periods may be misleading. Namely, the prices of estates having varying quality parameters may, at a given time, strongly differ from one another, and the quality composition of estates sold in different periods may also considerably change over the course of time. Hence, the average prices of estates computed for two different periods differ from one another not only owing to the price change of estates of identical quality—that is, the so-called "pure" price change—but usually because of the changing quality composition of the estates. Since the indicator expressing the price level of the estates has to represent merely the "pure" price change, we have to attempt to sift out the effect of the occasionally changing quality composition from the changing average prices.

One of the possible methods for achieving this is the hedonic price index computation, the most important steps of which, from the aspect of interpreting the obtained result, are the following:[4]

a) Given the knowledge about certain characteristics $X_1, X_2, \ldots, X_p$, of the houses (flats) we try to estimate the average value of houses and flats of different qualities. For this purpose, we use individual estimating formulas $Y = f(X_1, X_2, \ldots, X_p)$. These are regression functions from which, if we replace the concrete values of the individual characteristics, we can obtain an estimation of the average values of houses (flats) possessing the given values of the individual characteristics. The characteristics $X_1, X_2, \ldots, X_p$, for instance, may give information on the size, exposure and facilities of the house (flat) in question, and on other features important for the market value.

[4] For further details of the method see the *Appendix*.

b) If into one of the estimating formulas we place the average values of the characteristics $X_1, X_2, \ldots, X_p$, valid to a given group of houses (flats), we obtain an estimation of the average prices of houses or flats, valid for a given period. If the estimating function is a linear one, and we place into it the average values of the characteristics $X_1, X_2, \ldots, X_p$ of the houses (flats) changing their owners in the given year, we obtain the respective actual average prices. In any other case we obtain an average price which we call "corrected average price". The corrected average price is the estimation of the would-be market price, over a given period, of the houses (flats) possessing some previously fixed values of the characteristics $X_1, X_2, \ldots, X_p$.

c) If we place the same previously fixed values of the characteristics $X_1, X_2, \ldots, X_p$ into estimating formulas relating to various periods of time, we obtain estimations of the average market value or "price" of a group of houses (flats) of identical quality composition for different periods. From the average prices of such groups of houses (flats) of fixed quality composition and estimated for different periods—i.e. from the corrected average prices—indices related to a common basis (i.e. chain-indices) can be computed.

This method can only be applied if the regression equations of the individual periods

— are of an identical type (e.g. they are linear),

— contain the same independent variables,

— describe by and large equally well the interrelations between the various characteristics of the property.

The chances of meeting the above listed conditions are really good if the market of the analysed goods is a balanced market.

For the purpose of the present tentative computations we employed linear regression equations. As independent variables, only the size of the estate—measured by the number of rooms and by the basic area—and its situation within Budapest (the district) were available for all the four years.[5] These factors are, unfortunately, far from sufficient for explaining adequately and from every aspect, the development of the prices. It might have been particularly favourable to utilize the information concerning the quality, the facilities, and the environment of the property in the regression analysis of the price development. This had made it possible, in all probability, to achieve a much better assessment of the prices than the available independent variables did.

We would like to mention in advance that the explanatory variables selected in the way described in the *Appendix*, in the case of the houses, explain together about 39–59 percent of the prices' variance; in the case of flats they explain 53–60 percent of the variance. We will return to a more detailed evaluation of this,

[5] With regard to 1990 and 1991, the condition of the building was also known, valuated on a three-grade scale.

when presenting the tables containing the R^2 values (See *Tables 3* and *4* of the *Appendix*).

We note, in addition, that in the case of the houses it is the number of rooms, and in the case of flats the basic area, which proved to be the chief respective factors defining the price. Besides, in some districts it was also worth using the size of the basic area for estimating the prices of houses; furthermore, the differentiation of the regression coefficients belonging to the number of rooms, by districts, also seemed to be necessary. Such a differentiation of the regression coefficient belonging to the size of the basic area was also needed for the estimation of the prices of flats (details of this can also be found in the *Appendix*).

We defined altogether 8 equations on the basis of the data available to us: four for the houses and four for the flats. (The parameters and other characteristics of the equations can be also found in the *Appendix*.) In *Table 1* we present the obtained corrected average prices together with the actual average prices.

Table 1

The actual and the corrected average prices

Year	Actual average prices (thou. Ft)	Corrected average prices beside average annual quality composition (thou. Ft)			
		1990	1991	1992	1993
		Houses			
1990	2119	2119	2047	2215	2086
1991	2405	2439	2405	2573	2371
1992	2995	2980	2978	2995	2954
1993	3487	3643	3599	3760	3486
		Flats			
1990	1595	1595	1358	1562	1573
1991	1666	1746	1666	1701	1700
1992	2130	2114	2016	2130	2138
1993	2324	2303	2194	2313	2324

From the average prices found in any of the columns in *Table 1*, basic or chain indicators can be computed, and these can be considered as price indices. The indicators computed from the actual average prices of the first column also include, beside the "pure" price changes, the effect of the price changes caused by the occasional changes in the quality composition of the estates. The indicators computed from the rest of the columns are devoid of these latter effects, and indicate the "pure" change of the prices. More precisely, they can be considered as some kind of estimate of the "pure" price change.

Table 2 and *Fig. 1* show the changes of the actual and corrected average prices of houses, flats and properties (houses and flats together), related to 1990

as a basis, and *Table 3* shows the same, year by year. The change of the corrected average prices was created as the non-weighted average of all the possible indicators related to the basis.[6]

Table 2

Price development in the Budapest housing market and the development of the consumer price index

Year	Houses		Flats		Together		Consumer price index	
	actu-al	cor-rected	actu-al	cor-rected	actu-al	cor-rected	Index:	Index:
	average price (Index: 1990 = 100.0)						1989=100.0	1990=100.0
1990	100.0	100.0	100.0	100.0	100.0	100.0	128.9	100.0
1991	113.5	115.6	104.3	108.7	108.4	110.6	174.0	135.0
1992	141.3	140.7	133.5	134.0	131.3	135.9	214.0	166.1
1993	164.6	171.2	145.7	145.7	146.4	152.9	262.0	203.4

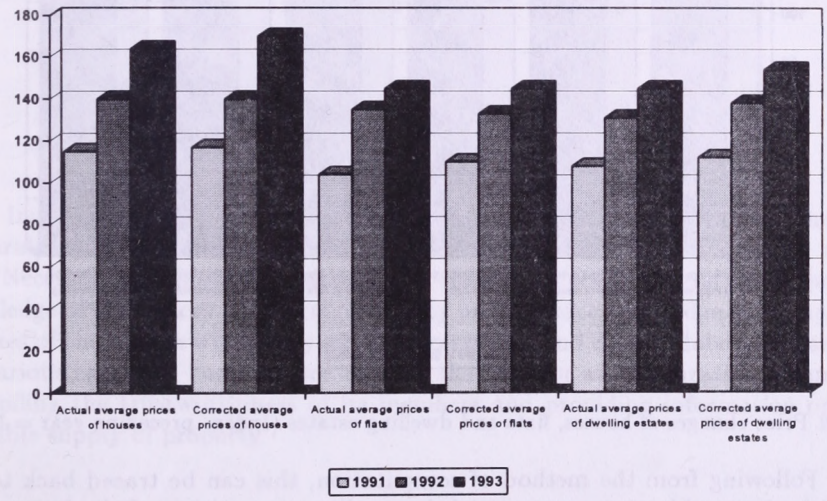

Fig. 1 Common price changes of houses, flats and dwelling estates (Index: 1990 = 100.0)

The chronological development of the actual and that of the corrected average prices—as can be seen in *Table 3*—often differ from one another. The most significant was the difference in the case of houses from 1990 to 1991, and in the case of flats from 1990 to 1991, and from 1991 to 1992, when the growth of the

[6] The details of this are presented in the *Appendix*.

corrected average prices was 5 and 4 percentage points higher, and 4 points lower, respectively, than that of the average actual prices.

Table 3

Price development in the Budapest housing market

Year	Houses		Flats		Together	
	actual	corrected	actual	corrected	actual	corrected
	average price (Index: 1990 = 100.0)					
1991	113.5	115.6	104.5	108.7	108.4	110.6
1992	124.5	121.7	127.9	123.3	121.2	122.8
1993	116.4	121.6	109.1	108.8	111.5	112.5

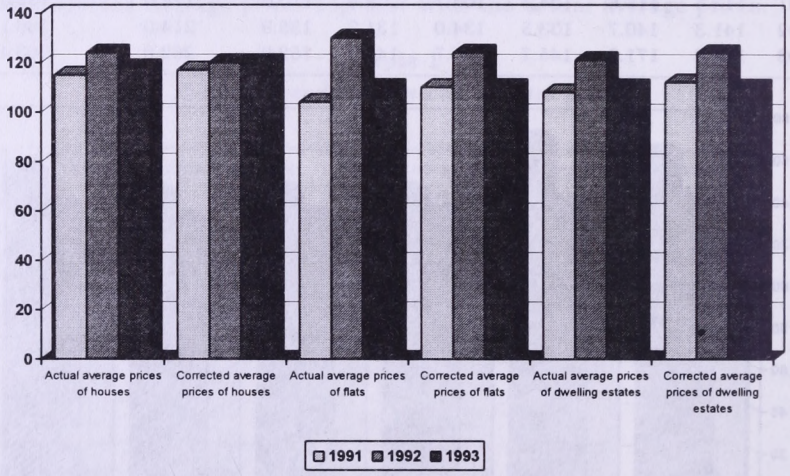

Fig. 2 Price changes of houses, flats and dwelling estates (Index: preceding year = 100.0)

Following from the method of computation, this can be traced back to the deterioration and/or improvement of the quality composition of the houses and flats during the period in question.[7]

On the basis of computations it can be found that the price rise of the houses and flats was, in the analysed period, lesser than the growth of the index of the consumer prices. The trends are accurately characterized if we take into account

[7] The deterioration or improvement of the quality composition must always be valuated from the aspect of the independent variables figuring in the estimating equation. This appears most clearly in the differences of the average value of the independent variables in the individual years. This can also be clearly seen from *Tables 5* and *6* of the *Appendix*.

the delay of the prices in the offices of rates and duties, and compare the price index of the properties with the price index of a year earlier.

The diminishing trend in the growth of the prices of flats is unequivocal after the striking year of 1992—when the consumer price index was also very high—for it was again below 10 percent. So, viewing the whole period, there is a lag in the growth of consumer prices measured against the preceding year by 10–12 percentage points. The prices of the houses are more stable, and their growth is only slightly below the 1992 price index.

Table 4

Corrected average prices and the consumer price index

Year	Houses	Flats	Together	Consumer price index
	Corrected average price (in percent) of the preceding year			
1990	..	..	..	..
1991	115.6	108.7	110.6	128.9
1992	121.7	123.3	122.8	135.0

The factors influencing the housing market

In developed market economies the assessment of property prices and the preparation and implementation of the transaction are the tasks of estate agencies. Necessary for this is the gathering of the experience of several years, precise knowledge of the factors influencing property prices, exact knowledge of the natural features of the terrain where they offer their services, and close collaboration among the various agencies. Furthermore, there is the need for an organization (chamber) controlling the trustworthiness of its members and providing information on the available supply of property.

Inexperience in the housing market

Experience shows that in Hungary only a negligible share (according to certain estimates about 10 percent) of the transactions in the property market is carried out by agencies. This is true, despite the fact that the most proliferating enterprise activity is the mediation of property transactions and the operations linked to it. The number of firms engaged in property transactions may be put at tens of thousands, even in the capital.

In the United States the agencies and companies specializing in this activity play determinant role in property turnover. In the cases of sales or property lets, about 8 percent, and in those of estates serving commercial purposes, 95–98 percent of the transactions are carried out by agencies.

What is the reason why, in the Hungarian residential property market, the role played by the agencies is so small and does not even show signs that is going to grow in the future in a significant measure? On the one hand, the participants in the housing market (private persons) have no confidence in the agencies; they deem it more safe and reassuring if they themselves look around in the market, seeing the supply personally, and gathering their own information on prices. Also, another reason may be that transactions on the housing market were not unknown in recent decades (namely, even if in a much narrower sphere, the selling and buying of flats was one of the areas which remained outside the framework of the nationalized economy). On the other hand, there were no agencies (at most there were some lawyers specializing in property matters). Thus experts were involved mainly in the legal side of transactions. The survival of this tradition may be one of the causes of the conservative attitude with which private persons reject using estate agencies in property transactions. This conservative attitude is, however, also nurtured by a well-founded aversion.

In the advertising newspaper with the greatest circulation, the *Expressz*, advertisements offering or looking for some kind of property can often be found which, following the information deemed to be the most important, add the remark: "I am no agency!" This resembles the clause to be found in advertisements looking for marriage partners, in which it is stated: "adventurers please abstain". The association with adventurers is probably not by chance: those who have dealt with agencies have often had unfavourable experiences. On the one side, apart from the "big" ones, the agencies have a small clientele. The "big" ones, however, prefer to deal not with estates which are destined for residential property, for other segments of the real estate market are much more profitable. The small clientele means that there is little chance of finding the proper partner. At the same time, it is necessary to pay, even for registration or for receiving a few addresses. The small agencies have no common network, so in order to have a better chance of finding the proper partner, one has to try several agents, and this may cost a significant amount of money. Also, the transaction of the business has a price, which is usually a certain percentage of the selling price. Therefore, one cannot be sure that the agent is not interested in overvaluating a property, for his or her commission depends on it.

Some attempts are being made to create a database for the property market in which all properties offered to any of the agencies would appear, together with the price and the detailed parameters (so-called "multilist mediation" of property). However, so far this experience has not been successful. Notwithstanding all this, the small agencies would not join this database since, for them, it is too expensive.

At present, two organizations are operating for estate agencies. One of them is an association, the National Association of Estate Mediators and Value Assessors (Hungarian abbreviation: IKIBE), the other one is a chamber (the Chamber of Hungarian Land Agencies). Members of the former are the small organizations (according to the most recent data 180 private persons and legal entities) while, in the Chamber 81 organizations are registered as members. The objective of both organizations is to provide further training of the agents, inform them about the most up-to-date methods (of the market economies), place value assessment on a firmer foundation, and hereby to improve the efficiency of estate mediation, as well as business morality; however, all this, obviously, needs more time.

Also an Exchange Office and Trading Office for real estate are in operation, but only a few properties appear in them and the number of business transactions carried out through them is negligible.

Thus in the housing market uninformed private persons are "acting" who are not aware of the value of the properties they are dealing with, and not even of the factors that have to be taken into account when defining property values or prices. Therefore, in the transactions the selling prices are often determined on a "guesstimate" basis. "Guesstimation" occurs even in well-operating markets, but it is much more frequent in this mostly uncertain, chaotic field of property transaction. In general the square-meter prices "customary in the region" are considered as a base, independent of the parameters of the actual property (i.e. "In the neighbouring block a flat was sold for this price ..." etc.). The buyer bargains according to the size of his or her purse and other considerations.

Moreover, we can see that even in the sphere of firms acting on the real estate market, we meet several contradictory opinions regarding the same question (which will be dealt with below). This means that even among those who deal commercially with the estates, significant uncertainty can be found.

Real estate as investment and property

Among other considerations found among private persons, the endeavour to make sure investments also appears. For long decades the real estate counted as an investment without risks.

The majority of real estate by today has lost this role, and this is why a market of buyers has developed: yet the number of those willing to sell their flats and houses (including their summer resorts), exceeds that of buyers (i.e. those able to pay). Those interested in enterprise activities would like to withdraw their invested capital from real estate in order to invest it in something more profitable. Also, the conviction, which long ago became a habit, that real estate was not only a value-saving, but even a value-increasing investment, has hardly changed. Namely,

sellers simply do not want to believe that the prices of real estate do not follow inflation, let alone exceed it. (There are exceptions of course, such as houses with parameters which meet western luxury requirements; of these, however, there are only a few on the market.) Consequently, the law of the buyers' market hardly asserts itself and the sellers are prepared to wait rather than reduce prices. This is, to a certain extent, the reason why it can often be heard that "the real estate market is stagnant". The majority of those trading in real estate are already aware of the fact that it is not worth investing in real estate, or building residential properties. Thus very little capital actually flows into the development of real estate. In spite of this, real estate investments are still generally viewed as a stable form of capital investment.

The strength of this habit is also shown by the fact that not only private persons, but even the Broker Company of the OTP (National Savings Bank) wished to prove in one of its studies[8] the value-saving character of real estate. This present analysis commits not only the mistake of observing OTP prices (which are not really free market prices, but the excuse for this is that no other flow of flats is available), it also deems the trend which was dominant between 1961 and 1991 to be valid after 1991, too. If even experts make such mistakes, how much more can "laymen" do so?

Another reason why the buyers' market is able to assert its rules only slowly is that the only property of the vast majority of the population is their place of residence. Thus, of course, they are reluctant to admit that their "property" is losing its value.[9]

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[8] Over the last three decades the prices of residential properties increased at a much higher rate than the consumer prices, as it became apparent from the material compiled by the OTP Broker Company. Gyula *Plethinger*, managing director, said that they only wished to ensure that the real estate investment foundation subscribed with them could make no serious "mistake". That is, real estate should be of stable value, and the money invested in it should preserve its purchasing power. Since the company found no data, especially retrospectively, covering the recent three decades, they considered the square metre prices of the OTP, which were valid all over the country, as a basis. In their opinion, these data more or less reflect the price movements of the domestic housing market. They also observed that since 1961, the OTP had offered its highest interest rates for deposits. The data unequivocally show that over the past 30 years, the free market prices of properties sold by the OTP increased approximately 11-fold, while the level of the consumer prices multiplied by 7.5. In contrast, the interest paid on deposits multiplied by only 5.5. (*OTP adatok, 1961–1991*. 1993.)

[9] Lajos *Szabó*, president of the Hungarian Chamber of Land Agents, in an interview in *Világgazdaság*, came to the hardly refutable conclusion that in Hungary no real estate market similar to those in West Europe (not to speak of North America) is operating, or at least it is unable to work. According to Szabó, with 95 percent of the population private property is constituted in the form of a dwelling. On average, the estate constitutes 50–90 percent of a citizen's whole property. He thinks that it is merely a narrow stratum of the population—not more than 5–10 percent—which has its wealth in other goods. Hence, the owners of residential property dare not to run risks, for if a selling transaction was to cause them to suffer a loss, they would have nothing with which to recover it. Thus, the market is unable to work. All this is, of

Shortage of money and credit

In the private market of housing the difference between the average property prices and the income of the population is so big that without a profound knowledge of the market's operation it is rather difficult to imagine how still, annually, some thousands of transactions can be carried out. An observer accustomed to the conditions of a market economy would surely believe that the sales are transacted with the aid of mortgage loans or some other bank credits.

For the sake of understanding the operation of the housing market it is an important fact to know that the credit that can be raised on the housing market is a maximum 20–30 percent of the price of the property, and only 37 percent of buyers resorted to this opportunity during the four years we have analysed.[10] In the case of buying a flat, it is a further problem that the favours granted to those who build or purchase new residential properties are not available.

The incomes of the population and prices of the properties are mostly compared to the average wages. In such a comparison the price of an average dwelling equals the average wage of 10 to 15 years. A somewhat more precise indicator is the quotient of the annual income of the households and the property prices. According to the most recent calculations in this direction—and there are several estimations—the price of an average flat in a town equals the income of an average town household over 5 to 6 years. In western countries this needs the income of three to four years. (*Tosics and Sárkány* 1993) It must be added to this that in the West a system of mortgage loans and bank credits operates, such that the buyer of a flat has to have only 10 to 20 percent of the price of the flat available in cash. A property charged with a mortgage loan imposes serious burdens on the owner. Nevertheless, this provides some room for manoeuvre for the buyer; this room is much greater than the Hungarian situation allows, where most of the total needed for the transaction has to be made available by the buyer in cash.

Thus, the question arises as to how and from what sources the buyers are able to finance several thousands of purchase transactions per year. Here let us neglect the uncertainty of measuring personal incomes. The families—the incomes of which are very far from the prices of the houses and flats—in general, can rely on two sources.

Young people buying their first (mostly bachelor, or one-room) flat have to rely on the help of parents and/or relatives, and they usually do receive this help (those who have no such opportunity, cannot enter the housing market). Those,

course, also due to the facts that there are no dealers in real estate, income levels are low, and a proper system of credits is missing. This is the origin of the present situation—i.e. that the selling prices are high and transactions are rare. The citizen, should he or she be offered half a million less than was planned, will not sell the dwelling. (*Rátarti...* 1994.)

[10]Kind information given by OTP Bank Rt., for which we wish to express our gratitude here to Mrs. Katalin *Halász-Bokor* and Mr. Balázs *Horváth*.

to whom a small flat is already available are, in general, willing to make some income by selling their flat, and only the surplus cost needed for buying a greater dwelling has to be produced from their own income and/or from family help. This has different results. On the one hand, in the buyers' market the demand for the small cheap flats is relatively high—hence the specific prices of the smaller flats are higher than those of the medium-size ones. (This applies also to properties with a large basic area, luxury facilities, and lying in sought-after districts, but we are going to deal with this question elsewhere.) On the other hand, the sales of flats are often carried out (let us say, in "fortunate" cases) in the same way as, earlier on, the exchange of the flats of local councils was done. Families willing to exchange their properties, search for families who also want to exchange, and when they have found the proper partner—i.e. when the flats to be exchanged meet each others' demands—they exchange (of course, the value difference is paid). It is unnecessary to stress the awkwardness of such transactions, not to mention the difficulty of determining the value difference.

Another form of buying a flat is that a family sells its flat (until they acquire another flat, they go into a rented lodging, or "huddle" somewhere with relatives), and looks for flats until an adequate one is found.[11] Some families choose a strategy in which they begin the process of selling their flat only after they have found an appropriate one for themselves. This can be carried out within a short time, or it can drag on for a long period. During this time the owner of the selected flat either does or does not wait. The sellers of flats mostly appear in the market also as buyers, and consequently the participants in the housing market find themselves standing in a long queue. The latter moves with great difficulty, for many coincidences have to come to pass until the sales without money can be realized.

The prices of flats are influenced by this situation and thus everybody has to insist on the price of the flat they want to sell, and the owner cannot make allowances, for it would then be impossible to buy a flat selected from a higher category. Of course, some other effects can also be experienced. Although it is not characteristic, there are still private sellers who are ready to sell their property for payment by instalments—i.e. they do not ask for the whole amount in cash. It is very likely that such sellers want to sell the flat by all means, but do not want to invest the money in a flat. The shortage of credit has created the need for such initiatives in which persons willing to buy flats sometimes form clubs. The condition of membership in the club is that a certain capital amount is made available to the club itself. From the amount deposited the club can buy each year one or two flats—in effect, a private savings bank is created. Such initiatives are rare, and not too popular, for extraordinary confidence is needed for them to operate, and there is

[11] In such cases the so-called "overbridging loans" of the OTP can be resorted to. In the analysed four years, such loans were raised in 438 cases. (Information given kindly by Senior Officials of the OTP Bank Rt.)

no legal guarantee against abuse of funds. In Budapest a limited liability company of buyers of properties has already been organized for the purpose of financing purchases of flats. The firm produced its capital from the deposits of those willing to buy flats. Some suggestions were made for the construction of leaseholds (which are well-known forms in western countries). However, sporadic initiatives cannot recover the shortage that is caused by the underdevelopment of bank credits.

"Old" and "new" types of buyers of flats

According to uniform findings about participants in the housing market, a relatively significant demand is evident for two categories of property: in the market of small flats below the price of two million forints, and in the category of large, luxury flats and houses.[12] Specialists of the housing market have noticed a situation—one of the characteristics of which we have already formulated in a preceding section—in which the demand for small flats is relatively high because of the shortage of mobile capital. Our database, at the same time, does not support the evidence which suggests the market between the two extremes is dull, since the average number of rooms in the sold flats (houses) somewhat exceeds the quantity of two and there in no outstanding dispersion. In other words, the supply of flats is greatest of the medium category, and this is also the sphere where the most transactions take place.

The present situation can perhaps be better characterized by the fact that these are the two categories (i.e. small flats and luxury properties) where the demand and supply are mostly in equilibrium. With regard to the question as to why this is so in the category of small flats, we have already stated that in this segment of the market the endeavour to acquire the first flat—primarily for young people (mostly with parental assistance—shows itself in the housing market. A new phenomenon is, however, the powerful increase of the demand for luxury houses and flats. New participants have appeared in the housing market. In our opinion these are Hungarian entrepreneurs and the officials of public life (the members of the political and economic elite) who have recently grown rich, and partly foreigners who are settling either finally or temporarily and who are mainly participants in busi-

[12] "Today in Hungary, dwelling estates can be sold below 2 million forints or above 8 million" (*Szalai* 1993a). "It is publicly known that today in the market of real estate it is primarily the exclusive houses and flats of high value, and/or the bachelor or other flats of small basic area, cheap just for this reason, that are mostly in demand" (*Alánt* 1993) "Finally a few words about how the demand for flats develops in Budapest, according to the data coming in. At the moment, people are able to buy properties of up to 2 million forints. For this amount flats of one, or one and a half rooms, in housing estates perhaps of two rooms, can be found. Above this, the market is stagnant, and the next category where again a greater demand can be found, is that of the luxury dwellings the prices of which exceed the amount of 8 million forints. (*Varga* 1993)

ness life. The demands of the latter are formed by the customary norms adopted by the West European upper middle class.

Firms of estate agencies in foreign ownership see no profitable investment objectives in the Hungarian real estate market, except in the market segment of luxury estates.[13]

Privatization of the tenements

The prices of flats have clearly been influenced, primarily in Budapest, by the privatization of tenements which were earlier in state ownership and later owned by the local governments. The latter then sold them, under favourable conditions, to the sitting in tenant. The circumstances and outcomes of privatization have been discussed frequently and at many place, therefore we will not analyze it here. It is, however, worth touching upon questions concerning the extent of privatization so far, and the factors which have influenced the tenants in their decision to buy or not buy the flat, as well as the type of market segment of private dwellings which is likely to develop as a result of privatization.

On 1 January 1995, 812 thousand dwellings were registered in Budapest. Of the whole stock 631 thousand (78 percent) were in private ownership. On 1 January 1990 the stock consisted of 794 thousand dwellings, of which 350 thousand were in private ownership (44 percent). (*Statistical...* 1993) The growth of the number, and the proportion of dwellings in private ownership, is due to the fact that the building of flats by the state has practically stopped, and only a few thousand flats were built by private construction. However, it was primarily privatization that reduced the number and ratio of flats owned by local governments, and increased those in private ownership. Consequently, the market for properties in private ownership has widened significantly. In the six years between 1988 and 1994, 223.8 thousand dwellings were sold in Budapest—more than 97 percent of them in 1990 or later. Since 1990, approximately 54 percent of the stock came into private ownership in the course of privatization. (*Statistical...* 1992; *Farkas and Vajda* 1990)

The proportion of owner occupied flats is unusually high, even for a specialist who knows West European housing market.[14]

The factor which motivated tenants to buy their flats was precisely formulated by Péter *Varga*, leader of the supervision of property management of the XI District

[13] "Within the market of real estate we discovered a market segment. We are looking for dwelling estates for the employees of foreign companies settling temporarily in Hungary, at proper competitive prices", declared Howard L. *Barnes* and John S. *Fekete*, leaders of Colliers International Hungary Ltd. (Szalai 1993b). Thus, in this market not only private persons appear but firms as well.

[14] Lastly Olivier *Julliard*, proprietor of Julliard Immobilier S. A. in Geneva, expressed his astonishment linked to this at the Swiss-Hungarian seminar held at the Budapest University of Economic Sciences on 23–25 March 1994, in his lecture entitled "The paradoxes of liberalism".

of Budapest. (*Murphy*... 1993) In his opinion tenants buy mainly for their own safety—more precisely, they are willing to reduce their defencelessness.

The privatized dwellings fundamentally transformed the structure of the stock of flats. In the internal districts of the capital and in the city understood in a broader sense, before 1990, the state-owned flats constituted the majority; the dwellings in private ownership were dominant in the green belt, and characterized primarily the suburban districts.

Thus in the housing market, a segment which is new at least in its mass and which has created a new supply, has come into being. We have no data with regard to how many of the privatized houses and flats were put on the market in recent years, but the data of districts show that their number was noticeable (even in the districts with almost exclusively privatized (formerly state-owned) flats of the capital the number of such transactions is rather significant.) The privatized flats constitute a special market segment from other points of view as well. These are primarily related to their low prices. The market value of the tenements per square metre and, at the same time, their selling price, was in 1990 28.9, and 5.7 thousand forints, respectively. The same data were: in 1991 23.6 and 4.5, in 1992 27.9 and 5.3, in 1993 23.3 and 5.8 thousand forints and in 1994 26.2 and 7.2 thousand forints. (*Az önkormányzati*... 1993)

Since the tentants acquired their properties at only a fragment of the free market price, when selling them they insist to a much lesser degree on realizing the presumed or actual free-market prices. Though the belief that real estate is a "sure" investment which must not be squandered, also applies to them, these "tenants as owners" are still inclined to go below the so-called "market price", unlike proprietors who bought their properties on the private market in the first place. This is a factor which acts towards the decrease of market prices. The sudden growth in the number of "marketable" dwellings in itself also acts in this direction.

There is, however, a factor which acts in the opposite direction, and this is connected with the special local situation of these properties: the residential properties of the inner town, taken in a narrower or broader sense, are in a favourable segment of the market if regarded as shops or offices. The most extreme case of this is the sudden rise of the value of the shop-flats (the flats opening directly to the street, which belong to the worst category of housing and were usually qualified as temporary lodgings). Shops and offices are, however, purchased by firms. On the one hand, these firms have more mobile capital than private persons, and on the other they can more easily raise some credits (especially true, with relation to higher interest credits) than can private individuals. Therefore, it can be observed that the flats purchased for use as shops or offices sell at higher prices than the flats with the same parameters sold as residential properties. Undoubtedly, however, the firms are better informed about the markets in which their transactions are made, and are less characterized by the "guesstimations" involved in the transactions of private persons. They pay more attention to the condition of the house and to the

direct environment of the flat, though this is also increasingly a characteristic of private persons.

In the course of the regression analysis, the V (commercial) District of Budapest received in each year an outstanding role (together with the II District and the XII District in the green belt). This trend can be explained by the increasing city-likeness brought about by the traditional inner towns having their flats sold as offices. In our opinion, the situation is similar in all the inner districts of the capital, just as in the other districts the transformation of the stock of flats is not so widespread.

The situation of the offices

Seemingly, the real estate market does not belong to that sphere subject to the same observations in relation to residential property, but in Budapest it cannot be separated from it. It has already been mentioned that the same flat is worth more on the market if it sells as an office than if it remains as a residential property. The building of flats is diminishing year by year, while the number of office blocks is on the increase. This is indirectly evinced by the fact that, while the number of construction projects in 1993 decreased by about 20 percent, the sales index of the building material industry increased in the same period by 10 percent.

It is usually enterprises with small capital resources which create for themselves offices from flats; larger firms prefer the newly-built office blocks which are fully equipped with suitable infrastructure.[15] We can also find opinions which believe that the market for office blocks is overstocked.[16] It is, in turn, an undeniable fact that more and more foreign investors are building office blocks in Budapest, and they are not afraid that the market will become overstocked. It is also well-known that some large firms buy whole tenement houses from the inhabitants in the city centre. In our experience the smaller firms cannot afford to rent luxury offices, and thus the transformation of flats into office rooms will continue. How-

[15] "In Budapest, according to our estimation, approximately two and a half million square metres of office rooms can be found. Of this, 280,000 square metres have been built up since 1990. The number of the Budapest inhabitants is two million. In Vienna, the capital of Austria, which is compared with a special liking to Budapest, the basic area of offices is about seven million square meters. Budapest is in the stage of development when industry just begins to be reduced, and is approximately balanced with the services. The latter will be powerfully enhanced and this will entail a demand for office rooms."—From the declaration of Michael J. *Hodges*, representative of the British firm Jones Lang Wooton in Budapest. (*Nem fog...* 1993).

[16] "In contrast, according to János *Soós*, general manager of the OTP Ingatlan Rt. (OTP Real Estates Stock Company), there is an oversupply in the market, felt also by his firm. This oversupply comes from foreign builders appearing with the demand to sell more and more office buildings. The pace of development is lagging behind the expectations. The office blocks, however, were built in accordance with the expectations—claims Mr. Soós." (*A magyar...* 1993).

ever, although this will inevitably result in the reduction of the stock of flats in the capital, the effect of this on housing prices is, for the time being, incalculable.

Private tenements

Finally, we must mention that from the point of view of ownership relations and residential properties, families in the capital are going through a slow transformation. Up to now the two forms in which residential accommodation has been used—namely, that of the tenement in the ownership of a local government, occupation of a flat or house by a private owner—will be complemented with a third form namely, with private tenements. (The flats remaining in the ownership of the local governments will gradually be transformed into social rental flats.)

Reliable estimations of the number of private tenements are not available, but the picture unfolding from the advertisement columns of the newspapers and from the data of estate agencies indicate that their number is growing rapidly. Information on rented accommodation can also only be gained from estate agencies. These data indicate that the rents of flats—depending on the exposure and quality of the dwelling—are at least tenfold the rents paid for flats in local government ownership; however, rents are often twenty or even fifty times the latter. Participants in the property market who buy flats not for the purpose of saving the value (and not even for assuring themselves of accommodation), are involved in speculation. This can be profitable if they buy flats with a small basic area space, lying in central places, or luxury villas in the green belt. According to available information, these are the real properties for which, for the time being, the most paying demand appears. However, it is unlikely that rents will increase further, for the supply is constantly growing, and the present level of rents very likely exceeds the amounts which the market rent must contain. In other words, the rents are greater than the return of the invested capital, the costs of operation, the financial coverage of renovations as a saving in advance, and the profit of the proprietor.

Appendix

In the following we are going to present the details of computing the price indices as related to a basis, and in the form of chain indices.

1. *The variables used for the regression computations*: The comparable data, available for all years, were the following:

— basic area of the estate (T);
— the number of rooms of the estate (S)
— the location of the estate within Budapest (the district, Ki);
— the condition of the building measured on a three-grade scale (good, medium, bad);
— the market value of the estate (Y).

Unfortunately, information characterizing the facilities and nearby environment of the estate is not available, although these, in all probability, strongly influence the market value.

For the sake of maximum utilization of the available variables, the indicator marking the location of the estate within Budapest is $Ki = 1$, if the estate lies in the i-eth district; otherwise, it is $Ki = 0$.

From the district variables and the variables T and S we developed further variables with the formulas $Ti = T * Ki$, and $Si = S * Ki$, and for the best possible estimation of the market values of flats and houses we tried to select from the variables Ki, T, and Ti, S, and Si ($i = 1, 2, \ldots, 22$), assuming that the regression function searched for is a linear one. (We made attempts with other types of functions, too, but these did not bring adequate results.)

Before implementing the regression computation, we somewhat narrowed down the stock of houses and flats by certain limitations applied to the number of rooms and to the basic areas. (In the case of houses we used the limits $1 \leq S \leq 25$ and $30 \leq T \leq 1000$; in the cases of flats, we used the limits $1 \leq S \leq 10$ and $20 \leq T \leq 400$.) In addition, from the houses we left out—for each year—the very few found in Districts I, V–IX, XII and XIII, because we found that they exerted an unjustifiably great influence on the results of the regression computations.

2. *The results of the regression computations*: After several attempts to estimate the market value, in the case of houses we applied the estimating function

$$Y = b_0 + b_1 S + b_2 T2 + b_3 S2 + b_4 T3 + b_5 T11 + b_6 T14 + b_7 S14 + b_8 S20$$

and, in the case of flats, we decided to use the linear regression function:

$$Y = b_0 + b_1 T + b_2 T1 + b_3 T2 + b_4 T2 + b_4 T5 + b_5 T12 + b_6 T21.$$

It was partly the previous examination of the set of data, and partly the application of a new process—the so-called "stepwise method"—which led to this result.

Table 1 presents the "operation logic" of the first regression function, and *Table 2* that of the second regression function.

In *Table 1* the coefficients b_3, b_7 and b_8 all indicate, respectively, how much higher (or lower) the price of an additional room is in Districts II and XIV, (beside a given basic area), and in District XX (apart from the basic area) than in any other district.

The coefficients b_2–b_6 can be considered here as the differences of the specific price per square metre characteristic of the particular districts, compared to the specific prices of the non-emphasized districts.

Table 1

The dependence of the average market value of houses on the factors taken into account

District	Basic price	The price of each further room (beside a given basic area)*	The price of each further m^2 of the basic area (beside a given number of rooms)*
II	$b_0+b_1+30b_2+b_3$	b_1+b_3	b_2
III	$b_0+b_1+30b_4$	b_1	b_4
XI	$b_0+b_1+30b_5$	b_1	b_5
XIV	$b_0+b_1+30b_6+b_7$	b_1+b_7	b_6
XX	$b_0+b_1+b_8$	b_1+b_8	–
IV, X, XV, XVI, XVII, XVIII, XIX, XXI, XXII	b_0+b_1	b_1	–

*In districts IV, X, XV–XIX and XX–XXII, the basic price is the average market value of a one-room house (apart from the basic area, in the districts II, III, XI and XIV it is the value of a one-room house with a basic area of 30 square metres).
The text within parentheses refers only to districts II, III, XI and XIV.

Table 2

The dependence of the average market values of dwellings on the factors taken into account

District	Basic price*	The price of each further m^2 of the basic area
I	$b_2+20(b_1+b_2)$	b_1+b_2
II	$b_0+20(b_1+b_3)$	b_1+b_3
V	$b_0+20(b_1+b_4)$	b_1+b_4
XII	$b_0+20(b_1+b_5)$	b_1+b_5
XXI	$b_0+20(b_1+b_6)$	b_1+b_6
The rest of the districts	b_0+20b_1	b_1

*The average market value of a dwelling of 20 m^2.

Table 3

The coefficients needed for the estimation of the market values of houses

Coefficient	The variable belonging to the coefficient	in the years			
		1990	1991	1992	1993
b_0	–	70.0*	202.4*	39.0*	352.5
b_1	S	734.6	771.9	1091.6	1005.0
b_2	T2	18.1	31.1	9.0	5.2
b_3	S2	155.6	-204.3*	696.7	1612.9
b_4	T3	3.7	17.8	3.8	37.0
b_5	T11	22.5	8.3	2.0*	30.5
b_6	T14	2.0*	36.7	1.7*	88.6
b_7	S14	117.4*	-747.2	542.3	-1775.7
b_8	S20	-248.3	-326.9	-398.7	-337.0
R^2	–	0.392	0.590	0.538	0.526
n	–	1452	433	827	824

In *Tables 3* and *4* we present[17] the coefficients which serve to estimate the market values of houses and, for different years, some other characteristics of the equations. We rounded the values of the coefficients in such a way that the estimating equations should produce market values expressed in thousands of forints. In both tables R^2 means the multiple-determining coefficient belonging to the respective equation, and n the number of respective estates used in the computation.

The results, taking into account the relatively little information available—with the exception of the first year—are fairly good and seem to be suitable for carrying out the tentative computation of the indices. Otherwise, the equations regarding the houses seem to be rather unstable with regard to both the variables and the coefficients belonging to the variables. Narrowing the stock of data or modifying the range of the variables applied in the equations often changed the values of the coefficients to a significant degree. In addition, in the individual years it was not always the utilization of the same variables which led to the relatively good estimation of the market value. This is, to some extent, the sign of the instability of the market and, at the same time, the result of the multicollinearity regularly occurring in the case of applying artificial variables, such as Ti and Si.

The equations serving to estimate the market values of flats are, in all respects, much more stable than those relevant for the houses.

[17] In *Tables 3* and *4*—according to our computations,—two-sided p values, higher than 0.1, belong to the coefficients marked with *. Hence, the coefficients of the variables do not differ significantly from 0. On the contrary, the coefficients without a *, can be considered to differ from 0 in reality, too. This, at the same time, also gives information on the reliability of the regression coefficients appearing in the aforementioned tables.

Table 4

The coefficients needed for the estimation of the market values of dwellings

Coefficient	The variable belonging to the coefficient	in the years			
		1990	1991	1992	1993
b_0	–	-33.1*	435.2	-496.1	-674.9
b_1	T	27.4	20.5	43.0	49.3
b_2	T1	9.2	6.1	15.5	18.1
b_3	T2	12.8	16.0	23.6	24.6
b_4	T5	2.3*	6.3	39.7	40.4
b_5	T12	12.0	20.6	22.6	26.9
b_6	T21	-5.4	-6.4	-6.5	-7.9
R^2	–	0.533	0.554	0.573	0.604
n	–	4076	1078	4069	3673

3. *The average quality composition of the stock of houses and flats.* In this section we give the average values of the variables used in the estimating equations for the individual years. These, on the one hand, provide a concise picture of the houses and flats which are included in the database and, on the other hand, are necessary for computing the corrected average prices.

In *Table 5* we separately presented the average of the basic area (T) of the houses. Although this did not appear in the estimating equations as an independent variable, in the final analysis it still came to be utilized in some districts on behalf of the Ti variables. It can be seen that the houses sold in the different years differed from one another mostly in the size of their basic area. While in the first year it was mainly smaller houses which were to be found on the market, in the following two years, especially in 1992, it was rather the larger ones. (On the background to this, only some guesses are available due to the lack of information.)

In harmony with this, the houses sold in the particular years differed from each other with respect to the variables Ti. For the interpretation of the Ti (and the Si) variables, the average of such variables is nothing other than the product of the average basic area (number of rooms) in the i-eth district and proportion of houses within the i-eth district. So, for instance, the average of the variable $T2$ in the years 1991 and 1992 was $82.29 \cdot 0.0162 = 1.33$ and, respectively $22.49 \cdot 0.0423 = 9.42$.

Thus, in the present case the changing of the variable $T2$ indicates the parallel growth of both the proportion and the basic area of the residential properties in the II District. Since, as witnessed by the respective coefficient, b_2 is in both years a factor increasing the market value, the growth of the average of the variable $T2$ shows the improvement of the quality composition of the stock. Also, the coefficients belonging to the rest of the Ti and Si variables can be interpreted and evaluated in a similar way.

Table 5

Average characteristics of the houses

Variable	in the years			
	1990	1991	1992	1993
Y	2119.00	2404.90	2994.60	3487.30
S	2.49	2.53	2.49	2.48
T2	5.77	1.33	9.42	5.34
S2	0.15	0.04	0.16	0.14
T3	5.09	6.98	6.59	4.37
T11	3.88	2.84	5.59	3.33
T14	7.22	11.57	6.59	6.43
S14	0.20	0.36	0.18	0.21
S20	0.21	0.28	0.25	0.21
T	80.20	78.70	128.00	94.90

The chronologically changing average of the variables in question supports well the earlier stressed differences of the price indices presented in *Table 4*. The average characteristics of the flats are contained in *Table 6*.

Table 6

Average characteristics of the dwellings

Variable	in the years			
	1990	1991	1992	1993
Y	1595.20	1666.00	2129.80	2324.00
T	54.40	54.24	54.21	55.06
T1	0.76	1.29	1.74	1.81
T2	6.08	3.57	4.36	3.73
T5	0.38	0.46	2.54	2.39
T12	4.87	3.30	3.30	2.91
T21	1.56	2.89	1.74	1.67

Here it is perhaps worth paying attention to the development of variable *T*5 linked to the flats in the V District. This is partly given by the increasing basic area of the flats sold here, but is mainly due to the fact that in 1992 and 1993 the proportion of the flats in the V District was much higher within the whole turnover of the flats than it was in 1990, or in 1991.

If we place into one of the regression equations the quality characteristics of the houses or flats regarding one of the years, we obtain corrected average prices of the type of estate in question. The corrected average price relates to the year for which the estimating equation was used. For instance, the corrected average prices of *Table 1* can be obtained if we place the 1990 average quality characteristics of

the houses successively in the equations estimating the market values of the houses for the years 1990, 1991, 1992, and 1993 (the coefficients of these can be found in *Table 3*). The corrected average prices obtained in this way—of which the first one is the actual price for 1990—differ from one another depending on which year is on the price level for which we evaluate the average quality characteristics. Thus they only show the measure of the "pure" price change.

The corrected average prices figuring in the following columns of *Tables 1* and *2* are obtained in a similar way.

4. *The computation of the price indices.* The price indices concerning the houses and flats in *Tables 2* and *3* of the essay were produced by the quotients of the actual or corrected average prices in the respective columns of *Tables 1* and *2*. Since the quotients calculable from any of the columns of the corrected average prices measure the "pure" price change on an equal scale, we considered the non-weighted average of the price indices related to 1990—computed from the various columns—to be the index of the corrected average prices. (For the justification of this, see *Vita* 1975.) The chain indices were computed as the quotients of the basis indices succeeding one another.

The corrected average prices of the total residential properties were gained in the following way:

a) We defined for every year the ratio of houses and flats within the total of residential properties sold in the given year, and then we computed the average of the ratios. (Between the years 1990–1993, the average share of the houses was 0.2253435, and that for flats was 0.7746565.)

b) From the corrected average prices of houses and flats, beside a fixed average quality composition we computed average prices using the average ratios obtained in the preceding step, as with weights.

c) The price index of the total of the residential properties was obtained in the same way as for houses and flats.

The price indices obtained by the described method utilize, to an optimum degree, the information available to us. Their only disadvantage is that, by involving new periods, the value of the price indices may change retroactively. We think, however, that with the first publication of the results of a tentative computation, this is admissible.

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REVIEWS

RETURNS TO EDUCATION IN HUNGARY

J. VARGA

This paper examines how the average social and private rates of return to educational levels changed between 1971, 1986 and 1993, and how the public subsidization of particular education levels developed during the same period. The results show that the private rate of return to apprentice school was the lowest and did not significantly change between 1971 and 1993. The private return almost doubled in secondary education, and there was a three and a half fold increase in higher education.

The social rates of returns changed in a different way in the same period. Despite a modest increase, social returns to higher education remained the lowest among all educational levels. The social returns to secondary education were the highest—significant even by international comparison.

The changes in the subsidization index for higher education—i.e. the percent by which the private rate of return exceeds the social rate—confirm that the growing private returns to higher education can be explained not merely by the greater demand for people with higher qualifications, but also by the growing subsidization of higher education.

Rate of return estimations

Since the 1960s, following the pioneering works of Gary Becker, Jacob Mincer and Theodore Schultz (*Becker* 1975; *Schultz* 1983; *Mincer* 1962), rate of return estimations in education, and the use of the results in educational policy have become widely accepted. Rate of return estimations based on human capital theory accept that education is a type of investment. If it is true that education leads to higher productivity of individuals, the benefits of education are—at least partly—direct and measurable, and can be measured with the help of earnings differentials attributed to education. As education results in direct, measurable returns, it ought to be possible to use cost-benefit techniques in a manner analogous to the measurement of rates of return to physical capital.

Apart from monetary reward, there are substantial non-monetary private benefits associated with education, such as fringe benefits in jobs for highly qualified employees. On the other hand, the social benefits of education also include, in addition to financial benefits, external benefits. Though the existence of such exter-

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nalities is a plausible assumption, there is not enough empirical evidence to settle whether external benefits exist or not, and even less is known about their magnitudes. Many studies have been written on non-monetary and external benefits. However, because of the lack of data and the conceptual problems, rate of return estimations define returns in terms of income and earnings alone. Non-monetary and external benefits are generally not included in the estimations.

Government takes a great share in educational expenditures—the educational "industry" is one of the largest, and it is a growing industry. In Hungary, education employs more workers than agriculture, light industry, and the state administration; in other words, it is the second largest employer among two-digit industries. Consequently, the returns of educational investments are of primary importance. In assessing investment priorities in the education sector, changes in rates of returns can act as an indicator. Those educational levels which should receive priority in resource allocation are those which have the highest rates of return.

There are three main methods for estimating the rate of return to investment in education: the Mincer-type earnings function method, the so-called "elaborate method" which was first used by Becker and Schultz, and a simplified form of the latter, generally referred to as the "short-cut method". (A more detailed discussion of the different methods will be provided in the section below about methodology.) Since the inception of human capital theory, hundreds of estimates have been published about the profitability of investment in education,[1] and the results are employed in assessing priorities in educational policy.

For Hungary, only a few estimations have been made on the private returns, and nothing, as yet, on social returns. In his study about the cost-effectiveness of education, István Polónyi also made estimations of the private rates of return to different educational levels. (*Polónyi* 1985) Albeit with an absence of adequate earnings data, Polónyi made estimations for determining earning differentials. István Baranyai—although he did not make explicit rates of return estimations—used data from between 1982 and 1986 in order to investigate the time the cumulative earnings of second level and higher level graduates would overtake the cumulative earnings of primary school graduates. He also made estimations to determine how long it would take to recover school-related expenditures. (*Baranyai* 1992) Using data from 1986, he found that aggregate earnings of higher level graduates overtake aggregate earnings of primary school graduates at age 41. School-related expenditures of higher graduates are recovered at age 51.

It should be noted that serious methodological problems may arise in connection with these estimations. In calculating the costs of education, both Polónyi and Baranyai include the entire cost of living of students during their studies—an amount consideraby higher than the cost *attributable to education* (for instance, the former include the extra cost of transportation, additional cost of room, board,

[1] The results are summarised, for instance, by *Psacharopoulos* (1984; 1985).

etc.). Therefore their estimations are biased crucially downwards in terms of the rate of return, and the time of recovery they calculate is much longer then the real one.

Kertesi (1995) used Mincer-type earnings functions to study changes in the private rates of return to different educational levels between 1973 and 1993. The results show that during the 1970s the returns to apprentice school and high school increased relative to other levels. From the mid 1980s trends changed: there was a dramatic decline in returns to primary and apprentice school, while returns to higher education and high school increased rapidly. The relative demand for educated labour changed substantially over time.

In this paper an attempt is made to calculate both private and social rates of returns, and the implications of these for educational policy will be drawn.

Though it is theoretically clear that the social and private costs and benefits differ—and thus so do the social and private rates of returns—serious doubts may arise as we come to estimation. First, the rate of return estimations ignore externalities because earnings do not reflect them. Second, it is questionable whether one can approximate the true social productivity of education by working with the earnings of employees according to the level of educational attainment. From the individual's point of view it is almost irrelevant whether earnings reflect one's productivity or not—the additional income attributable to education is the benefit of the individual and individuals are not concerned with the employer's reason for paying higher wages. For society the additional income attributable to education reflects productivity gain if, and only if, employees are paid according to their marginal product. Ignoring externalities induces a downward bias, while the effect uncompetitiveness on the labour market is indeterminate.

The contrast between the social and private rate of return could highlight the public subsidization of a given level of education. By comparing private and social returns, implications can be drawn for educational policy. Reducing public subsidies where subsidization is high or, on the other hand, reducing private costs by increasing public subsidies where subsidization is low, would be socially efficient.

Methodology

In my research, I made rate of return estimations for three years: 1971, 1986 and 1993. For the estimations of 1971 the short-cut method was used, as earnings data were not available by age groups. The short-cut method uses average earnings of employees with different educational levels. Returns to education are estimated on the basis of a simple formula:

$$r_k = (E_u - E_s)/S(E_S + C)$$

where E_u and E_s refers to mean earnings of employees with u and s educational levels ($u > s$), S stands for years of schooling, and C for the direct cost of schooling per year. Although this method seems to be very rough, its use in the calculation of results does not considerably differ from those obtained using other methods.

For 1986 and 1993 the calculations were made using the elaborate, or complete method—that is, by using the standard formula for the rates of return to education:

$$\sum_{t=1}^{n} (B_t - C_t) / (1 + r)^t$$

where C_t refers to total costs of education in year t; B_t stands for the benefits from education in year t—i.e. for the incremental income in year t attributable to education; n refers to the number of years of working life (as data were not separated by gender, working life lasts from age 17 to 57.5) and r refers to the rate of return.[2]

In calculating the social and private rates of returns to education, the following costs are considered in the analysis. *Social costs* include : (1) the per capita (pupil) expenditure of educational institutions, including depreciation (2) direct private costs of education (3) social opportunity costs measured with earnings foregone after tax. *Private costs* include (1) private direct cost of education and (2) private opportunity costs of education measured with earnings foregone after tax. Private costs were reduced with (1) average support for students (2) average part-time earnings of students, which was deducted from estimated forgone earnings of students.

Benefits were measured with earnings differentials associated with a given level of education: earnings before tax were considered in the case of social benefits, while post-tax earnings were used to calculate private benefits. (Obviously the correction was made only for the last year—i.e. 1993—as personal income tax had not existed before.)

Data

Calculations were based on cross-sectional data. Longitudinal data were unavailable for the construction of complete lifecycle income-age profiles. The cross-section approach supposes that the age-education-income relationship is constant over calendar time. Due to this assumption is it evident that there are biases in our results. Studies about problems in the measurement of educational benefits emphasise that cross-sectional studies are likely to *underestimate* lifetime earnings based on education. This is because during periods of economic growth there is

[2] Formerly the retirement age in Hungary was 55 for women and 60 for men.

an upward shift in the age earnings profile of educated labour.[3] In Hungary, in a period of economic transition and of transformation of the school system the relationship between age, education and earnings is obviously also changing. This is not because of economic growth, but due to changes in the relative supply of educated labour and the relative demand for the latter. This very process—i.e. an upward shift of demand for educated labour—was presented in the above mentioned study of Gábor Kertesi.

Notwithstanding the disadvantages of the cross-sectional approach, it also has advantages. Most studies on the economic returns to education are based on cross-sectional data. The most important advantage of cross-sectional data is that it does not need adjustment for changes in the price level, while it is necessary for longitudinal data. The need for adjustment is the most important disadvantage of longitudinal data, because the longer the period for using price indexes, the less reliable will the adjustment be. Furthermore, longitudinal data are affected by fluctuations in the business cycle that may not be easily isolated.

Measuring the cost of education

Wages. The source of the earnings data for 1971 is *Képzettség és kereset* (Qualification and earnings, CSO (Central Statistical Office) 1971), which provides aggregate *mean* earnings cross-classified by education. For 1986 earnings data came from the Wage Survey of ÁBMH (National Office for Wages and Labour) (1988). Estimations for 1993 came from data from the Household Panel Survey of April 1994.

Direct and indirect social costs. The source of expenditure per pupil (per student) in educational institutions is the Ministry of Finance, and these can be found in its financial accounts. Costs of depreciation are estimations. For the calculations I accepted Polónyi's figures for property values in 1970—reported in his study—and accepted the assumption that the distribution of physical assets is placed at 15 percent land, 70 percent buildings and 15 percent equipment. For later years the value of property was derived assuming that property values in year t were property values in year $t-1$, plus capital outlays between year $t-1$, and year t minus depreciation. Furthermore, I assumed that there is zero, 3 percent and 10 percent depreciation on land, buildings and equipment, respectively. School fees are already included in expenditures of educational institutions, so in order to avoid double-counting school fees have not been included in estimations. Similarly, public spending on student support is already included in the expenditures of educational institutions.

[3] This process was documented, for instance, in the study of *Miller* (1965).

There are direct costs incurred by students: these include the cost of transportation borne by students, costs of books and supplies, and costs of accommodation. Since the person being educated is a member of the society, the private direct costs are included in social costs as well. Lacking a direct measurement, an imputation was necessary. For estimations I used results by Baranyai (1992, p. 27) for individual consumption according to main groups of expenditure. Sources for the data on *social indirect costs*—measured with foregone pre-tax earnings of students—are the same as the data sources of earnings.

Private costs of education—School fees and tuition. This item of costs exists only in higher education, for in the state school system tuition is free on the primary and secondary levels. (The number of private school students is negligible). Although higher education is also "tuition-free" at the moment, students have to pay fees for registration and repeat examinations.

Fees for student hostels and costs of accommodation. These costs would not have been incurred had the students chosen work rather than carry on their education. This is all the more the case with regard to Hungary, because most students cannot find a high school or higher educational institution near their home. Data sources for this cost were derived from statistics provided by the Ministry of Culture and Education. Although these statistics cover only students who learn in institutions under the control of the Ministry of Culture and Education, I assumed that their costs are typical for all students. (As more than 70 percent of students are studying in an institution under the control of the Ministry of Culture and Education this assumption does not distort our results.)

Other direct private costs. For data sources for the costs of books and supplies, see above at "data sources for social costs".

Private indirect costs. The private indirect costs of students were measured in terms of foregone after-tax earnings, corrected for unemployment. The correction was made only for the latest year, for in the prior period unemployment was insignificant. For corrections I used unemployment rates with reference to age-groups.

Factors reducing costs. The private costs of education were reduced by different kind of student *supports* such as scholarships, stipends and living maintenance grants. The data source for student support came from the accounts of the Ministry of Finance and the estimations of the Central Statistical Office for UNESCO. (Data can be found in *Appendix*.)

Costs have also been reduced by accounting for the part-time earnings of students. In calculating earnings I have made no distinction between the academic year and holidays. It may be argued, however, that during their holidays students are not restricted the work which they might take on, and so earnings foregone during the three-months long holiday are not included in the costs of education. Students make choices according to their own preferences between leisure and income. Studies on the earnings foregone by students are usually estimated only for

the academic year. (See for example *Schultz* 1983, p. 105.) Nevertheless, in Hungary the typical student does not work full-time during the holidays, and this is partly due to the fact that administrative rules restrict students entering employment. According to the order (officially designated MÜM-OM 11-1980. [VI.25]), students' working hours are restricted to a maximum of 60 hours per month. This was taken as a basis for determining the part-time earnings of students: I have assumed that students (might) earn 22 percent of the earnings of high-school graduates aged 20 to 24, because 22 percent is the ratio of the maximum working time allowed for full-time work. Our results probably underestimate students' earnings,[4] because for the three months of holiday I have used the same ratio as that used for the academic year.

Measuring the benefits of education

In estimating the benefits of education (incremental earnings attributable to education), I used the same data sources as for earnings foregone. Social benefits were measured with incremental earnings attributable to education before tax, and private benefits with earnings after tax. The inclusion of the tax had its greatest effect on the lifetime earnings of employees with higher qualifications. On the one hand, in estimating foregone earnings the inclusion of taxes increased the rate of return—as private costs were reduced with taxes. On the other hand, due to the fact that the inclusion of taxes decreased benefits (decreased lifetime incremental earnings attributable to education), rates of returns were also decreased. Lifetime earnings were also adjusted for unemployment.[5]

Results

Table 1 presents private rates of return by educational levels.

For 1986 the observations refer to the second level (középfok) including the secondary school (középiskola)—i.e. secondary grammar (gimnázium) and secondary vocational (szakközépiskola)—and the apprentice school (szakmunkásképző).[6] For 1971 the short-cut method was used, so the results are rather rough.

Regarding the second level of education the two periods we consider (1971–1986 and 1986–1993) seem to differ. The first period was characterised by a de-

[4] The probability of underestimation is confirmed by a survey of Tibor *Papházi*, Mariann *Szemerszki* and Ibolya *Junghaus*. In 1992 they collected data on 1000 university students. The mean part-time earnings of students was, monthly, 4800 forints. Results of the survey can be found in the study of Papházi (1993).

[5] All data used for rate of return estimations can be found in my dissertation (Varga 1994).

[6] From the secondary grammar and the secondary vocational schools it is possible to reach university but from the apprentice school it is not.

Table 1

Private internal rates of return according to different levels of education—the reference level being the preceding educational level

Educational level	1971	1986	1993
Second level*	–	4.065	–
Secondary school**	4.491	–	8.167
Apprentice school	4.272	–	4.780
Higher education	3.921	9.765	13.431

*Including secondary grammar, vocational and apprentice schools.
**Including secondary grammar and vocational schools.

clining rate of return, while in the second an increasing trend emerged. Here, within the secondary level, the private return to the apprentice school increased only slightly. However, the return to the secondary school doubled. Private returns to higher education increased throughout during the whole period. The results are very similar to those reported by Kertesi (1995), who made estimations with the earning-function method.

The social rates of returns increased on all educational levels between 1971 and 1986, and between 1986 and 1993. The results suggest that—in contrast to the private rate—the social return was lowest in higher education. This is tantamount to saying that higher education was, publicly, subsidized the most.

Table 2

Social internal rate of return to different levels of education—with reference to the preceding educational level

Educational level / Year	1971	1986	1993
Second level*	–	2.242	–
Secondary school**	1.510	–	5.990
Apprentice school	1.350	–	2.582
Higher education	0.550	1.021	2.560

The contrast between the social and private rate of return can be used to highlight the extent of public subsidization of the different levels and types of education. *Table 3* shows the difference between private and social rates of returns over time.

The results show that public subsidization of higher education increased substantially between 1971 and 1986, and continued to grow in the years 1986–93. As the length of the two periods differ, I made estimations for the average annual rate of growth. In the first period the annual rate of growth of subsidization in higher

Table 3

Differences between the private and social returns to education, according to the level education attained (Private return—Social return)

Educational level / Year	1971	1986	1993
Second level*	–	1.82	–
Secondary school**	2.98	–	–
Apprentice school	2.92	–	2.20
Higher education	3.37	8.74	10.87

education was 10.6 percent, and it was even higher in the second, when the growth rate rose to 16.1 percent. In the second level subsidization changed in a different way.[7] Between 1971 and 1986 subsidization declined both to apprentice schools and to secondary schools by an annual rate of 2.5 percent and 2.6 percent respectively. Between 1986 and 1993 subsidization began to increase, albeit to a smaller extent compared to higher education. The apprentice school's subsidization grew by 2.9 percent annually, whereas the ratio of secondary school's increased by 2.7 percent annually.

Comparing these results to those of higher education, we can conclude that the public subsidization of higher education had a decisive contribution to its growing private profitability—the growth of private profitability was to a great extent caused by a declining proportion of private to total costs.

In all countries and levels of education, private returns exceed social returns, because education is publicly subsidized. The private-public distortions in some countries—mainly in the poorest group of countries—are great. However, in the case of Hungarian higher education it is uniquely high. *Table 4* quite clearly illustrates this point by comparing indices of public subsidization in various countries and according to different educational levels. The subsidization index for a given level of education is defined as the percent by which the private rate of return exceeds the social rate.

After estimating subsidization indexes for Hungary, in 1993 we get a value of 36.3 for high schools. According to figures in *Table 4* this index is in a range prevailing in Latin America and in developed countries. For the apprentice school the index in Hungary was rather high in international comparison, showing a value of 85.2. The results for higher education are significant. The subsidization index is highest in Africa, with a value of 157. The figure for Hungary exceeds usual levels, showing a value of 424.6.

[7] As for 1986, the data were available only for the second level as a whole. Consequently, I made the assumption that subsidization was equal for secondary schools and apprentice schools.

Table 4

Index of public subsidization of education by level and region

Region	Primary level	Secondary level	Higher level
Africa	92	51	157
Asia	58	13	9
Latin-America	104	47	50
Country type			
Intermediate	51	6	7
Advanced	n.a.	21	44

Source: Psacharopoulos 1985. Returns to education: a further international update and implications. *The Journal of Human Resources*, No. 4.

The increase of subsidization to such extreme levels was a result not only of the changes in earning differentials, but also due to differences in unemployment probability by educational attainment. The degree of public subsidization is so high that a reduction seems hard to avoid. Reducing the public subsidy level is one tool for increasing the social pay-off of higher education. The other tool could be a further expansion of higher education. *Table 5* shows how the social rates of return to higher education would change under various assumptions on the marginal cost of further expansion. First I assumed marginal to average cost ratio to be 90 percent, then 70 percent, and finally 50 percent. Social rates of return to higher education are extraordinary low. Nevertheless, estimations of sensitivity in estimated returns show that a further expansion of higher education could improve the rate substiantially. (It seems to be very probable that the small increase in social rates of return to higher education between 1986 and 1993 was caused by the increase in the number of students in higher education.) However, even if marginal costs were 50 percent of the average costs—which is an optimistic assumption—the social pay-off to additional investment in higher education remains low compared with secondary education.

Table 5

Sensitivity in estimated returns to higher education

Marginal to average cost ratio	Social rate of return to higher education
1.0	2.56
0.9	2.68
0.7	3.74
0.5	5.24

According to social rates of return to secondary education, it is this level which should receive priority. This is demonstrated not only by rates of return estimations, but also by other facts. *Table 6* and *Table 7* show net enrolment rates in full time education between the ages of 14 and 24. Net enrolment rates reflect the percentage of the population in a single age cohort who are enrolled full-time in education. As shown, the Hungarian enrolment rate is low compared to OECD countries, even at age 16. However, participation decreases sharply in Hungary after age 17 and the difference with respect to OECD countries increases.

Table 6

Net enrolment of 14, 15, 16 year-olds in full-time education (including apprenticeships)

Age	Hungary	OECD country mean
14	90.6	92.9
15	85.0	92.1
16	73.0	83.9

Source: Education at a glance. Table P13. OECD. 1993.

Table 7

Enrolment rates for full-time education in Hungary and in the OECD countries, ages 17-24 (1991)

Age	Secondary education		University		Non-university type tertiary education		Total	
	Hungary	OECD	Hungary	OECD	Hungary	OECD	Hungary	OECD
17	49.3	70.6	0.0	1.6	0.0	0.8	49.3	73.0
18	11.9	43.6	2.4	9.2	2.9	3.9	17.2	56.7
19	4.6	22.7	4.3	12.3	5.2	6.5	14.1	41.5
20	0.0	12.2	4.9	13.5	6.1	6.2	11.0	31.9
21	0.0	5.8	4.9	13.2	4.8	5.0	9.7	24.0
22	0.0	4.2	4.6	11.6	2.6	3.7	7.2	19.5
23	0.0	2.2	3.8	9.6	1.4	2.7	5.2	14.5
24	0.0	1.5	2.2	7.6	0.7	2.0	2.9	11.1

Source: Education at a glance. Table S8., S)., S10. OECD, 1993.

The need for the further expansion of secondary education is supported by hard evidence. Our estimations on the degree of public subsidization also support such an expansion. For the moment secondary shool students bear the cost of their education mostly themselves. Both a more efficient allocation of resources and equity considerations would justify increased social spending at the secondary—as opposed to the higher-level.

Appendix

Table A1

Per pupil (per student) expenditures of educational institutions (forint per year, at current prices)

Level and type of education	1971	1986	1993
Primary school	3,129	15,336	81,278
Apprentice school	6,542	23,023	102,363
Secondary vocational school	7,272	23,514	111,210
Secondary grammar school	5,387	20,914	82,797
Secondary school	6,303	22,474	97,382
Second level	6,382	22,226	320,594
Higher level	28,470	66,432	320,594

Source: Estimations based on data of the Central Statistical Office.

Table A2

Average total private costs of education by level (forint per year, at current prices)

Educational level	1986	1989	1993
Secondary level	48,796	54,167	113,117
Higher level age 19	25,737	16,242	69,236
Higher level age 20-23	30,141	20,473	75,321

Table A3

Average total social costs of education by level (forint per year, at current prices)

Educational level	1986	1989	1993
Secondary school	–	–	239,104
Apprentice school	–	–	244,085
Second level	77,557	102,909	–
Higher level age 19	128,264	205,000	537,972
Higher level age 20-24	132,668	210,097	547,391

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IS THERE AN ECONOMICS OF TRANSFORMATION?
Comments on the Third General Session of the European Comparative Economics Society (EACES)

L. CSABA

On 8–10th of September 1994 the chair of Comparative Economics of the Budapest University of Economics, under the direction of Zoltán Bara, was host to the third general session of the European Comparative Economics Society (EACES). The aim of the Society is to reintegrate into the main current of economics the ideas raised by the countries undergoing systemic changes. This was the first time that EACES had held its programme in a country in East Central Europe (ECE). Thanks to aid from the Tacis and ACE programmes of the European Union there were participants from other countries undergoing economic transition. Overall 200 participants listened to the ideas of 105 lecturers. Here, space does not allow a comprehensive survey of the wide range of topics dealt with during seven parallel

sessions. A few ideas might, however, dispel a prevalent attitude that "autarchy" is threatening the discipline.

The society has more than 400 members from Portugal to Estonia and this is wide enough to signal the extent to which the economics of transition might lose its way in the maze of everyday occurrences, or appear as a reconstruction of socialist normality. Perhaps it would be better if it were to be identified by the—largely neglected—recipes from the consultants increasingly flooding the ECE scene.

The society was founded in 1990 in Verona and its original problem was how to create a true market economy as quickly as possible. In 1992, in Groningen, the central topics were the costs of stabilisation and transformation. In 1994, in Budapest, there was tendency towards removing ideological elements from the overall problem. Not only was the question *how* put forward, but that of *why* was increasingly raised by researchers and practitioners of systemic changes. The question of who (and at what price) will arrive at capitalism was crowded out by the question of what kind of capitalism will emerge in the East. The 1990 session held in Verona concentrated on the choice between American and Swedish capitalism and between slower and quicker transition. In 1994 the questions ranged from the relevance of Chinese experiences through the necessity of regulation, up to the new equilibria arising from the disintegration of empires. Equally interesting is the development in the history of ideas that the topic has undergone. At one time it seemed that Sovietology and comparative economics were self-contained, and strictly separated—due to the special knowledge and abilities required—from the mainstream of other sciences (especially economics); nowadays this separation is relative. Researchers investigating our region are usually based in established chairs and institutions dealing with larger topics, and they often work with formalised models and rely on a wide range of schools and methods. Unlike the policy-makers of our region, one cannot observe in their research the hidden or open resurrection of Keynesianism, or the cult of crisis-avoidance and growth-enhancing measures. Instead, approaches connected with the *mainstream* (i.e. reliability, stability) have gained ground. This is why a new direction has also emerged in monographs and the main journals. This direction takes into account the challenge of systemic transformation and, beyond this, the application of original theories to try to obtain some feed-back from experiences so far. This naturally cannot in itself demolish the decades-long gap between economics and consultations over policy.

This was characteristic for lectures at the plenary session of the III EACES conference. Rudolf *Andorka* in his lecture pointed to the fact that the largely simplified ideal types of individual science, *homo oeconomicus* and *homo sociologicus*, are unable to direct us in the intertwined topics of systemic change and are unable to forecast processes.

Geoffrey *Hodgson*, a professor from Cambridge University, investigated the role of institutional economics in the understanding of systematic change. He rightly stressed that if the ideologism of the old institutional economics resulted in

"deinstitutionalisation" of the neoclassic school, neo-institutionalism tries to save the explanatory role of institutions and social relations not by denying neoclassical synthesis but by building on it. Applied to the problematic of systemic change this line of thought might be the basis of two important conclusions. On one hand, if the market is not a black box to be reduced to elementary facts, then the disintegration of the old system will not result in a rapid upswing. The market and its institutions might be built up and internalised, for its autonomous growth is slow and destructive. On the other hand, beyond the internalisation of cultural factors there is nothing astonishing in the fact that the capitalism developing in Eastern Europe might be different in the long run from that of Western-Europe, in the same way as driving on the left is different from driving on the right. A perfect example of the applicability of the neo-institutionalist school was the lecture held by Wim *Swaan*. The study, which won first prize in the EACES dissertation competition, presented the birth of Hungarian price liberalisation and its impact on the behaviour of economic actors. A special merit of the study is that it stressed the point that from among conscious reform steps and erosion processes the latter were more powerful, although the links between the two are undeniable. In international comparison the Dutch researcher denied the transferability of Hungarian experiences to the Russian and Polish environment, as well as the reverse. Thus lectures saying "let us follow the Polish way" are futile. In vain had it been suggested to Gaidar—by Russian researchers present two years ago in Groningen—to follow the Hungarian recipe. This was because there was no administrative capacity to apply it, not to mention the necessary diagnosis. In a similar way, after two decades of Hungarian liberalisation issuing into systemic change, the suggestion of gradualism was unintelligible. At the same time, Hungarian firms were not as shocked by monetisation and decision autonomy as their Russian counterparts: for the Hungarians it was not the start of a new era.

Bruno *Dallago*, a professor at the University of Trento, challenged the widely held Western standpoint which deems the disintegration of the empire to be deleterious and retrograde. In this latter opinion the starting position is not that of general equilibrium, being burdened with many kinds of deformation and disequilibria. New disequilibria displacing them are not necessarily deleterious and/or devastating: Estonia and Slovenia are good examples that there are not only losers in the new situation and new equilibria might be durable. In his lecture he tried to set up a new interpretative-notional framework, also taking into account non-economic factors. This approach exemplified the new strand of international literature called "political economy"; it constitutes a broader approach than the decades-long twisting and turning around law of value and proportionality.

A similar approach was that of Vittorio *Valli*, a professor at Genova University. He presented the positive and negative aspects of the process of achieving a more integrated Europe. He called attention to the fact that the Maastricht model stresses, unilaterally and fragmentarily, monetary processes which neglect the social

processes underlying economic merger. In final account these processes appear as basic figures about the central budget. Progress in the financial field perpetuates the retardation in the social field and the latter disintegrates the whole process. The multispeed model does not help the neglect of non-monetary factors.

In his lecture comparing the Visegrád integration with the CIS disintegration, László *Csaba* regarded it as a decisive difference that, in the first case, there is an attachment to a large external market, while in the latter this is missing. As a derived, supplementary integration Visegrád will survive; however, in CIS the familiar CMEA situation—"neither with you nor without you"—will be perpetuated, relying on the weak internal integrational force of money.

Milica *Uvalic*, professor at Perugia University, compared Serbian and Croatian economic policy. Her lecture was richly illustrated with data showing how the strong synchronism of the economic policies of the two antagonistic countries emerged. This process was completed with the parallel stabilisation turnaround of late 1993. Uvalic stresses the fact that in the two countries different names are given to similar phenomena: "etatisation" reduced in Serbia, while privatisation increased in Croatia the influence of the state over firms.

Mario Domenico *Nuti*, professor at Rome University and the London School of Economics held a lecture about the enlargement of the European Union and the chances of joining of transition countries of the ECE. Nuti pointed out that there was no strong rigidity in the European Union nor among its member countries, and this he demonstrated with the spasmodic defence of income distribution ratios. One can deduce from this the perpetuation of the Common Agricultural Policy, the petty protectionism of foreign trade and labour market regulations. Nuti believes the decision-making system has been confused by the "Northern enlargement". The European Parliament increasingly reminds us that the Council of People's Representatives is technically unable to adopt medium-sized countries. Nuti warns against separate ways for ECE countries but does not deny that member countries and the Union itself have no comprehensive strategy for dealing with the system changers of ECE.

In his extensive analysis of Polish privatisation Bogdan *Mróz*, lecturer at the Warsaw University of Economics, stressed the vast difference between plans and reality. Whereas Poland was the first country where mass privatisation plans were formulated, at the time he was writing Mróz pointed out that the Polish prime minister had still not signed the first—albeit experimental—mass privatisation programme. In the first quarter of 1995 there were still five and a half thousand state firms waiting to be transformed into partnerships. The liberal opposition blame this tardiness on hidden renationalisation and the postponement of definite privatisation. In the privatisation plans a large role is given to branch and country level organs. Finally, with every technique employed so far, one can detect the absolute preponderance of income distribution and questions over power and ideology relative to the improvement of firm level management. Thus Poland—known as

a "shock therapist"—has advanced at a snail's pace in the sphere of institutional transformation and under the left-wing-peasant party government one cannot hope for much change in this pattern.

In her lecture Katalin *Szabó*, a professor at the Budapest University of Economics, spoke about the social pathology of Hungarian privatisation. She compared empirical research findings with the popular assumptions about the microeconomic sphere and stated that in reality the microeconomy has hardly been considered in Hungary. There is much constraint, bargaining, tax avoidance and muddling through in business ventures. Therefore the statistically disclosed advance of the private economy cannot be identified with the real advance of a modern market economy.

The same phenomenon was treated from another point of view by Daniel *Daianu*, the leading economist of the Romanian National Bank. He examined the change in the forms of tension in the economic system. In his opinion a system which was deformed for decades cannot undergo market impacts without consequences: if this is tried—as with the stabilisation and liberalisation package of the IMF—the self-defence reflex of the system will be activated in order to alleviate the otherwise unbearable shock. This is reflected by interfirm indebtedness in an environment of high inflation. Liberalisation shocks only transform the nature of the rigidity in the system.

Morris *Bornstein*, professor at Michigan University, analysed the implementation of the Russian mass privatisation programme. His analysis surveyed a whole range of decrees, regulations and local implementations and it demonstrated that there is no return to the system of planned economy; however, the peculiar ownership system which has arisen cannot be called—according to economic criteria—a private economy or capitalism.

Péter *Mihályi*, the deputy of the government commissioner for privatisation in Hungary, held a lecture about the present and future of Hungarian privatisation. According to his analysis in Hungary the procedures for artificially increasing the number of proprietors have failed: they have not resulted in a more equal distribution of property and income. Nevertheless, this had not created a situation in which people deemed it more appropriate for the government to obtain property. In fact, the loss of value of state property has continued and firm management is rarely efficient. The new office of privatisation tries to complete the process over two or three years. They deem sale for real and not fake money a better solution since this might reinforce the process of creating capital-intensive and knowledgeable proprietors and clear the position of insecure state firms. Wladimir *Andreff*, a professor at Sorbonne and the newly elected vice president of EACES, stressed that French experiences showed that changes in ownership always produce a power problem. Beyond the direct political aim of privatisation (supported and speeded up by the Balladur government), there was also the desire to reinforce the govern-

ment's expertise in handling privatisation. Efficiency is a problem but it is not an overwhelming difficulty.

The same problem—i.e. the duality of power and efficiency—was characteristic of the lectures on marketisation in one-party Asian countries. Everybody agreed that in the one-party systems of Asia nothing had happened which could be called systemic change. At the same time, the emerging market relations make irrelevant the main course of normative transformation theories which generalise the Polish-Russian experiences. What is the sense of shock therapy versus gradualism in a situation in which the economic power status of the communist party is being eroded spontaneously? Will there be a transformational fallback in Vietnam where there is neither heavy industry nor a heavy industry lobby? As to the latter, Sisira *Jayahuriya*, fellow of La Trobe University, deems it probable that in Vietnam the activism of industrial policy will be less in the period of transition to market economy than in Korea. H. *Wang*, a China-researcher from Duisburg says that in the case of this Asian giant one cannot speak about a great leap or about gradualism, since the Chinese leadership has had no wide-ranging, definite strategy which demonstrates obvious preferences. M. *Zsu*, an associate of the World Bank, presented this statement on the basis of an analysis of the long-term development of the Chinese budgetary system. China, for the first time in its history, is applying a procyclical, regressive tax system. As a result, by the end of 1993, the central budget ruled only a little over 16 percent of GDP. This has not increased the freedom of firms, but it has benefited regional governments, especially the richer ones. The average income difference between regions has grown from 1.2 in 1978 to a situation where it can be 8 or 9 times greater (which is similar to Europe). A characteristic bottleneck is the production of public goods, from energy to classrooms and public security. To make the picture full J. *Zhou*, fellow of the Firenze based European University, presented a study showing that there is neither a plan nor a market system for landed property. From all this it is clear that, with the preservation of despotic power, one cannot deduce the characteristics of enlightened central rule which the researchers of comparative economics often suggest exists in China and offer to governments engaged in systemic change.

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BOOK REVIEWS

VÁGI, G.: *Mezőhegyes* (Photos by Sándor Kardos. Arranged and edited by Pál Závada.) Budapest: Századvég Kiadó. 1994. 323 p.

The main dimension of society's being is time; that of its connections is consciousness of time. With respect to its final outcome, a human-sociological examination pressed into a moment of time, however deeply made, is hard to distinguish from one about honey bees or termites. Hungarian sociology has always been historically oriented and it is very likely that this can be traced back to the following: that sociography has always reached back at least to the preceding generation, indicating the changes of the institutions and their economic environment. This has made it possible to interpret the individuals of the analysed group or stratum and/or the relations among them at the time of any given survey.

Gábor Vági's *Mezőhegyes* is, with regard even to the aim of the study and the manner of its description, a historical sociography.[1] In it he represents the society of a unique and complex settlement system—the Centre linked to the state-owned estate of Mezőhegyes and some manors and farmsteads. In the past the number of the latter has stood at more than eighty, but it is now about twenty. With respect to depth and details he, so to say, puts under a magnifying lens the starting and turning points of the vicissitudes, the rearrangements back and forth, of the generation surviving the last war, and what it had to suffer: i.e. servanthood, liberation, land reform and the undoing of it in 1956. The loss of land was assumed to be the last of the big changes, but this in fact turned out to be the settling down in the shadow of the omnipotent Centre.

Furthermore, fitting into the tradition of Hungarian sociography, the *Mezőhegyes* of G. Vági can also be considered a literary work. The book is composed of individual parts belonging to different sorts of genres, or using various methodological solutions—be they a literary essay, report, interview, presentation of a document, a study of settlement sociology or of social history, or a treatise on morals. However, a degree of unity is provided by the sociological attitude of the author and by his narrative style. The latter is unique in Hungarian sociology and it cannot be mistaken for the work of anyone else. At the same time, the tensions of the narration have their origins in the fact that the author confronts the data and personal experience gathered by himself with those of others. Also, an element of rivalry can be sensed in this methodology—namely, there were some rivals to compete with.

The arrival of Géza *Féja* in Mezőhegyes was, for instance, a dramatic scene: in the fields reaper girls, bowing down at his presence, and in the Centre small mansions, and dainty carriages of the type represented in picture-books. The cows of the model-farm calved on sheetings, and infant mortality among the servants was 20 percent. Thirty years later *Vági* "lands" smoothly, the train puts him down in the middle of the village, and the picture is altogether "pleasant". The houses of the servants' quarters are far away.

The first and the second hundred years of a big estate

What really is this Mezőhegyes? It is a large estate founded by King *Joseph II* originally for the purpose of horse-breeding in the one-time Csanád county (horses were needed for warfare); it also comprised a model-farm (the "horse-breeding department" was cleverly separated from the "farming department") with industrial plants, water supply (in the stalls), and equipped with telephones even before World War I. The situation was the same in the interwar period, when (almost) every servant family had a room, every two rooms had a kitchen,

[1] The authoress expresses her gratitude to Ágnes *Losonci* sociologist, Éva *Palócz* economist, Katalin *Németh-Fülöp*, and Márta *Fügedi*, folklorists and also to Pál *Závada*, editor of the volume, for their valuable advice in the preparation of this review.

the seasonal workers and harvesters were paid partly in kind (being provided with "accommodation" in the form of iron beds), and there was also some type of a health insurance. It was, at the same time, in principle, a village community. In other words, the state provided public administration over the Centre and the widespread manors and farmsteads. After 1945 Mezőhegyes became a state farm (later on an agricultural combine), organized around several productive branches and business units with mobile headquarters. Finally, a local community council was also established. When talking about Mezőhegyes as a community, one should not think about a village surrounded by fields: the area of Mezőhegyes is about two hundred square kilometres: from the north to the south it is almost a day's journey.

G. Vági, in the analytical chapters of this book (i.e. Ch. III *The Centre*, Ch. IV *The Mansions*), gives a careful, systematic and detailed description of the areas north and south of the Centre, and east and west of the main street. He also examines the residential districts and the nature of the buildings in those districts. There is an account of who and how many are living in the flats, their levels of comfort, and how many children they have. Stopping here and there for a moment, and calculating the statistical, the dissimilarity and segregation indices, one may speculate on whether agricultural physical work, small flats, and many children are hindrances to building a bathroom; and whether the availability of a bathroom is a hindrance to introducing running water in the flat.

In the foregoing we mentioned the centre of the Centre. In Mezőhegyes the centre of the estate (later on, a large-scale socialist farm of twenty thousand hectares) has always been very close to the Centre, and the managements of the two were separated mostly only formally (before World War II there was no separation at all).

Even the Centre itself is a complex settlement: the centre, which includes the offices and the dwellings of the leaders of the industrial plants, are linked to the Centre, and there are newer and older housing estates belonging to them; this is complemented by the two residential quarters: the one called "Újtelep" (New settlement) and the other Ómezőhegyes (Old Mezőhegyes). Here neither streets, nor gardens can be found. Kitchens, pens, conveniences lie in front of the door or behind the house. In more favourable examples it can be considered a success if fences separate the living-spaces of some of the families.

What earlier visitors and their accompanying journalists saw in Mezőhegyes, was not the same: the friends of the Habsburg crown-prince or the governor dashed to the horse-show between shady rows of trees. After 1945, the visiting reporters—depending on their party stand and/or on the actual directions of the winds—deemed the dwellings of the new peasants, of the factory workers, or of the white-collar workers sometimes beautiful and modern, at other times obsolete and fit for being pulled down. No mention was made about the row of servants' buildings.

A manor is greater if it is the headquarters of a business unit: if it is smaller and perhaps contains only one or two flats, it is unlikely to be a business centre. These flats were earlier official quarters with workers of the state farm living in them. Sometimes the state farm gave them up and they became council manors, while the flats became tenement-dwellings owned by a council. There were even some manors which were connected to another village because their tenants were working in the agricultural cooperative of that village.

In the late seventies the outer areas of Mezőhegyes had a population of five thousand, in the Centre the figure was four thousand, and in the centre of the Centre there were 550 people. The analysis of the dwelling situation demonstrated quite clearly that in the hierarchy of occupations the brain workers stood at the top of the rankings, the non-agrarian physical workers were on the middle level, and the agricultural workers were the lowest rank; it was also plain to see that the middle group mixed upwards rather than downwards. Thus the occupational hierarchy had stiffened into a social hierarchy, and this survived even after the time when only a smaller proportion of these people found a job within the state farm or in the fields own by the

state and falling within the territory of the village of Mezőhegyes (i.e. 1800 of the village's 3900 active earners). Of the former, about a thousand were living in the manors at the time of the study. The number of employees in the state farm was greater than that: many came to work from the neighbouring villages; yet there were some who did not even have to come, for they were living in those villages where the state farm had acquired new properties in the 1950s and 1960s.

In the first part of *Chapter V*, entitled *To be a servant*, we receive an excellent summary of the history of the servants' legal relation and a classical description of servanthood (by *Illyés* and *Erdei*). Special stress is laid upon the fact that the position (and not his performance) of the head of the family in the place of employment unequivocally determined the financial circumstances and chances of work of all family members. Furthermore, the discipline of the labour organization of the large-scale plant also had a bearing on the private life and activities of the family members. It can be considered a new achievement and a special type of approach that the author calls attention to the fact that the manor as a type of settlement has a determinative or at least conserving role in maintaining these relations. Hence—as he notes—the servants had quite a lot to be liberated from. *Chapter VI* is entitled "*The versions of liberation*"; compared to the approach mentioned above this seems to be an enchanting digression, from which it comes to light that, contrary to the statements of the tearful and gloomy local histories, in the autumn of 1944, while the Russian front approaching, the German and Hungarian troops had no time to evacuate the state farm; the region of Mezőhegyes fell within a few hours and the farm instantly came to be "home territory" under Soviet command. It thus became an army service area, with all the usual consequences of such a situation.

When Péter *Veres* made a trip to Mezőhegyes to announce the land reform (in order that the land distributed first should be state-owned land and, moreover, the best land in the country), it was said that of the 30 thousand "holds" of the estate, one "hold" being 1.42 English acres, 24 thousand would be distributed. After a few days it turned out that only 15,600 "holds" were allotted. One third of the latter figure, was received by the servants, and the rest divided among the agricultural proletarians of thirteen villages. These agricultural workers were resentful because of the shortage of land. Finally, land was granted to 3063 family members, of whom 876 were servants. When they saw that they were to receive much less land than had originally been claimed, almost the same number of the servants drew back. Those servants who received a piece of land, with the permission of the estate, pulled down a part of their servant houses and built up the farmsteads which came to comprise villages. This was the way in which one of the above-mentioned "New settlements" was born.

Meanwhile, hard battles were fought between the parties. The communists supported the new farmers, while the social democrats supported large-scale plant and those working in industry—the so-called "industrialists". In reality the front-lines were not as clear as this: the population of Mezőhegyes, especially those who had only recently obtained land, went to battle with the neighbouring villages, and the new farmers within them (the latter were referred to as the "villagers"). In some cases the "villagers" managed to get their land annexed to the area of their village. However, regarding the matters of purchasing building materials or borrowing yokes, they were usually in a disadvantageous position.

Following this, a whole chapter of the book is about how power deprived these three thousand families, quarrelling even among themselves, of their land. According to one of the quoted texts, the new farmers, "after the attempts of two or three years, became convinced of the advantages of socialist large-scale farming" and sidled back into the state farm, or asked for admission into one of the agricultural cooperatives. In 1953 many persons claimed back their land, and in 1957—owing to a government decree, 2661 persons tried to do the same. Only ten of them received back their property, altogether 26 "holds". The rest were rejected, the argument of the authorities being based on the shortage of land. In the meantime, of course, there was a revolution, with gatherings, strikes, and other claims. It is one

of the most heartbreaking peak events of not only this book, but of the whole history of 1956, when the workers of the state farm, as a revolutionary claim, requested the pre-war servant "wages"—i.e. payment in kind, which included the 56 kilograms of lard per year. After all these events nothing was left but to legally expropriate the land deserted by those who had earlier been granted it, and to chase the less than five hundred farmers (who remained in the area of the village) into agricultural cooperatives. This was fully implemented. However, no agricultural cooperative remained in Mezőhegyes. The one which had been organized in some of the manors was either liquidated or was joined to another village.

"Fleece him, like a sparrow!" says the sometime new farmer, remembering his own fate. Gábor Vági visited the former exploiters of the peasants—i.e. people of the districts and counties, and the propagandists. He collected their ordinances, resolutions, and protocols. They were mostly fellow sufferers with their victims. They had been esteemed people who had excelled in their respective spheres of interest, and became members of national committees and land claims committees owing to the confidence of the rest. They did not even notice when they forfeited honour. They were sent to various types of training school, and became officials in charge of supervision, clerks responsible for the membership of cooperatives, and council presidents in foreign regions and villages. These "experts" hardly understood the parlance of the local people, and by pursuing some minute plan target they ruined hundreds of families. In the course of their careers the rank order of social and movement virtues changed more than once. Finally, obedient servant fidelity came to have a highly ranked position. The workers' consciousness could shine splendidly if it rested satisfied with shining (and with a certain distinction from the others). It was the "villagers" who constantly caused trouble for, though they ceased to be landowner peasants, and showed up as either permanent or seasonal workers (either in the state farm or in the sugar factory), they were always discontented and interfered in everything.

The above details summarize the second half of Vági's book. It shows that, like in other state farms, right up to quite recent times an incalculable wandering population appeared in the manors. This population was ready to undertake the heaviest work (if it was well paid), would live there for a while, and then afterwards would move on. It is also a country-wide phenomenon that, by the time this book was finished, the village-like "New" settlements had become depopulated. Their inhabitants had grown old, and young people no longer wanted to move into them. The farmsteads were already in very poor condition at the beginning of the survey, and also some of the mansions had begun to empty. This is a usual pattern when the composition, technology, and/or organization of large-scale production begin to change.

Prolongation of the history

In 1969, a few researchers of the Institute of Sociology sent interested students into the countryside, to discover Hungary. Gábor Vági, as a student of the University of Economics in Budapest, came to Békés county and to Mezőhegyes with a group of students. Since he had some relatives in the county, he was at home in the region, and he began to return repeatedly. This circumstance was very important in helping him to find some local residents who knew the history of Mezőhegyes well. The material for the book was gathered over two decades and, though it is a rounded whole even in this form, it remained unfinished in the sense that the author wanted to devote an independent chapter to the history of the "villagers". However, the summary and generalization of the experience he gained with them became the subject of another of his essays. Here, too, the village ceased to be the scene of agricultural production—in other words, the social character of the inhabitants is defined by emigration, organizational emptiness, and desolation. Using the data of the settlement-social studies of "Mezőhegyes"-type cases one can draw the conclusion that the village, or some village-like settlements like Mezőhegyes followed just this model.

With regard to the recent history of Mezőhegyes sources are rather scarce. The most important additional material was provided by the lectures of the 1991 village conference in Pécs. From these it turns out that the backwardness of the fragments of former counties (as with the residual part of Csanád, which is joined to Békés), had increased in comparison with the inter-war period; in Békés county, from 1989 to 1990 and within a single quarter of a year, unemployment more than trebled. Within the state farms the position and mood of the agrarian intellectuals in lower posts—i.e. the "white-collar servants"—was bad. Radio and newspaper reports indicate that in Békés county the disputes about land have always been very sharp, though the state farm was not affected by such news. It is mentioned in other sources that following a new foundation in 1992, the name of the state farm was changed to "Mezőhegyes Horse-breeding State Establishment Co. Ltd." This company became indebted and the state, as its proprietor, tried to solve its crisis by complicated capital operations. Thus it followed the fate of all state-owned companies which were destined to be maintained. However, the management was also changed, as in other similar cases. Before the transformation the actual area of the combine amounted to 18 thousand hectares; the founders expected that following the implementation of compensations, 9–10 thousand hectares would remain. The compensation measures meant that half the property was sold against compensation notes (the deadline for subscription was 21 March 1994). In a radio interview it was announced that the structure of the farm was to be changed: the pig herd was detached from it, but the horse-breeding remained; investment in an irrigation project was started, and this is to cover 3000 hectares. The new management wants to produce hay, using new production technology, and wishes to keep a valuable breeding stock of cattle. As publicity for all this "property-shows" have been organized (probably the 1988 National Exhibition was the first one of this type). All that is known about manpower is that the number of the farm's employees at the end of 1992 was 1500 and that in the near future significant dismissals can be expected.

The book that was born

This work and the whole sociological *oeuvre* of Gábor Vági cannot be closely linked to any particular sociological or sociographic school. This may be considered something of Hungarian tradition, but perhaps it can also be attributed to the fact that in addition to Anglo-Saxon and German literature on the subject, the author dealt deeply with publications of French and sometimes Russian researchers. *Mezőhegyes* is, from beginning to end, social criticism, without demonstrating overt agitation. It conforms with the views of *Bibó* and *Erdei*. In the words of István *Bibó*: "...in true social criticism stress must never be laid on atrocities and gruesome cases", and "...where the troubles are due to a hopelessly bad, distorted power structure, there is no sense expecting a remedy from those responsible according to the record books, and to turn to them with the complaints".

It is not the mixing of scientific and literary styles that distinguishes this work from the works of former and new village explorers: there are plenty of examples of both in the works of the latter. Nevertheless, it is what in the short preface to the volume, *Pál Závada*, editor of the book, calls "gentle irony". This rather personal irony, citing the events of bygone days, becomes, in certain places, artistically playful. Approaching the present, it speaks to its own generation, which grew up, in the strict sense of the word, on contemporary literature and art-kino-projections. Undeniably, the ancient formal charm of that age hovers about even in the documents of this era. "Even violence (if it does not degenerate into murder), carries in it a special flavour, i.e. the flavour of stupidity and malevolence." (p. 108). The cited passage is taken from the introduction of the chapter dedicated to the fifties, entitled typically "*The so-called years*". The gentleness of the irony is also maintained here, due to the fact that here there were no state trials against *kulaks*, since there was nobody who could have been picked out as a *kulak*. Therefore, in order to understand the following, it is sufficient to "...connect the events to two elementary chronological facts. One of them is that the years of the fifties elapsed before those of

the sixties, seventies and the eighties. The other one is that they followed 1945." (p. 109.) The reader who likes to know where he or she really lives will certainly keep in mind this chronological order with regard to the nineties, too.

In a book of hardly more than three hundred pages the text comprises no more than 60 percent, while the rest consists of photographs. With the exception of a few - pictures about buildings and historic events (e.g. a pipe-stemmed minister from 1912, the governor when hunting and while having a snack, Italian senators at the forest side), the photos are pieces from *Sándor Kardos's* famous *Horus Archivum*. Two pictures from the turn of the century, or somewhat earlier, are difficult to leave, for they stand out in sharp contrast to the others. One of them represents a woman of Kövesd with an interesting face, dressed in old "matyó" wear. She might, as a matter of fact, be a seasonally working woman labourer, but her brain must have been more valuable than her physical strength. The other photograph shows an engaged couple of twenty or so from the same time period. The sitting bride, judging by her dress, is a well-to-do peasant girl of the south of the Great Plain, with bourgeois-type tastes; the bridegroom stands beside her in a richly finished ancient "matyó" garment. Both of them are sedate, handsome, with well-shaped figures. As a matter of fact, it is startling that apart from the two examples given above, there is not a single person of good carriage and straight look in the whole collection, neither among the children, nor the adults. Even the udder of the cow is wrinkled, and the piglets are miserable-looking creatures. It is distorted, clumsy gestures, complacent, fearful, or shifty faces—in the best cases forced smiles with introvert and painful expressions—which are typical of the majority. Could it be that over the past hundred years some kind of genetic drama took place? Or is the selection of these spoiled photos suitable for a culture willing to distinguish itself at any rate, or for a taste expressing some type of a Bourdieu-type class-ethos? What type is this? The reviewer thinks that the fashion of generalized misanthropism is no adequate repartee to, and not a good defence against the sins committed by our era up to now and to be committed in the future.

On the front-piece of the otherwise beautifully finished volume a blonde little girl can be seen with a globe: she is pointing with her forefinger to a place on the globe somewhere between Taiwan and the Philippines. The reader can be sure that Mezőhegyes lies not there but in Hungary at "a point which can be described with the coordinates of 46° 21' northern latitude and 20° 48' eastern longitude. This is, however, difficult to imagine." (p. 7.)

Pál Závada has edited the volume with extraordinary care. He has successfully fitted every piece of the manuscript that could be found into the proper chapter. It causes some difficulty to the reader that maps of the county and of Mezőhegyes have been given a rather complex layout, and even a very roughly outlined plan of the Centre is missing. If someone possesses the "Pallas Great encyclopedia", on the map of Csanád county the manors and farmsteads can be found. In the course of reading the reader can draw up a rough plan of the Centre for him- or herself, and this will make it very easy to be oriented in the area.

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THE DILEMMAS OF HUNGARIAN ECONOMIC POLICY

J. KORNAI

The article examines the dilemmas of the Hungarian economic policy, placing it into a wider economic perspective and setting out from the measures prescribed stabilization program. The author analyses the interrelations among the three gravely distressing tasks of the post-socialist transition: improvement of the external balances and domestic financial equilibrium, and creation of the conditions of sustainable growth. For the moment, a well perceptible improvement of the external equilibrium is the most urgent task; the short-term measures have to serve first of all this purpose. Unfortunately, the package of short-term measures has not yet been embedded into a convincing medium and long-term reform program. Finally, the article analyses the political conditions of economic stabilization and emphasizes the importance of joining the social forces and of self-restraint.

Introduction[1]

I would like in this study to place the current problems of the Hungarian economic policy in a wider economic perspective. The point of departure is the package of stabilization measures announced on March 12, 1995, which consists of three main elements:

1. There was an immediate, radical devaluation of the Hungarian forint, and a further course of steady devaluation was announced in advance right up to the end of the year. In addition, a significant import surcharge (supplementary customs duty) was introduced.

2. A substantial fall in budgetary spending was prescribed. This extends to numerous estimates, including several items of welfare spending. The alterations will cut the budget deficit to a substantial extent in 1995 and still more in 1996.

3. The government wishes to curb the rise in nominal wages and earnings. Strict limits were accordingly set for personal incomes paid by the budget-financed

[1] The study was prepared as part of a National Scientific Research Foundation (OTKA) research program entitled "The interaction of politics and the economy in the period of post-socialist transformation" and with the support of Collegium Budapest. I am most grateful to Mária *Kovács* for her help in gathering the data and clarifying the problems discussed in the study. I express my gratitude to Brian *McLean* for his translation of the Hungarian text. I delivered an earlier version as a lecture at the Budapest University of Economics and at a Friedrich Ebert Foundation event, where the contributions made were instructive to me. Among those with whom I consulted during the research were László *Akar*, Zsolt *Ámon*, Rudolf *Andorka*, Francis *Bator*, Michael *Bruno*, Richard *Cooper*, Zsuzsa *Dániel*, Tibor *Erdős*, Endre *Gács*, Stanley *Fischer*, Eszter *Hamza*, György *Kopits*, Álmos *Kovács*, Judit *Neményi*, Robert *Solow*, György *Surányi*, Márton *Tardos*, and László *Urbán*, all of I thank for their valuable advice. Naturally I alone am responsible for the ideas expressed.

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sector and for wage rises in enterprises in majority state ownership. The program assumes that this conduct by the state sector will curb the rise in wages in the private sector as well.

As I write, three months have passed since the announcement, and the government's intentions have become manifest, initially in a succession of government measures and later in the Stabilization Act passed by the majority of the parliament. To this extent, the stabilization program of March 12 has joined the facts of Hungarian economic life, exerting a strong influence on the future course of events.[2] But this does not mean the program will henceforth determine the path of the economy. One question to be considered concerns the extent to which the government's measures and the stabilization legislation will be implemented and the consistency with which this will be done. Another is what other factors beyond the stabilization decisions will exert an effect on the economy. What goes on in the Hungarian economy does not depend solely on the government and parliament. It also depends on the apparatus of state, the organizations representing various interest groups, the employers and employees, and not least on the outside world, governments, international organizations, foreign banks, and companies, all of which will react in some way to the March 12 measures. The future path of the economy is full of junctions, where the actors on the economy will have to choose between alternatives. Connected with each choice there are dilemmas, and I would like to examine a few of these more closely.

This study deals mainly with macroeconomic problems. Clearly there are many dilemmas that present themselves on a micro level, and there are numerous other problems to do with the transformation of institutions and property relations. These fall outside the range of this exposition.

Under the circumstances of the post-socialist transition in Hungary, three grave and burdensome tasks have perpetuated themselves: 1) securing or at least improving the external equilibrium; 2) securing or at least improving the domestic financial equilibrium; and 3) deciding how to prevent the fall in real production and what to do to promote a recovery of production and lasting growth in the economy. One of the fundamental dilemmas is to establish the relative importance of these three tasks in relation to one another; in addition, each of them separately poses a succession of dilemmas of choice. The study takes these three great problems in

[2] Examination of the March 12 stabilization program from the constitutional point of view is in progress. The constitutional court has already quashed a number of points and intends to continue the review process in the autumn. At the time of this writing, it is being reported in the press that the government will set about making up in other ways for the revenue and savings sacrificed in the review by the constitutional court. The study rests on the *assumption* that the parliamentary majority and the government are committed to carrying out the macroeconomic policy expressed in the stabilization program. The future course of events will tell whether the assumption is justified.

turn. Finally it deals with dilemmas of another type—connections between political and economic stability, and interaction between politics and economic policy.

The external equilibrium

I take the view that for now and the immediate future the problems of the external balance—the trade balance, current-account balance, and foreign debt—should receive the largest relative weight in considerations of short-term economic policy.

I would like here to make a short subjective diversion by addressing the question of whether the statement I have just advanced does not constitute inconsistency and abandonment of the economic principles I have previously published. In my view it does not. A distinction has to be drawn between the ultimate goals of economic efforts—the *underlying*, permanent objectives, the general values serving as the basis for the position taken—and the *interim* goals and operative targets. As far as the former are concerned, my position is unaltered in this respect; I might say "economic philosophy" is unchanged. I am convinced that the prime objective of economic policy is to ensure lasting economic growth. Only this can enable a lasting, systemic rise in material welfare for all. Lasting growth is a requirement for modernizing the economy and living conditions and enhancing the competitiveness of the country's production. It offers far more favourable conditions for the kind of structural changes that can prevent the reproduction of grave imbalances and make the debt servicing easier to bear. It is another matter to decide what should be done at present to promote this unaltered general objective and what relative weights should be attached to the various interim targets. In my view this has to be tailored to circumstances. What could (and in my view should) have been done, let us say two and a half or three years ago, can no longer be accomplished now in quite the way I recommended at the time. This is partly because the last government was neglectful of some tasks for several years, and the new government elected in 1994 has been neglectful of some in the last nine months. A car driver can decide on a destination to drive to, but cannot decide for good and all to prefer the accelerator to the brake or left turns to right. The question of whether to accelerate or brake, or to turn left or right, must depend on the traffic conditions, traffic lights, and so on.

Let us return to the external equilibrium. Why did I think, even in August of last year, that this was a problem at most equal in rank with the others, and why do I think it is the primary problem at present? When there were only the figures for a single calendar year to suggest the unfavourable situation in this respect, it remained possible to consider weighting the tasks in a different way. But once simi-

larly poor results had been reported for a second complete calendar year, it seemed impossible to avoid intervening primarily on this count, and doing so radically.

Table 1

Hungary's foreign trade, 1990–1994

Indices	1990	1991	1992	1993	1994[a]
1. Exports					
1a USD bn	9.6	10.2	10.7	8.9	10.7
Change over previous year:					
1b Volume index (%)	–4.1	–4.9	1.0	–13.1	16.6
1c Value index (%)	5.7	24.3	10.4	–2.8	20.1
2. Imports					
2a USD bn	8.7	11.4	11.1	12.5	14.6
Change over previous year:					
2b Volume index (%)	–5.2	5.5	–7.6	20.9	14.5
2c Value index (%)	4.1	53.9	1.6	32.3	21.5
3. Balance of foreign trade					
3a USD bn	0.9	–1.2	–0.4	–3.6	–3.9
3b % of GDP	2.7	–3.8	–1.1	–9.4	–9.5

Sources: 1990–1993 foreign trade: *National Bank of Hungary* (1994, pp. 207–208); 1990–1993 GDP: *National Bank of Hungary* (1993, p. 60), *Central Statistical Office* (1991, p. 60), (1994*a*, p. 103), and (1994*b*, p. 107); 1994 foreign trade and GDP: preliminary estimates by Hungarian Ministry of Finance on the basis of customs statistics.

Notes: The figures include foreign trade on both the convertible and nonconvertible accounts. The 1993 figures also include the arms imports from Russia delivered as repayment of earlier debt.

[a]Preliminary figures.

The main figures appear in *Table 1*, which shows exports growing strongly again in 1994 after a sharp setback in 1993. Unfortunately, the growth in imports hardly slackened, so that the balance of trade in both 1993 and 1994 was strongly negative. This was the main reason why the current-account deficit in two successive years attained and then exceeded 9 percent GDP (see *Table 2*). This figure is unfavourable to an almost unprecedented extent, and it means the country has entered a danger zone. It was primarily this signal, along with the postponement of devaluation and other corrective measures, that was behind the deterioration in Hungary's credit rating in the eyes of international finance. Although Hungary so far has met all its financial commitments in full, potential lenders see this as proof of goodwill, not of real solvency. If a country overspends to such an extent over a lengthy period, potential creditors start to worry lest the debtor, in spite of good intentions, becomes simply unable to pay.

This brings us to the first dilemma. Every statement that can be made about Hungary's payments position is provisional and conditional. Luckily so far there

Table 2

Hungary's current-account balance in convertible currency

Year	Balance on current account (USD mn)	Balance on current account (% of GDP)
1991	267	0.9
1992	324	0.9
1993	−3455	−9.0
1994	−3911	−9.5

Sources: 1991–1993 current-account balance: *National Bank of Hungary*, (1994, p. 265); 1991–1993 GDP: *Central Statistical Office* (1994*a*, p. 103), (1995*a*, p. 107), 1994 GDP and current-account balance: based on preliminary data from Hungarian Ministry of Finance.

has not been a catastrophe to prove conclusively that the external equilibrium really is the primary problem today. Those less concerned by it may argue that export performance has improved and Hungary has sizable foreign-exchange reserves. So they still question whether it would not be more expedient to allow the debt burden to remain at its present level or even accept some further deterioration, and help to stimulate production by drawing in outside resources to a greater extent.

This argument cannot be refuted directly with facts from Hungary's experience. No one can say precisely how far we could go with the earlier practice in handling the balance of payments. It will have to be taken into account when deciding the dilemma that the international financial world has always been subject to unexpected, unpredictable events. For instance, there may be a sudden, hysterical turn away from some country or other, a lightning loss of confidence, a panic capital flight, or a speculative attack on the country's currency. The destructive effect of such chains of events are apparent from the debt crises in Latin America.[3] Suddenly the channels of credit are blocked and foreign direct investment stops, so that the reserves swiftly run out and the country becomes unable to meet its payments. That gives it a worse name still and plunges it further into the payments crisis. There is a grave fall in imports, which drags production and exports down as well. The recession may even reach 10–15 percent and last one or two years, which rapidly drives up unemployment.

The prime task for the stabilization package is to avert a grave upheaval of this kind. Although it will be some time before anything certain can be reported, the chances of avoiding a debt crisis can already be said to have substantially improved. Let us sum up the measures that will tend to make a substantial improvement in Hungary's external balances.

[3] On the Latin American debt crises, see *Larrain and Selowsky*, eds. (1991), *Sunkel*, ed. (1993), *Williamson*, ed. (1993).

1. The radical devaluation and prior announcement of the future course of nominal devaluation will stimulate Hungarian exporters and curb imports.

2. Domestic and foreign experts debate strongly the advantages and drawbacks of various "exchange-rate regimes". The regime now chosen by Hungary's financial authorities—the "pre-announced crawling peg"—has certain advantages, above all that it makes the intentions of the policy makers plain and clear. It makes a prior commitment to keep the actual exchange-rate within a designated band. This tends to take the edge off speculation and forestall the extra imports engendered by devaluation expectations. To this extent, if successfully applied, it will contribute to improving the trade and current-account balances. But such an exchange-rate regime entails dangers and risks as well. It ties the hands of the monetary authorities, reducing their room for manoeuvre. It stands or falls on whether events largely independent of the monetary authorities, notably the speed of inflation, remain consistent with the exchange-rate trend announced in advance. (I will return to this later.)

3. A fall in imports is being encouraged not only by the exchange-rate alteration, but by the customs surcharge on imports and a few other measures as well. This concurrently improves the competitive position of Hungarian production compared with imports. Let me note here that the question of what factors are causing a substantial growth in import intensity in every area of domestic absorption has not yet been analyzed sufficiently. The exchange-rate adjustment and customs surcharge will presumably not suffice in themselves to halt and partially reverse this trend.

4. By restricting domestic demand, the stabilization package steadily induces producers to show export-oriented behaviour, in fact almost obliges them to do so.

5. The curb placed on rises in wages (and the levies proportionate to them) will improve the competitiveness of Hungarian products on the home market relative to imports, and on foreign markets relative to rival countries.

6. The opportunities of convertibility have grown in the corporate sphere. The change encourages enterprises more strongly than before to keep their money in Hungary, and not to feel induced all the time to part with their forints, since they can be easily converted into foreign currency at any time. So the holders of money are less tempted to turn their forints into foreign exchange and if possible keep it abroad.

7. It is now easier for banks and firms to raise foreign loans independently and directly. This decentralization will improve the composition of Hungarian debt and ease the problems of the government and the central bank.

8. Exports are receiving stimuli and assistance in numerous forms. For instance, financial institutions specializing in foreign-trade credit have been formed.

International experience shows that devaluations and other measures affecting foreign trade normally exert their influence only after a lag of several months. It can be hoped that the March 12 package will be benefiting the external equilibrium

by the second half of the year. If it should turn out that the change is not strong enough, there should be no hesitation, in my view, about taking further measures. Ultimately, it will be a year or two before completion of the kind of profound structural change in Hungarian production, investment, consumption, and foreign trade that can permanently improve the position of the trade and payments balances. For my part, I would not set numerical macroeconomic threshold values beyond which the country's external equilibrium situation could be called reassuring. Qualitative criteria should be designated instead:

The debt crisis must be given a wide berth, not just narrowly avoided. Full confidence in the country's creditworthiness must be restored. The country's credit rating, along with the assessment of the business prospects for investments in Hungary and of the risk entailed in loans to this country, must be restored to a level no worse than it reached in its best years from this point of view in the last decade.

Internal financial equilibrium

The price to be paid for improving the external equilibrium will be a deterioration in other extremely important macro variables. The devaluation and import surcharge will hitch up the price level. It is too early to measure the effect, but dearer imports must certainly be expected to raise costs and thus to spill over through to prices. The first dilemma that arises here is to assess the relative importance of the tasks. Is a likely improvement in the external equilibrium worth the burden that a likely rise in the price level will place on the economy? The answer in my view must be affirmative, since the first serves to avert a grave catastrophe, while the inflation rate, even if it rises somewhat, will still fall far short of catastrophic hyperinflation. It is still affirmative even though it is clear that some acceleration of inflation will cause losses to very many citizens and bear heaviest on those least able to defend themselves. Of course, the assessment also depends on how great the inflationary thrust will be, and still more on whether the *acceleration*, i.e., the increase in the speed of inflation, continues or not. That would be a serious problem. A view of the course of inflation so far is given in *Table 3*. It would be desirable if the rate of inflation were to slow down after the initial push delivered by the devaluation.

Under prevailing conditions in Hungary, the permissible measure of inflation is limited by the commitments made by the government and the central bank concerning the exchange rate. The financial authorities announced in advance precisely what the forint exchange rate was going to be up to December 31. This exchange-rate policy will only achieve its purpose if the buyers and sellers on the Hungarian foreign-exchange market, which is fairly open and free, acquiesce to it not just verbally, but in the exchange-rate terms appearing in their transactions.

Table 3

Consumer price indices in Hungary, 1988–1995

Year	Average annual change (%)
1988	15.5
1989	17.0
1990	28.9
1991	35.0
1992	23.0
1993	22.5
1994	18.8
1995 January–March[a]	24.5
1995 April[a]	29.2
1995 May[a]	30.8
1995 June[a]	31.0

Sources: 1988–1994: *Central Statistical Office* (1995*a*, p. 40), 1995: *Central Statistical Office* (1995*b*, pp. 31 and 37), and information from the Central Statistical Office of Hungary.
[a]Compared with same period of previous year.

Without going into the technical details, I would like to emphasize the implications for inflation. The planned trend in the exchange rate is based on a forecast concerning the widening of the gap between Hungarian inflation and inflation in the foreign currencies playing the main part in Hungarian foreign trade. According to the calculations of the Finance Ministry and the National Bank of Hungary, the preannounced exchange-rate course leaves room for the following normative limit on inflation measured in terms of the consumer price index: The consumer price level at the end of the year may exceed the price level at a similar point in time last year by a maximum of 28–29 percent. This sum constitutes a normative requirement, not a forecast. It is an upper limit that must not be exceeded if the preannounced exchange rate is to be maintained.

Should Hungarian inflation turn out to be faster than this implicit inflation, a real appreciation of the Hungarian forint would take place: The National Bank of Hungary would have to give more dollars or marks for forints than they were really worth. When currency market sensed the real appreciation, it would start expecting a devaluation sooner or later, a greater devaluation than was previously announced. So devaluation expectations would revive, which is just what prior announcement of the exchange-rate trend was supposed to avoid. One of the key issues in Hungarian economic policy is not to allow inflation to overstep the permissible limit. (If inflation should be *less* than the upper limit set by the exchange rate, that would have a favourable effect, of course.) Whether inflation can be retained within this band depends mainly on two factors: wages and the budget deficit.

Wages. Hungary has experienced for many years an inertial inflation, in which expectations of price rises have fuelled wage increases, and the increase in waged and other cost factors (or expectations of such an increase) have induced price rises. The question is whether the increase in the price of imports will filter through fully or to a large extent onto wages. Devaluation usually meets with success where this is successfully impeded, at least for a while.[4] For this it is normally necessary to have a formal agreement between the government on the one hand and the employers' and employees' organizations on the other. No such agreement has been reached in Hungary. Can this requirement be met without a formal agreement? Can it be forced by a narrowing of domestic demand, fear of higher unemployment, and recognition of the difficulties of the economic situation? It seems the answer differs from sector to sector. The wage pressure is far lower where the firm is close to the market, i.e., in the competitive sphere making tradable goods. The wage pressure is stronger, however, in the branches where there are no rivals competing, and where the wage rise need not be endorsed by the market, but simply demanded from the government. Among cases that can be listed here are the monopoly or near-monopoly branches currently in state ownership, such as the railways and electricity generation.

If wages start to swing, the devaluation will become almost ineffectual, and this country, like others, may be caught up in a mindless, destructive vortex, a vicious circle of devaluation, inflationary surge, and further devaluation.

All employers and employees, and also employers' associations and union leaders, must respond conscientiously to the choice dilemmas relating to wage policy. One factor needed for there to be responsible behaviour is the availability of clear information about macroeconomic policy, including the relationship between exchange-rate policy and wage policy. Those concerned can rightfully expect not only to receive enlightenment on the general macro relations between these, but for the relations to be conveyed to them in a transparent, numerical form.

The budget. A budget deficit normally fuels inflation. There are exceptions to this—combinations of internal and external circumstances that allow a lasting budget deficit to coincide with a very low rate of inflation.[5] Hungary is not one of the exceptions: There is a strong connection between the budget deficit and inflation.

One possible connection arises when the budget deficit is covered directly by the national bank in the form of credits. This is customarily called financing the deficit by "printing money". Hungarian legislation sets an upper limit to this form

[4] This was one of the reasons for the success of the Israeli stabilization in 1984. On the stabilization in Israel see *Bruno* (1993), *Fischer* (1987), *Razin and Sadka* (1993).

[5] This situation pertains in the United States, for instance, above all because domestic and foreign holders of money have so far been willing to invest their savings in gilt-edged American securities. In fact, the state debt, having swollen to vast proportions, is a big problem even there, and the question of cutting the budget deficit has come into the political forefront.

of financing, although to some extent this can be treated flexibly, since the limit can be temporarily raised by passing occasional legislation. Whatever the case, the inflation-stoking effect can be exerted up to the set limit.

Table 4
Indices of public debt

Indices	1991	1992	1993	1994
1. Increase in gross public debt[a] (current prices, HUF bn)	415.3	244.1	1040.0	641.3
1.1 To domestic creditors	63.4	217.7	467.3	202.2
1.2 To foreign creditors	351.9	26.4	572.7	439.1
2. Increase in monetary base (current prices, HUF bn)	179.9	188.3	172.1	178.6
3. Proportion of deficit financed by increasing public debt to financing of total deficit (%)	69.8	56.5	85.8	78.2
4. Proportion of deficit financed by broadening of monetary base to financing of total deficit (%)	30.2	43.5	14.2	21.8
5. Total domestic debt of consolidated public finance[b] as proportion of GDP (%)	71.1	74.9	84.5	83.2

Sources: Borbély and Nemény i (1995, pp. 139 and 145), and further calculations by *Nemény i*.
[a]State debt calculated by adding the gross debt of the budget and the National Bank of Hungary.
[b]Including devaluation debt. For an explanation of the devaluation debt, see Borbély and Nemény i (1995, pp. 142–143).

The deficit can also be financed if the state raises credit not from the central bank, but by issuing government securities and selling this to investors at home and abroad.[6] This has increasingly become the main source of financing the deficit in recent years. (See *Table 4*, which presents the size of the budget deficit and the sources for financing it.[7]) It differs from "printing money" in not directly increasing the money supply (or more precisely the monetary base, which is the main force behind expansion and contraction of the money supply), but it has several other effects which can contribute indirectly to maintaining and even accelerating inflation. Let us ignore here the foreign loans, which were mentioned earlier. The domestic public debt has also grown to a threatening extent in recent years, which in itself deserves special attention (*Table 4*). When the budget makes a very large demand on the domestic credit market, the price of credit, interest, is pushed up.

[6]From the macroeconomic point of view, a precisely equivalent procedure is when a loan is taken up directly by the national bank from a foreign creditor and lent on as credit to the budget.

[7]Pioneering work with retrospective processing, classification and analysis of the data on Hungarian public debt was done by Borbély and Nemény i (1994; 1995).

The high nominal rate of interest then will be built into the inflationary expectations, keeping inflation high (or even speeding it up in the case of a mounting deficit).

Another dangerous vicious circle has arisen. The high rate of interest raises the interest burden on the public debt, which comes to form a growing proportion of the budget deficit. The growing deficit, on the other hand, encourages the raising of new loans, and promises of yet higher interest to satisfy the mounting demand. This again pushes the interest rate up, with a reciprocal effect on the deficit, and so on.

There is nothing alarming in itself about a country having a sizable public debt. This is customary not only at lower or medium levels of development, but in many mature market economies. What has to be avoided is a mounting rate of increase in the state debt—a vortex of debt. This will ensue if the increase in the ratio of public debt to GDP is accelerating. In this case, it is obvious that tax revenues will sooner or later be unable to cover judicial, public-order, and defense costs, and welfare spending, since they will all go on financing debt repayments and interest, and beyond a certain point they will not even suffice for those. Hungary has not reached that stage, but several simulation calculations have shown that if the trend before March 12, 1995, had continued, the country would have entered such a debt vortex in the foreseeable future and careered on toward financial ruin.[8]

We cannot resign ourselves to a vicious circle of budget deficit, high interest rates, and mounting state debt. But slowing it down and eventually halting it will require a whole range of measures. The credit demand from the budget is not the only factor affecting the interest rate, of course. A lot depends on the interest policy of the central bank and the commercial banks, on the efficiency of the banking sector, on institutional reforms to encourage personal savings (such as developing a system of voluntary pension and health-care funds), and on several other circumstances. I will not go into these now. What can be said in any case is that reduction of the large budget deficit is a necessary condition for easing the demand pressure on the credit market. This will entail a great many changes on both sides of the budget.

On the expenditure side, the March 12 package can be considered a forceful *initial step*. As such, it was a brave deed for the government and the majority in parliament to take this first step in the face of so many kinds of opposition. There was a need for the radicalism and forcefulness of the initial moves, to show that the government and the majority in parliament had ceased their hesitation and postponement of hard tasks and committed themselves to action. They had

[8] Long before the present stabilization program, the theoretical connections and numerical simulation of these processes were dealt with by *Oblath and Valentinyi* (1993). More recent calculations can be found in the document of the *World Bank* (1995).

the courage also to tackle such "taboos" as state welfare spending. This marked a turning point in the history of Hungarian economic policy.

Unfortunately, when choosing the measures of the first package, the following selection criterion was not applied: how to achieve the necessary savings, with the minimum sacrifice and consequently the least public resistance. The stabilization program was published in a way that failed to explain sufficiently clearly and convincingly what its motives and likely results were. At the time the package was announced, the government had no reform program of economic and social transformation looking a long way ahead, and to this day only the initial steps have been taken to work out one and initiate broad debate. So the March 12 measures were merely concentrated on overcoming the strong momentary concerns. They were not integrated into any deeper, more comprehensive long-term plan of reform.

Let us hope the part of the stabilization package dealing with the budget is only the start of reforming the whole system of public finance. Although at this stage in the discussion I have only raised the question of government expenditure in relation to inflation and the budget deficit, in fact there is a deeper dilemma involved: How great should the role of the state in the economy and society be? Before the March 12 package, Hungary was devoting the highest proportion of GDP to budgetary expenditure of any country in the post-socialist region (see *Table 5*). Let people decide for themselves whether they approve of keeping this "leading role". Although I would join those taking an extreme libertarian view, seeking to reduce the state's role to the minimum, I consider the role the state performs today (and still more yesterday) to be strongly out of proportion. A less centralized and more efficient administration is required.

Table 5

General government expenditure as a percentage of GDP: an international comparison

Country	General government expenditure as a percentage of GDP (%)		
	1991	1992	1993
Bulgaria[a]	50.7	43.9	41.7
Czech Republic	54.2	52.8	48.5
Hungary	58.3	63.4	60.5
Poland[a]	48.0	50.7	48.4
Romania	40.4	42.2	31.0

Source: *EBRD* (1995, pp. 138–142).

Notes: The figures for general government expenditure include central- and local-government expenditure and expenditure of extra-budgetary funds. The figures reflect the consolidated budget; expenditure includes interest payments but not debt repayments.

[a]Spending does not include interest payments due, but not yet paid.

This need for a smaller, cheaper, but more efficient state that can be supported on less tax should be the guiding idea behind the reform of public finance, in my view. One constituent of the reform is an overhaul of the welfare system. I would not recommend a complete "withdrawal" by the state. As I have underlined also in earlier writings, I certainly do not subscribe to any idea of "demolishing" the welfare state. The development of the welfare state is one of modern civilization's great achievements, which has to be preserved; but it would be worth reducing its sphere and adding other mechanisms of provision.[9] I take the view that the role of centralized state participation in the welfare sphere financed from compulsory taxation should be reduced to more modest proportions, not ended. Welfare redistribution by the state needs augmenting to a far greater extent by nonprofit insurance and welfare service institutions based on voluntary employer and employee contributions. For those prepared to pay for them, there should be wider and more closely monitored services and insurance schemes available on a commercial basis. There is no room here to treat the reform of the welfare system in detail. I just wanted to point to the macroeconomic aspect of it, for this great and difficult social-policy problem has a strong bearing on the question of overcoming the budget deficit.

The parts of the stabilization package concerned with public finance, including welfare spending, seem especially open to the criticism made earlier about the package as a whole that the regulations have not been incorporated into a comprehensive plan of reform. It would be worth preparing much more thoroughly for the subsequent measures, by paying close attention to the experts and representative organizations in specific fields and choosing much more carefully which spending items to reduce. Each cut raises a whole succession of specific dilemmas; it will take many tough decisions to outline the sphere of the direct losers and winners. When the regulations are being drawn up and a time-table decided for introducing them, it is not enough just to aim to cut the budget deficit. The prime consideration has to be how best to dovetail the alterations into the overall reform of the welfare sector. The reduction in the state's obligations, the drop in taxes and the compulsory contributions to finance them, and the establishment of new organizations based on voluntary payments should all take place concurrently, complementing one another in a coordinated way. The greatest care has to be taken to minimize the sacrifice accompanying the process and ensure that it takes place as tactfully and humanely as possible. Citizens need to feel that in the longer term, even though the range of entitlements guaranteed by the state will be narrowing, the tax burdens will also be less, so that the sovereignty of the individual and family grows and a

[9] This is also emphasized by the Swedish economists critical of the excessive dimensions of the welfare system in the country that epitomizes the welfare state. They propose reforming the system, a considered reduction in the state's welfare spending, along with other measures to make up for it, not a merciless elimination of it. See *Lindbeck et al* (1994).

higher proportion of income is at their disposal instead of the state's. It has to be explained with great patience, compassion, and understanding that the reform of the welfare system will do a great service to the long-term interests of the whole of Hungarian society. Regrettably, these requirements were not met when the first group of measures to alter the welfare system was devised and announced. The omission contributed to the outcry and widespread opposition they encountered.

On the other side of the budget, tax revenues must rise. Development of the fiscal system has been one of the weakest points in Hungary's post-socialist transformation. In the struggle between tax evaders and tax officials, the former have proved much the sharper and more resourceful. For every change by the tax authorities, new loopholes have opened and new tricks have been found by citizens intent on avoiding tax. The sections of the stabilization program dealing with taxation contained too much improvisation and sabre-rattling and too many empty promises. Spreading tax burdens produces "losers", just as withdrawing welfare services and benefits does. No one disputes in theory the principle of sharing tax burdens fairly. The arguments start when it comes to deciding specifically who pays more tax or pays tax on a hitherto untaxed item of income or wealth. I would recommend first and foremost broadening the tax base. The sphere of tax exemptions and concessions must be reduced and tax gathered from those intent on avoiding it.[10] This will make it possible on the one hand to cut the deficit and on the other to lower the tax rates. Here at last a "beneficial" circle can emerge. If tax morality improves and the tax base widens, tax rates can be lowered. For it is above all these almost insupportably high rates that have prompted people to evade tax and lurk in the "gray" economy. So rate cuts will broaden the tax base.

The question is often put as to what division of labour there should be between fiscal policy and monetary policy in dealing with inflation. Some say the monetary policy should be far more restrictive, to make sure inflation is kept down even with an unchanged deficit. In my view this procedure is too costly, and if I may use the expression, too brutal. A Draconian cut in the aggregate money supply and one of the main methods of doing this, a radical rise in the prime interest rates set by the central bank, would have a detrimental effect on production and investment. It would weigh not only on loss-making, inefficient, nonviable enterprises, but on profitable, efficient, viable ones as well. In my view the course of not simply controlling but dramatically restricting the credit supply should be treated

[10] It is widely thought that the payment of tax and compulsory contributions is refused mainly by the "black" economy. I would prefer to keep the term "black" for those who can be called real criminals in the legal and moral sense, and pay no tax anywhere in the world, of course. The big problem during the transition is with the "gray" and "off-white" spheres of fundamentally honest citizens, who would actually like to live legally, but withdraw some of their income from taxation, or at least connive in others doing so. It would exceed the bounds of this study to look at how to turn this stratum (which I suspect covers the majority of society) into consistent, law-abiding taxpayers. I would like to note, however, that it cannot be done solely by policing methods.

as an emergency brake for a case where inflation suddenly speeds up inordinately or a process of this kind threatens to get out of control.

This leads to the next subject, the prospects for real production.

Recession or recovery and lasting growth

There has been widespread debate in recent years, in Hungary and internationally, about the causes of the recession that has developed during the post-socialist transition and the conditions required for short-term recovery and for lasting growth.[11] I have a personal observation to make. Two and a half years ago I hoped the time for recovery had come. It was too early. The government of the day confined itself to popular acts that would stimulate the economy, setting about expanding the credit supply and aggregate domestic demand in general, for instance, while failing concurrently to take necessary but unpopular measures. For example, it did not carry out the currency devaluation many economists (including myself) were recommending and actually continued a policy of real appreciation of the exchange rate. This was among the factors behind the appearance of ambivalent phenomena in the economy in 1994. Though the factors tending toward recovery strengthened, and there really was growth for the first time in many years, as mentioned earlier the equilibrium tensions heightened as well.

The debate over the question of contracting or expanding real production continues. Two extreme views can be found. One is to see a need for drastic contraction of production as the only way of curbing the import hunger and setting the trade and current-account balances to rights. Its adherents consider the contraction of production not as a negative, possibly inescapable side effect of a combined therapy, but as the therapy itself. The view at the opposite end of the spectrum can be heard as well—that the present (or even higher) level of budget deficit must be accepted along with a further deterioration on the current account, for the sake of speeding up, rather than throttling, the recovery of production.

The March 12 stabilization program, or at least the published quantitative projections, eschew both these extremes. It does not contain immediate measures to promote directly an upswing of production. Instead, for the time being, the program is content, due to the gravity of the foreign-trade and financial tensions, with far more modest production goals than could have been undertaken if the macroeconomic policy of the last two or three years had been more balanced. It aims at *no fall* in GDP, even, if possible, a continuation of last year's growth of

[11] For the debate in Hungary see *Balassa* (1994), *Békesi* (1995), *Csaba* (1995), *Erdős* (1994), *Kopits* (1994), Kornai (1993; 1994), *Kőves* (1995). Of the foreign writings I would pick the following: *Berg* (1994), *Calvo and Coricelli* (1993), *Holzmann*, *Gács and Winckler*, eds. (1995), *Kolodko* (1993), *Saunders*, ed. (1995).

Table 6

Utilization of Gross Domestic Product

Indices	1991	1992	1993	1994[c]	1995[d]
	As % of GDP				
1. Household consumption	68.6	72.8	74.0	73.6	71.2
2. Collective consumption[b]	9.4	12.0	14.4	11.7	10.4
3. Total final consumption[a,b] (1+2)	80.6	84.8	88.4	85.3	81.6
Of which: consumption financed out of the budget[b]	36.7	42.3	43.9	–	–
4. Total investment	20.4	15.5	19.9	21.5	22.1
5. Domestic absorption (3+4)	101.1	100.3	108.2	106.8	103.7
6. Balance of foreign trade	–1.1	–0.3	–8.2	–6.8	–3.7
Exports	–	31.5	26.5	28.7	32.7
Imports	–	31.8	34.7	35.5	36.4

Sources: 1991: *Central Statistical Office* (1994*b*, pp. 72 and 73); 1992–1993: *Central Statistical Office* (1995*a*, pp. 107 and 108); 1994–1995: based on data and estimates by Hungarian Ministry of Finance.

[a]The sum of total final consumption in 1991 includes the bank dividend not distributed between households and the state budget, for lack of a source of data (HUF 64.4 bn, or 2.6% of GDP).

[b]Including arms imports from Russia in repayment of earlier debt.

[c]Preliminary data.

[d]Forecast.

1–2 percent. At this production level it envisages a *restructuring* in the utilization of production, with the shares of exports and investment rising and that of consumption, especially collective, budget-financed consumption, falling. As far as the origin of total domestic absorption is concerned, there should be a growth in the share of domestically produced products and services and a fall in the share of imports[12] (see *Table 6*). The speed and depth of restructuring depends on several factors, among them the measures presented in the study so far. Experience will show how fast the restructuring can take place. I do not wish to disguise the fact that I have many worries and uncertainties about this. Will the measures not overshoot the target, causing a sudden, excessive fall in aggregate demand? Will

[12]The requirement of rapid *restructuring* within a growth target already set at a more modest level was one of the fundamental ideas running through the article I published last summer (Kornai 1994). So far as I can judge, the March 12 program is very close in this respect to the proposal I made then. Another idea in the article also found a place in the program's rationale: the need for *parallel concurrence* of moves to improve the equilibrium and measures to support growth. More will be said on this later.

this not be accompanied by a bigger contraction in production than expected? If this happens, will it not lead to a fall in tax revenues that undermines the original objective of reducing the budget deficit?

Another cause for serious concern connected with the contraction of production is the conflict of short-term and long-term thinking. Hungary has to be navigated today under extremely difficult conditions. As it has emerged from the study already, the country has to be steered between several Scyllas and Charybdises at once. The danger is that the leaders responsible for the economy will be almost entirely taken up with the short-term problems. This is a practice that cannot be accepted, if for no other reason because constant postponement of the long-term tasks is what has led to the present accumulation of troubles. There is a range of tasks that have to be done *now* so that they can contribute to lasting growth after a longish gestation period. It is most important to assess every urgent task today not simply from the "fire-fighting" point of view of averting catastrophe, but in terms of deeper, systemic, transformation-oriented reforms and lasting growth, so decisions are reached after weighing up "short term—long term" dilemmas. Here are a few examples:

1. Present-day budget revenue is a major factor in reaching decisions on privatization, but it cannot be the sole criterion. No less important are the commitments a potential new owner will make to increasing capital, accomplishing investment projects, and bringing in new technologies.

2. In developing the financial sector, it is worth bearing in mind how the banks can contribute to resolving today's problems of external and internal equilibrium. But it is not less important to establish the institutions for long-term lending and expand the credit available for production and housing investment. This ties up with establishing the conditions required for long-term deposits to become widespread, building up a network of voluntary pension and health funds, and developing more active investment activities by these funds and private insurance companies.

3. While attention must go to reducing state spending, it would be worth increasing the proportion within such spending of the sums expended on investment.

4. However tough the measures required for reducing the budget deficit, the lesson of precisely the most modern growth theories must not be forgotten: Among the most important factors behind growth are research designed to assist production, enhancement of the skills of the workforce, and modernization of professional knowledge. The development of these factors, however, requires constant finances, and these must not be constricted even temporarily.

Moreover, stress on such long-term considerations can help to win political acceptance for the stabilization program. Though the radicalism of these measures and their speed of introduction arose mainly out of a need to avert the short-term troubles and a still-greater trauma in the future, this argument remains incapable of persuading millions to accept great sacrifices causing woe and suffering over a

long period. If they are willing to accept this at all, it will be in the hope of a better future. Yet any convincing presentation of such a future has been almost wholly absent from the arguments in favour of the stabilization program.[13] But this leads to the last problem area covered in the study, the relationship between the economy and politics.

Economic and political stability

The sections of the study so far have dealt with dilemmas over conflicts among different economic requirements. They covered trade-offs of a kind where the more one economic criterion is satisfied, the greater the concession that has to be made on another. There is however, a still graver dilemma: conflicting requirements of economic and political stability.

Once the democratic political system in a country has consolidated and the economy taken a course of lasting growth, it becomes possible to overcome this conflict, so that the economic and political stability mutually reinforce each other. Conflict between these two requirements, however, is all too common in the world of post-socialist transformation. When the economy stagnates or even shrinks while society almost writhes in convulsions, the conflict can be dangerously heightened.

As shown earlier in the study, the political leadership spent decades "buying off" the public's goodwill, or at least tolerance, with economic concessions. In response to signs of discontent came concession: loosening of wage discipline, a soft budget constraint to save loss-making enterprises, and transfers or entitlements at the state's expense. This practice was the initiator and constant generator of the process of inflation, indebtedness, and budgetary disequilibrium.

This is what the Kádár regime did in its quasi-liberal, reformist phase, and the same practice was pursued by the governments gaining power in free elections, right up to March 12, 1995. Hungary was earlier seen as a paragon of political stability by the experts of comparative economics, the staff of international agencies, and diplomats and journalists from abroad. So it was, but we are now paying the price of that political clam of old.

The program of March 12, 1995, marked a break with the practice of constantly giving way to redistributive demands. I have already mentioned what a shame it is that the contents of the package were not sufficiently well chosen from either the political or the economic point of view. The program was presented

[13] The prime minister publicly announced in May of this year that the first draft of its medium and long-term program of reform had been prepared. Yet this remains unknown even to the narrow profession, let alone to wider public. It was a grave omission to postpone this task for so long. It would have been far more fortunate if the country could have learned simultaneously about the short-, medium- and long-term programs and it had emerged they were integrally related.

clumsily, sometimes in an almost uncompassionate, insulting way, and neither the motives nor the likely effects of the program were sufficiently explained to society. But even if the program had been compiled more cleverly and presented in a much more convincing fashion, that would not have changed the fact that it really does cause tangible losses to very many people indeed, by reducing their present standard of living and undermining their sense of security. So the great opposition to it is unsurprising. Here I refer not only to the opposition protests in parliament, which are normal occurrences in a parliamentary democracy, but to the intense extraparliamentary protests of various kinds. Almost every stratum and interest group in society has already protested against or at least sharply criticized the program. The last few weeks have given us a taste of almost every form of mass protest, from public condemnations on television and in the press to street demonstrations and deputations to parliament, and from strike threats to the first real strike. An article in the press of the radical right wing outside parliament urged the public to resort to civil disobedience and withholding of taxes. And this may have just been the start, for implementation of the program has yet to have an appreciable effect. So the question arises whether the stabilization package is feasible at all—not economically, but politically.

Tough, strict programs have been successfully carried out in the past by tough, strict military dictatorships or other authoritarian regimes, like Pinochet's Chile or pre-democracy South Korea. Some democratically elected governments have also managed to apply restrictive measures, like Mrs Thatcher's Conservative government, but in that case the government had received a mandate to do just that from an electorate fed up with the deterioration of the British economy under the previous Labour governments. Thatcher began to implement her program by clamping down on the unions. Similar success crowned the implementation of a Draconian program in the early 1990s by the Solidarity government of Poland, but for doing so it had seized the historically unique moment of first euphoria at the change of system, and it still had mass support at the time.

Will the Socialist—Free Democrat coalition government of today's Hungary prove able to carry out a strict program, of which we are still only at the beginning? And will it be able to do so while preserving the achievements of parliamentary democracy intact, as the parties in power have made an express commitment to do? A curious reversal of roles has now taken place in Hungary. To simplify somewhat, the Socialist Party, having won the elections emphasizing its social sensitivity, is now implementing a "Thatcherite" program. Meanwhile, politicians of the forces that describe themselves as right-of-center conservative have brought out social democratic arguments in favour of the distended welfare state and the wage demands of the employees. How long can both sides keep up this reversal of roles?

I do not know, and I do not want to make a forecast either. Instead, in line with the title of this study, I state the dilemma.

Hungarian society, in the first phase of implementation of the stabilization program, provides an almost classic example of the case known to game theory as the "prisoner dilemma", to which there are two solutions in theory.

One is the noncooperative solution. In the game-theoretical model, each prisoner wants to assert his own interests, and this has a self-destructive effect. If each stratum and interest group in society wants to escape the burdens and retain or even improve the financial position it has enjoyed so far at the expense of the other strata and interest groups, then everyone together does worse. The equilibrium cannot be restored and production cannot grow. The country's reputation will fall further. Neither creditors nor investors (whether foreign or Hungarian) will believe that this country racked by mass protests and strikes is a good place for their money. The political instability leads to further destabilization of the economy. The more strenuously and effectively each group struggles for its own interests at the expense of the other groups, the more destructive the combined consequences of the struggle will be.

Game theory (and day-to-day common sense rising above group interests) clearly points to an alternative, cooperative solution. In the prisoner dilemma, the prisoners have to agree with each other. Each has to make a concession. None gets what is best from his own point of view, yet together they do better than they would by noncooperative behaviour. All Hungarian citizens are prisoners of the current situation. Is every affected group, profession, branch, and region capable of conceding something, making a sacrifice, resigning itself to the loss or reduction of certain privileges and benefits, and not just expecting others to do so but doing it themselves? Are we mature enough to choose the cooperative solution? This is a dilemma to which all the parties, movements, organizations, and individuals in society have to respond for themselves, as their own consciences dictate.

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AFTER THE BOKROS PACKAGE: WHAT NEXT? (DILEMMAS AND ALTERNATIVES OF HUNGARIAN ECONOMIC POLICY)

A. KÖVES

The article analyses the Hungarian stabilization policy of 1995, called the Bokros package. In the author's view the single most important feature of the package is the combination of short-term stabilization measures with a new attempt at changing the country's economic and social system. In that, the package is reminiscent of shock therapies applied in the early 90s all over Eastern Europe. The author disagrees with the economic philosophy behind the package and with the official diagnosis of Hungarian economic problems as well as with the suggested therapy. He argues that more gradual policies of striving for stabilization and growth simultaneously would be more appropriate under the present conditions of the Hungarian economy.

The economic situation and policy in mid-1995

More than a year has passed since the formation of the Socialist—Free Democrats coalition government, the declaration of the Békesi programme, and at the time of writing, in the late summer of 1995, even the Bokros package is almost six months' old. As recently as a few months ago official statements cried bankruptcy; now they are trying hard to radiate mandatory optimism while advocates of official policy keep on pretending that their programme of austerity really has no alternative. (*Békesi* 1995) Meanwhile, there are more and more indications that even the founders and staunch supporters of the economic policy are getting increasingly unsure about the follow-up of the March measures as well as the attainability of the stabilization goals they set.[1]

In a situation like this no reliable medium-term economic policies can be devised. The ones that have been set so far, made with publicity in mind, have been content with enumerating the goals, and left open the question whether actual policies and declared goals are compatible or not. One example: successful modernization—an obvious and declared goal of Hungary's medium-term economic policy—has in all cases been built on the development of education, on massive investment in human capital. However, in Hungary just the opposite—i.e., curtailing of the human sphere—is happening, and not simply out of necessity caused by

[1] See, for instance: "Over the past weeks, even government party sources have tended to question the necessity of the stabilization policy." (*Bauer* 1995)

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lack of money. It is happening because policy-makers think it a virtue and want to go ahead with it even in the long run, after the stabilization process has been completed.[2]

The latest developments of the Bokros package do not provide many clues with regard to this uncertainty. Most of the suggested measures of the HUF 170 billion package—meant to improve the balance of the central government budget—have been adopted by the Parliament. The rejection of some parts of the package by the Constitutional Court in late June affected no more than HUF 17 billion; from a macroeconomic point of view, it is not really relevant if this amount is replaceable or not, all the more since budget revenues from import surcharge which was introduced as part of the March 12 Bokros package have so far exceeded estimates. Should the 1995 deficit of the central government budget still exceed HUF 157 billion (according to GFS) estimates, this may be attributed, over and above the less than estimated revenues from consumption and personal income taxes, mainly to the fact that the fate of planned privatization incomes amounting to approximately HUF 150 billion is just as uncertain as it was at the time the original (and later the supplementary) budget were introduced.[3] The absence of privatization receipts (from abroad) will in fact have a negative impact on the international balance, since it implies a bigger than planned net foreign indebtedness. The current balance of payments (and its crucial part, the balance of trade) is expected to close with a bigger deficit than the official estimates.[4] Yet there is no reason to exclude the possibility that, as a result of devaluation and the introduction of import surcharge, the balance is going to improve over the next few months.

With regard to the government's intention to reduce real wages, this had been fully accomplished before the Bokros package and independently of the package.

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[2] Of course the password is not to dispense with the human sphere but to revise the very "excessive" role played by the state. Unfortunately, this is all the same *right now in Hungary*. No matter what one thinks more efficient to finance social, health care, education or scientific institutions from government or private sources, or what is *generally* better for the increase of household savings and investments, for economic development altogether, a universal social insurance system, private insurance or a combination of the two, one thing is sure: in Hungary only a small fraction of the population is able to buy such services if the state withdraws. At present, no civil or business sphere exists that is able or willing to take over much of the state's role as it presently exists in the field of culture, science or education. Consequently, it is simply irrelevant to say that in some developed countries the state's role concerning the human sphere is smaller than here.

[3] This, and only this—i.e. giving up a greater part of the year's expected privatization revenues—may explain why the minister of finance has lately predicted a HUF 300 to 320 billion deficit of the budget for 1995 (*Napi*, and *Magyar Hírlap*, both July 22, 1995.) Providing there is prudent handling of the privatization process (and considering the huge costs involved) it is improbable indeed that more than one fourth or one third of the planned receipts from privatization may still be taken this year.

[4] The 1995 deficit was first set at USD 2 billion and then at 2.5 billion. The updated figure is USD 3 to 3.2 billion (*Napi*, July 22, 1995)

(In the first four months of 1995 net real wages were 9 percent below the level of the period last year.) (*Economic...* 1995) Now the cut-back of real wages is a pivotal point of the government's philosophy: keeping back wages and other incomes along with paring down domestic consumption and demand are expected to stabilize the economy. Consumption has already diminished and the pace of its decrease is likely to speed up as the end of 1995 approaches.

An important difference between plan and reality is, however, that the drop in incomes has so far resulted mainly in the reduction of household *savings*. This is partly due to shopping sprees triggered early in the year by devaluation and inflation expectations. It is also due to a rush for foreign exchange bank deposits following March 12 in reaction to the possible threat of a "state bankruptcy". Nevertheless, it is a well known phenomenon that citizens react to a cut-back of their incomes not so much by reducing their spending but rather by putting less aside, not really caring for the problems this causes for the government budget.[5] It seems that this year household savings will stay largely behind the estimates. This certainly makes financing the budget deficit from domestic sources more difficult.

Inflation, too, has taken a negative turn, contrary to official projections. Latest data, however, show that its pace has somewhat slowed down and provided there will be no massive tax or price hikes for the rest of the year, chances are that the 1995 inflation rate is not going to jeopardize the accomplishment of the government's rate of exchange policy goals.[6] (As it is, a 30-plus percent inflation would have a negative impact on foreign trade. In other words, it would push up imports and slow down exports. On the other hand if, to prevent this, the exchange rate policy is changed, this again would seriously damage the trustworthiness of the economic policy.)

Although the outlook for stabilization is not rosy, it has to be added that in the first months of the year real processes (industrial production, exports, investment) have developed better than expected. Also, the economy continued the growth path that began in 1993, this in itself does not offer a satisfactory explanation for the hesitation of the government. Negative tendencies have partly been there *before* the March measures (like a rebound of inflation). To some extent, they were—or should have been—no surprise for the government (e.g. absence of privatization incomes). And finally, some of those tendencies were related to the short-term and amendable impact of the timing of the package (or, more precisely, to the continual postponement of an overdue—since at least, November 1994—

[5] "It would be very bad if people were to permanently increase consumption at the expense of their savings." See the interview with State Secretary Tibor Draskovics, Ministry of Finance, in: *Magyar Narancs*, July 20, 1995.

[6] An 8 percent rise in energy prices was announced in late July, to be effective from September 1 and to be followed by two more rises during 1996 (*Népszabadság*, July 28, 1995). In itself this may not upset inflation estimates, yet it certainly adds to inflation expectations which should really need to be cooled off.

devaluation) and its ill-considered propagation, such as the worsening of the trade balance early in the year or the rush for dollar deposits.

The Bokros package has been a spectacular failure in at least two respects. First, in the decision of the Constitutional Court, which declared several elements of the package, as well as the way certain measures were introduced, as anti-constitutional. As indicated in the foregoing, the decision had no substantial effect on the HUF 170 billion budgetary savings envisaged by the package. The importance of the Constitutional Court's position lies in its questioning the underlying social and political philosophy of the package, which imply that economic policy can flout rudimentary democratic requirements and should not really care whether it is accepted by the society or not. This will be considered later. Secondly: an agreement with the IMF is just as out of reach as it was before March 12. However, one of the most strongly highlighted elements of the package was—and that played the role of an ultimate and incontestable argument in favour of—the austerity measures of March 12 that deteriorating foreign view with regard to Hungarian economic policy must be reversed and as a part of this, the due credit agreement with the IMF must be signed. Foreign reactions to the package have been positive, yet an agreement is still not in sight, and it is not clear with what conditions such an agreement, if any, may be concluded and what tasks it would impose on the economic policy in the next period.

Economic and non-economic factors alike may have contributed to the fact that, beginning in 1989, the IMF's image of Hungary has substantially changed for the worse. It is also true that the grave external and internal imbalances of two consecutive years (1993 and 1994) not surprisingly worried not only the IMF but foreign creditors and investors on the whole. Cutting the deficit on the current account and the budget deficit has really become an absolute necessity, IMF or not. What is open for debate is nothing other than the possible and desirable methods, and their direction and magnitude. Before March 12, 1995 the Hungarian government had not contested the IMF's stabilization concept but it had contested their figures. Still, on the 12th March the government decided that however painful the implementation would be, in order to reach an agreement (and also from its own conviction) Hungary would adjust its economic programme as much as possible to the requirements of IMF.

Reservations aside, it must be stressed that the very existence of an agreement with the IMF would (could) have justified this change of policies. The improvement of the international image of the country is nowadays one of the pillars supporting the functioning of the country's economy. Certain measures—considered otherwise unfavourable for economic or social reasons—have to be accepted simply because they help to improve Hungary's image and manage its foreign debt and current account deficit. However, the last of the IMF's concerns is to "legitimate" the Bokros package; rather it acknowledges the changes it does like in Hungary's economic

policy, and comes forward with more demands, ones that the country will most probably be unable to meet.[7]

In spite of all the troubles, the state of the Hungarian economy and society is still among the best in the former Socialist camp, and the IMF would hardly want to cause another centre of crisis itself in Eastern Europe with its unbending attitude. Thus some motives behind the IMF's position can only be guessed. No wonder it makes the government waver over the rightness of past measures and the possibility of future ones.

As a consequence, economic policy-makers have got support neither from their own society nor from abroad. This is bad for the government, since the Bokros package is still not complete and yet, there are more restrictions in the pipeline. As Bokros himself put it: "The stabilization has just begun."[8] According to press reports, the minister of finance reckons that the budget deficit for 1996 will be HUF 132 billion, privatization revenues excluded.[9] To slash the deficit in such a way in a near-to-stagnating economy would be possible only with a second 170-billion package, providing for more cuts in primary expenditures of the budget and for more primary incomes. Yet even that would be not enough. The founders of the programme are already wondering what to do in 1997 when the temporary import surcharge, the single most important item in the March 12 financial package, will have to be lifted while the budget will be burdened with the obligations toward Austria because of the abandonment of Bős–Nagymaros.[10]

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[7] On the negotiating strategy of the IMF see: *Camdessus* (1995).

[8] Bokros: "If the status quo remains, a reformed budget too will remain an illusion." An interview by K. *Bossányi*. *Népszabadság*, July 29, 1995.

[9] See: "Bokros insists on cutting the budget deficit." *Népszabadság*, July 24, 1995. As a matter of fact, back in mid-June he would have put up with a deficit of 180 to 200 billion. *Népszabadság*, June 12, 1995.

[10] The uncertainty of the government can be well demonstrated by comparing the above with contrasting statements of the government or of the two coalition partners. Examples: "The Alliance of the Free Democrats (SZDSZ) vows that the package is a non-recurring emergency act." *Népszabadság*, June 26, 1995; "By next year no such harsh measures will be necessary. Emphasis will have rather to be put on long-term programme inducing growth." See: "Growth must be spurred. Free Democrats leaders on their party's economic strategy." *Világgazdaság*, June 27, 1995; the SZDSZ said that the restrictive measures must not endanger the institutional achievements of the change in the system, or have a negative effect on the institutional system of self-governments education and culture. See: "SZDSZ prefers growth to revenues. A compromise in the privatisation of the energy sector?" *Világgazdaság*, June 26, 1995; "There is a limit to the tolerance of Hungarians. According to Gyula Horn, the government wants an agreement with the IMF but not at any price." *Népszabadság*, July 6, 1995.

Economic consolidation and (another) change in the system

In the light of a growing number of troubles, the basic approach, or the concept behind the March measures is being queried (not its details, as most critics of the package say; as we will see, the details attacked most fiercely over the past months have sprung from the concept itself). The real trouble centres upon the shock therapy solution for economic problems and the underlying economic philosophy and the diagnosis of the nature of the ills.

No doubt some important details of the package show a refreshing deviation from the approach of the preceding months. Such are the measures concerning the foreign economic sector, which are meant to regroup resources in favour of exports and of import substituting domestic production, at the expense of imports. These measures (like devaluation of the Forint) are welcome (in fact, we have been pushing for them for a long time), or at least cannot be objected to as emergency measures like import surcharge).

It is also true that for the success of the correction of the exchange rate policy (i.e. to push exports and to keep back imports in the first place and not to generate inflation), measures are necessary that prevent the domestic expenditures of exporters and manufacturers of import-substituting products (such as wage costs) from rising as strongly as import costs do. However, restriction is the essence of the Bokros package and it is given an independent role much bigger than a simple support of the exchange rate policy. Besides, the whole package has been presented as if: (1) economic austerity had begun on that exact day in March and (2) such a policy should inevitably include the very measures declared on that day (or measures of equivalent rigour), restrictions concerning education, culture or even state administration included.

In fact, restrictions were being introduced with full speed already *before* March 12; there was a double-digit fall in real wages without any package, the fall being the result of centrally decided price increases. In this situation, the HUF 170 billion package brought a *further* restriction, amounting to some 3 percent of the GDP predicted for 1995, and there is still no end in sight. The trick is that from an economic point of view it is the above issues that are really shocking. Yet it was not these but details negligible for the declared short-term objectives that led to confrontation with the society.

All in all, the need for an urgent and sizeable improvement of the external and internal imbalance does not justify a policy that hurts practically all groups in society. Yet this is what is happening: the package strikes a heavy blow at the society, in many directions, therefore it is not easy to size up the consequences. Most of the measures geared to reduce the deficit and real wages could have been implemented without the wide confrontation caused by curtailments in the field of social services, culture and education. The reason behind the policy of confrontation may be that the package combines short-term economic consolidation with

(another) change of the system. (Some politicians felt that the time was ripe to declare: "the Kádár regime has ended *now*".) It declares the introduction of a different model of society and set of values through reforms from above, with a peculiar experimentation over the whole society.

As for the above, and primarily in the way it combines stabilization and change of the system, the Bokros package is similar to shock therapies applied early in the decade all over Eastern Europe.[11]

However, back then—mainly in Poland, the only country where the shock therapy has, with hindsight, been considered more or less successful—it was an important argument for the feasibility of a shock therapy that at time of the "surgery" the government enjoyed the support of the society. Besides, shock therapy in Poland had positive effects as well, and these could to some extent offset the shock caused by the fall of production and incomes. The decade-long and irritating shortages ended and queues as a way of life disappeared. Gradualism as an alternative to shock therapy was discarded because it was also feared that in the process society's support might dwindle, the consensus break and the measures may not be implemented. However, all countries speculated that the shock would be a single one, and the difficult phase of corrections, along with the greater part of necessary cuts in production and wages, would be over in no time. They were wrong.

Unlike the above programmes, the March package deemed a consensus superfluous, the shocking of the society necessary and the approval of the society less important. Moreover, its inventors knew very well that the series of restrictions would have to continue. The government shocked the society, and itself, in such a way that neither party may feel—and not even the IMF may feel—that we are over the worse.

When international monetary institutions, Western governments and experts urge East Europeans to implement quicker and more radical changes, they are

[11] Differences, too, are obvious. Hungary now wants to *prevent* the sort of grave destabilization that *happened elsewhere*, and resulted in the need for shock therapy. The nature of tensions too is different; in Poland, for instance, the general shortage of goods available for zloty, a dual currency system, hyperinflation and a prolonged debt crisis had by 1989 justified the Balcerowicz programme. Typically, shock therapy in Eastern Europe was a combination of immediate and radical *external and domestic economic liberalization and harsh stabilization measures*. Poland, for example, liberalized exports and imports, radically devaluated the zloty, introduced internal convertibility, freed prices and introduced a strict monetary and fiscal policy. The harshness of the measures was necessary since this was the only way to alleviate the inflatory impact of an instantaneous liberalization. But it is different in Hungary: here the emphasis is clearly on stabilization because the liberalization measures—or similar ones—made in Poland and elsewhere as part of a shock therapy programme had been introduced here before. The Bokros package contains both more liberalization measures (e.g. it lifts exporters' obligation to hand in foreign currencies) and also measures having an opposite effect (introduction of import surcharge, and wage regulation in the state sector). This has resulted in the "shocking" package itself is being "softer" than it was elsewhere. Nevertheless, the repeated fall of incomes and living standards adds to the serious decline that has been going on here too since 1989.

forcing something that they have never done at home. In fact they could not do it because it is against the logic and conditions of the democratic political process.[12]

In a democracy, no economic policy can be successful without social support. This latter is particularly important in a country where not marginal, but painful and deep-going changes are to be implemented in a relatively short time.

The March package is in many respects a break with previous Hungarian economic policies. Such is the nature of its shock-like introduction and the repeated statements accompanying it, that there is an enormous contrast with decades of dawdling, traditional softness and half-hearted solutions. Nevertheless, its economic philosophy shows a large degree of continuity with the previous longer period. As a matter of fact, the package follows logically from the mainstream economic thinking in this country, it means nothing but a more "consistent"—i.e. more aggressive—version of earlier policies. That is true in more than one respect. *Firstly,* restrictions have been regarded since 1979/80 not only as short-term policies aiming at the management of economic imbalances, but also as a relevant way of solving long-term—strategic and structural—problems. *Secondly*, Hungarian economic policy has, since around 1991, ignored the consideration that changes in the economy's mode of operation, in its legal and institutional system and macroeconomic regulation should be gradual. In other words, that the economic agents must be able to adjust to the changes and a consensus and compromise with the society must be sought after. It was then that the well-known legal rulings were made, and institutions were created to which companies, commercial banks and even the state budget were unable to adjust to. The deterioration of the macroeconomic situation in 1993/94 can be directly attributed to those facts. Such are the Bankruptcy Act, the Accountancy Act, the Bank Act and the Central Bank Act. *Thirdly* there is nothing new in the concept that a "fully fledged" market economy must be created as swiftly as possible, the state's economic role must be radically reduced and that monetary and fiscal policies are to be the main instruments of the economic policy.

[12]Let me cite a leading expert of the UN Economic Commission for Europe to support this statement: "Gradualism in both macro- and micro-economic management is so common that it is taken for granted. The imposition of noise limits on aircraft, of catalytic converters and seat belts in motor cars, the phasing out of CFC use and numerous other sources of pollution, the decision to forbid single-hulled tankers using United States' ports after a 15-year adjustment period, are just a few of thousands of examples of the gradual elimination or internalization of externalities associated with private activity. While the need for reforming the agricultural policies of developed market economies is now widely accepted, no democratically elected government would contemplate a 'big bang' reform of the sector. The final stage in creating the European Community's 'single market' in 1992 was a five-year programme of micro-reforms which came at the end of a decades-long process of structural change and deregulation of markets. Nor is it true, as is sometimes claimed, that trade and price liberalization are ineffective if introduced gradually. In Western Europe, wartime price controls and other regulations were phased out in line with the recovery of productive capacities in order to avoid severe inflation. As for the liberalization of international trade, this has been a gradual and steady process which began in 1947 and is still on the agenda of the new World Trade Organization." (*Rayment* 1995)

(The novelty in the Bokros package is rather that the economic policy combines the philosophy of withdrawal of the state with a series of harsh centralisation measures like the establishment of a treasury and curtailing the financial independence of local governments and of the social security institutions, the merger of tax and customs authorities and the fight against economic crimes have become part of macroeconomic policy.)

The wish to bring about consolidation and a "change of system" in one step has an impact on short-term therapy concepts inasmuch as it sees monetary and fiscal restrictions not simply as necessary but also as salutary. As a consequence, in practice it neglects other possible ways of managing the imbalances. Moreover, it accepts further new costs that will only add to the troubles of the economy over the next few years—that is, it exacerbates difficulties *in the very period* when restrictions will be the most severe and the economy should be trying to get out of the mess. Such is the reform of the state budget, where it is argued that it should have long been done, although, as the current Minister of Finance himself pointed out: "...in the short run it has an expressly destabilizing effect... The lesson for 1996 is to offset the extra deficit caused by the reform by further reducing expenditures in other fields."[13] Because of the hurry the "reformed budget" presents the government with a *fait accompli*: "the reform" is no doubt a priority that overrides everything else (promotion of export and investment, financing local governments, health care, education, culture, etc.).

On the priorities of the economic policy—a critical review

With regard to the tasks more closely related to the economic policy, the Bokros package, just like the preceding Békesi programme, has an interconnected system of priorities and these consist of three main elements. *First*, with regard to the country's manifold and severe economic problems (i.e. economic slump, deterioration of living standards, differentiation of incomes, inflation, a high rate of unemployment, growing social and regional problems, internal and external imbalances) it concentrates on the fiscal imbalance; in other words, it focuses upon the budget deficit, which rapidly widened in 1993/94, and it also centres on the current account deficit. *Second* of the latter two, it considers (at least in practice) the budget deficit as the greater evil and which is a direct cause of the deficit in the balance of payments, the Bokros package wants to improve the external balance with instruments that also (or mainly) have a positive impact on the balance of the budget (such is the import surcharge).[14] *Third*: in managing the budget deficit it

[13] An interview made by Katalin Bossányi in *Népszabadság*, July 29, 1995, already cited above.

[14] In a situation like this the introduction of import surcharge cannot be objected to for it no doubt helps add to the revenues of the budget. Yet no one can tell how the March measures

attributes special importance to the improvement of the so-called *primary* (that is, without interest payments) balance.

This system of priorities is wrong, or at least very one-sided.

1. The improvement of the internal and external balance is indeed pressing. A foreign debt of over USD 30 billion combined with a current account deficit amounting to 9 percent of the GDP cannot be maintained for long, especially not at a time when foreign direct investment (an important means of financing the deficit before 1994) is declining. It is essential that the budgetary situation should be improved; the deficit must be pushed back and the financing needs of the budget reduced, respectively.

The actual and top priority that the economic policy must set itself is *to keep up the country's operability*. (*Szamuely* 1995) The protection of public order, legal security and the operation of health care, education, child and family protection and social networks, as well as saving local governments from bankruptcy are just as important as the management of financial imbalances. This should be stressed because public order and legal security as well as the operation of the above networks have been in decline since 1989. The acceleration of this decline would not only multiply the existing subsistence difficulties of a majority of the Hungarian population but would put off the end of the economic crisis, including the implementation of widely accepted goals like the country's integration into the European Union. With all these in mind, it would not be amiss to display more caution and prudence while deciding how, at what pace and to the expense of what parallel priorities the economy may proceed toward the improvement of its financial balance. Such caution would be all the more in place since, as we have seen, there is really no other way to quickly improve the financial balance at the expense of other priorities.

As we have stressed in earlier KOPINT-DATORG publications, (*KOPINT-DATORG* 1995) we have serious reservations about whether the reduction of aggregate domestic demand, and especially of personal consumption within that, is—as *a basic tendency of the economic policy*—suitable for establishing the desired balanced state of the economy. As it is, the balance problems are mainly of a structural nature. They partly originate from decades of adaptation to CMEA requirements and they are partly the results of distortions that took place in the wake of the systemic transformation amidst (and as a consequence of) the deep depression after 1989. This has occurred mainly because of economic policy mistakes in which[15]

concerning the foreign economy (devaluation plus import surcharge) will influence development of exports and imports relative to each other. The combination of a 9 percent devaluation plus 8 percent import surcharge tends, in theory, to slow down imports and not so much to promote exports. Until now, the braking effect on imports has been weaker than expected. This might be explained by the extremely strong import dependency of the Hungarian economy. The effect of these measures will, however, be seen in the next few months.

[15] On the nature of these mistakes see *Lányi* (1994; 1995); Köves (1995a).

not only non-competitive capacities (able to meet, at best, the requirements of the Soviet market) were destroyed, but a sizeable part of the economically viable capital stock was also demolished. Hence, even if fiscal and income restrictions seem to be unavoidable now, in order to sustain the country's operability it is imperative to maintain the severely impaired production potential and the still existing co-operation among domestic producers. The prerequisites of a palpable and sustainable improvement of the macroeconomic situation may be created only within the process of economic growth, and export-oriented growth at that. The prevention of a further slump and the encouragement of growth (of exports, investment and entrepreneurship) should be included in the array of instruments of the economic policy and given at least as much importance as the austerity measures.[16]

2. With regard to the double deficits, the economic policy thinks that the narrowing of the budget deficit should be given absolute priority. In his memorable "25 points" the minister of finance resolutely stated that "the root of the troubles is seated in the budget sphere".[17] This attitude argues that the current account deficit is caused by excess domestic demand generated by the budget deficit; such thinking supposes that a reduction of the internal imbalance more or less automatically results in the improvement of the external balance. The figures, however, do not seem to confirm the statement, whereas the budget deficit in Hungary would cause a significant excess demand. (*Oblath* 1995a) On the other hand, the external imbalance is largely due to supply-side problems, such as:

— the decline in domestic production after 1989, which hindered exports and encouraged imports;

— meanwhile the import dependency of the economy had grown structurally: where domestic production disappeared, former competitive imports turned into necessary (with domestic products being irreplaceable) imports; this was aggravated by hasty import liberalisation implemented simultaneously with a real-revaluating exchange rate policy; thus the price and cost competitiveness of the domestic production deteriorated; moreover, privatisation practice often neglected the interests of domestic production and co-operation;

— the low level of the modernization of productive (or even infrastructural) investments;

— wrong and harmful tendencies in agricultural policy, unfavourably effecting external trade;

— the unsteady, poorly financed and inconsistent industrial policy.

Curbing domestic demand does not in itself solve any of the above problems; in fact it reproduces them at a lower level of economic activity.

[16] More recently there have been attempts to break this principle, mainly by widening the possibilities of export financing. See: "Splitting the MIT is off the map" *Magyar Hírlap*, August 3, 1995.

[17] See "Twenty-five points of the future minister of finance" *Népszabadság*, February 17, 1995.

The most relevant conclusion to be drawn is, however, that the root of the troubles is seated *not* in the budget sphere, but beside the inherited economic (production) structure, especially and mainly in the process of decay which has accelerated in recent years. This does not mean that everything is in order in the sphere of state finance and redistribution, nor does it imply that the budget sphere works properly and no profound structural changes would be necessary in order to operate it efficiently. Yet it does mean that there is no general overspending that the economy could not bear. It is not the "lack of budget reform" (meaning "exaggerated" social, health care and other expenditures) which might cause the deficit. As a matter of fact, there is one single problem causing the deficit (albeit a very grave one and difficult to manage) namely the rapid growth of the budget's interest charges. (Köves 1995b) These charges have tripled over the three years between 1993 and 1995 and will reach HUF 500 billion this year, i.e. 29 percent of the central budget's total expenditures.

We will revert to the interpretation and implications of interest payments later. At this point it is important to stress that these interest charges have originated *not* so much from processes *within the public finances* but rather from obligations originating *outside the budget* and taken over by the state. What happened is that tensions generated for various reasons in other spheres of the economy have been shifted by government, or by other (non-parliamentary) decisions, on to the budget. (Economic... 1995)

This is the real point: the state of the budget is not a reason for, but rather a consequence of the diverse processes taking place in the economy and the way in which these processes are being managed by policy decisions. This is much more important than whether the imbalance of the external *or* internal budget be given priority. As a matter of fact, both problems are of equal importance, and easing the tension with respect to both aspects is a task that should be taken care of without any further delay.

In our previous studies however we emphasized the priority of the management of the current account deficit. The reasons behind this point of view are as follows:

a) The nature of the two kinds of imbalances is different. The deficit of the budget comes from interest payments, while that of the current account from the adverse tendency of primary items—i.e. exports and imports. The former is much more rigid and less easy to handle. In the presence of proper economic conditions the external balance can be improved much quicker than the budget.

b) If there is no improvement in the short-run this may present even more serious and palpable dangers for the current account balance than for the internal imbalance. The deterioration in 1993/94 of the image of the Hungarian economy' was caused *mainly* by adverse trends in external trade and the current account. *This is* what chiefly worries creditors and investors alike and this is what scares

them off from dealing with Hungary. Frequent warnings and scaremongering with regard to Hungary becoming bankrupt or being forced to reschedule its debt are primarily to do with the current account deficit. As a consequence, we are much more vulnerable *vis à vis* the treatment of the external imbalance.

c) However, the order of priority which we suggest is related not only to the nature and actual dangers of the dual imbalance, but also to *the way* the government wants to handle them. As we have seen, curbing aggregate domestic demand and consumption is the centrepiece of the official attitude. We, on the other hand, argue that to reduce both deficits, economic growth is needed. Growth must be export-oriented and therefore a policy overstepping the requirements of monetary disequilibria is needed. Such a policy would also demand growth in the real sphere (i.e. domestic production of exportable and import-substituting goods).

d) Finally, there is no place for "absolute" priorities. Giving priority to the improvement of the current account does not mean that we could agree with some fiscal expansion or with a revisal of the aim of deficit-cutting. Yet these considerations no doubt influence the direction and measure of savings as well as the structure of expenditures.

3. The third element of the prevailing system of economic policy priorities is that the single most important means of managing the budget deficit is the improvement of the so-called primary balance. Even following the declaration of the need for a fiscal correction, the government for some months tried to hide the fact that the deficit had accumulated due to interest payments, and instead was content with repeating that this was a case of overspending and overdistribution. Up until now the financial government has failed—or feared—to find ways of reducing interest expenditures, although its stubborn efforts to increase the primary surplus are meeting with more and more difficulties. It seems as if among actual priorities the improvement of the primary balance of the budget would be even more important than the reduction of the deficit in itself. Whatever the case, the intention to educate (i.e. to persuade the society that what it needs is strictness) and the concept whereby incomes are to be regrouped from the consumer-household sphere to the production-business sphere (which is in itself an acceptable concept although its implementation largely depends on circumstances, measures and methods) have led to a biased, ambiguous version of reducing the deficit. According to official arguments, no matter where the budget deficit comes from, it must be financed; in order to reduce the demand for financing one has to save wherever possible and one can save on primary items. Yet this is a weak argument.

Firstly, as we have mentioned before and will refer to again the bulk of the interest burden confronting the budget has accumulated outside the processes of the budget itself. A considerable percentage of the internal government debt is the result not of credits used in the past to cover the deficit, but that of a rapid

growth of obligations taken over by the state.[18] Therefore, taking the huge amount of interest charges into account, the improvement of the primary balance (and—it must be stressed—this means here and now the *increase of the primary surplus*) will in itself most probably not be enough to deal with the troubles caused by the deficit and to consolidate the budget, if the policy of managing the internal debt and the interest servicing remain unchanged.

Secondly, one cannot accept a standpoint—call it "defeatist"—that seems to suggest that the internal government debt is some sort of exogenous factor, a thing given for the economic policy; nor is it valid to admit that the state is in this respect just as defenceless as it is with regard to its foreign debt. The enormous HUF 350 billion debt of the Hungarian government towards the overwhelmingly state-owned domestic commercial banks that was accumulated during the so-called debtor and bank recapitalization is certainly a debt where the state cannot be regarded totally helpless. This is true even if the established policies of debt management and interest service can be changed within strict limitations only. One must not take radical measures (even if they are possible in the legal or technical sense) of the banking sector which, for instance, would shock the economy by rapidly decreasing the subsidies (debt service in the framework of bank and debtor recapitalization is just that) this would endanger its operability and at the same time would raise doubts at home as well as abroad regarding the creditworthiness of the government. Nevertheless, there should be a way to reduce the debt and interest burden in agreement among the government, the central bank and the commercial banks. The more so since indebtedness itself came into being in a similar consensual way and its interest rates are market rates only inasmuch as they are high, and they are pegged to those of discount treasury notes (which are always high).[19]

Among other measures, the following steps may be taken:

a) Once and for all the practice of dealing out government bonds should be stopped and the budget's scope for undertaking liabilities should be limited by law. For the same reason, the State Privatisation and Property Management Company (ÁPV Rt.) and its budget should also be controlled by parliament.

b) The position, interest rate and regulation of debtor and bank recapitalization bonds should be reviewed. The National Bank of Hungary should gradually

[18] Economic Trends in Eastern Europe. Vol. 4, No. 2, 1995. p. Speaking of possible ways to manage the interest burden faced by the budget, here and in the following we will cite this study. Suggestions, too, are from the latter. The editor of the study and the author of the relevant chapter was Éva *Palócz*. With regard to problems of the Hungarian budget and the nature of the government debt cf. Oblath (1995b).

[19] This argument whereby interest payments may be reduced is in fact included in Bokros's 25 points, but official economic policy has somehow dropped it since. He wrote: "... by using sophisticated banking and capital market techniques, the budget could be financed with a cost 5 to 6 percent less than the current 31–32 percent interest rate and this, with respect to the high proportion of interest-charged state debt, might in itself bring savings of HUF 60 to 70 billion." "25 points of the designated minister of finance" *Népszabadság*, February 17, 1995.

buy out these bonds.[20] When selling banks, it is essential that the transaction should be accompanied by the buy-out of recapitalization bonds. If this is not done, the budget takes upon itself their interest charge for 20 years (i.e. the whole period of the duration of such bonds).

c) More state bonds should be directly sold to individuals; this could lower their level of interest rate.

d) While planning the monetary policy of the NBH it should be kept in mind that the increase of real interest rates leads first of all to the growth of the budget's interest burden. However, in an economic situation like this, growing real interest rates do not necessarily result in more household savings or in less company credits (the latter all the less since companies are free to raise credits in foreign currencies).[21]

It is illusory to think that these measures might soon and significantly reduce the HUF 500 billion annual interest burden of the budget. Hasty and poorly thought-out steps should be avoided. At the same time, it must be kept in mind that by revising the methods of treatment of the government debt, as suggested in the foregoing, a multiple of the amount can be saved then that intended (although not wholly realized because of the rejection by the Constitutional Court) by the government by curtailing social, health care and education expenditures.

Summary

What has been said above should make it clear that the Hungarian economy would stand a better chance of easing the present macroeconomic disequilibria and climbing out of the prolonged crisis if the economic policy would simultaneously strive for stabilization *and* growth. This would take into account, and would make Hungarian society as well as foreign partners accept, that either goals may be won step-by-step only.

On the level of economic policy philosophy, this concept means a radical break with many things regarded by current economic policy as indisputable truth. First of all, it is contrary to the recently emerged views that shocking the society is a decidedly useful and necessary remedy for dealing with the present imbalances of the Hungarian economy. The developments of the past five or six years, beside the political changes, have also included a decline in living standards, social depression,

[20] Such steps have already been taken, but it is not sure whether they were random measures or part of a long-term concept.

[21] This is what happened, for instance, early in 1995. Remember: as against the original budget, the HUF 170 billion package of austerity measures in March reduced the deficit envisaged for 1995 by a mere HUF 126 billion. The explanation for the difference is that, because of the increasing level of interest rates, the annual estimate of interest charge to be paid on the government debt was up by over HUF 40 billion in March as against December 1994.

a growing uncertainty of existence, crumbling social care systems, the decline of legal and public security, and the emergence of a new set of social values and norms. These have been more than enough to shock Hungarian society. Therefore shock therapy in the economy is unacceptable and in all probability just as unworkable.

We must return to gradualism, but this itself must be done gradually. Right now it would be unwise to declare an overall retreat from measures implemented over the recent years. Coming not long after a package that has shocked society and professed a break with the past, a new turn would probably lead to another shock and to the loss of more credit. Since there are also positive growth processes, going on in the Hungarian economy, it would be superfluous and risky to announce a further profound change of policy. (It is also in order to avoid the harmful impact of more shocks that proposals to review the privatisation and compensation of the recent years have to be rejected: such a review might easily result in chaos and legal uncertainty. The same applies to ill-timed suggestions regarding the suspension of foreign debt repayments.) On the other hand, it is imperative that reasonable protection of the domestic market and industry,[22] the regulation of market institutions, the shaping of the banking and financial institutional system and its rules are treated as pragmatically as possible. Moreover, in the future laws and domestic regulations, as well as international agreements that do not take account of the real capabilities and potentialities of the economy should be averted.

The state's role in economic policy should be enhanced, not reduced. The state must be present in the economy, not only through its strong fiscal and monetary policies (and not so much by centralising steps which overemphasize fiscal points), but its industrial policy must also be given a bigger role than it has now. Furthermore, it should not rely solely on the market and market mechanisms but influence the progress of the economy by direct government intervention as well.

The return to gradual reforms, giving up experimentation with the society as a whole whose main purpose is to conform with ideological goals, striving for social consensus among the actors of the economy, beside the compulsion to adjust the continuous maintenance of the feasibility of adjustment are indispensable, though not sufficient, prerequisites for a successful economic policy. The Hungarian economy and society do not need "great leaps" that solve 20-year-old problems overnight (this is impossible), but instead a less spectacular, but still pragmatic policy based on the constant search for compromises between contrasting interests and standpoints. This would make it possible to deal with financial and social problems which in any case are certainly here to stay. An economic policy which

[22] One of them is import regulation. Sometimes it seems that even making imports quite expensive (devaluation plus import surcharge) does not scare off importers. Thus it is suggested every now and then that at least in connection with the import of luxury consumer goods—where prices do not limit market demand—administrative measures should be introduced. Even if some theories flatly reject this, and presentation has always been a concern, such restrictions are often applied internationally. Hence this should be decided on a case-by-case basis.

applies gradualitism helps in the short-run to avert further shocks—such shocks as a radical decline of living standards, rapid pauperisation and social marginalisation of great masses of people and the endangering the economy's operability altogether. The prevailing economic policy threatens to paralyse the economy, yet it does not guarantee a quick, tension-free disentanglement in the longer run. As it is, the "objective" difficulties of the economic transformation *are* serious: the economic structure inherited from the old system cannot be quickly changed, nor can the distortions caused by wrong economic policy trends and hasty measures implemented over the past few years be ended overnight. Besides, the position of the Hungarian economy depends in the long-term on numerous factors beyond the control of any domestic policy. Therefore no *promises* (of rapid growth, improving living standards) should be given now. The image of the future of Hungarian society is not what politicians promise it will be; it is being formed by drawing on experiences in relation to how one sees the current policy and what conclusions one draws from it.

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HUNGARY'S PREANNOUNCED CRAWLING PEG*

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The preannounced crawling peg exchange rate regime, introduced in March 1995, plays a key role in the Hungarian economy. The main goals of the new exchange rate regime are: restoring and maintaining external competitiveness, cooling inflation expectations and enhancing the overall credibility of economic policy. Recent developments in the spot and futures foreign exchange and government securities markets, as well as macroeconomic developments, confirm that the preannounced crawling peg had a successful start in Hungary. The experience of other countries (Southern Cone, Portugal, Israel, and Poland) suggests that the future success of the preannounced crawling peg depends above all on fiscal restraint and wage discipline. In the near term, it is also essential to follow a prudent interest rate policy. Another lesson from outside experience is that the authorities should avoid an additional step devaluation, an increase in the rate of crawl, or a widening of the band, before the credibility of the new regime has been firmly established.

Faced with an unsustainable balance of payments position and rising inflation and devaluation expectations, in March 1995 the Hungarian authorities introduced—as part of a comprehensive adjustment package—a preannounced crawling peg exchange rate regime. The new regime plays a pivotal role in correcting the macroeconomic imbalance. Over time, consistent application of the preannounced crawling peg, along with other macroeconomic instruments, should strengthen the credibility of economic policy and help create conditions for sustained growth.

This article consists of three parts. The first discusses the goals and parameters of the preannounced crawling peg. The second reviews the experience with such a regime in the Southern Cone toward the end of the 1970s, in Portugal particularly in the 1980s, and in Israel and Poland in the 1990s. The final part attempts to draw relevant lessons for Hungary, provide an assessment of the application of the new regime to date, and highlight the potential dangers that lie ahead.

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General considerations

Immediate goals of the preannounced crawling peg regime are the restoration or maintenance of external competitiveness and cooling of inflation expectations, thus reducing external and domestic disequilibria. In the first place, particularly at the time of introduction, the new exchange rate system contributes to external balance through an increase in the domestic price of tradables relative to nontradables. The relative price change induces a shift in domestic consumption toward nontradables, and it encourages production of exports and import substitutes. In addition, the system can have an important signalling function. To the extent that economic agents believe the preannounced monthly depreciation, the system contributes to the decline in inflation expectations, and thus to falling wage inflation and lower interest rates. In particular, the yield curve should pivot toward lower long-term rates, stimulating private investment and reducing the interest cost of public debt. Over the medium term, a track record of continuous and consistent application of the preannounced crawling peg enhances the overall credibility of economic policy, encouraging internal savings, foreign and domestic investment, and employment—all conditions for sustained growth.

The main parameters of the present exchange rate system are the magnitude of the initial devaluation, the pace of the crawl, and the width of the intervention band around the central rate. Obviously, it is not easy to fine-tune *ex ante* these parameters in any economy, let alone during the transition from central planning to a market economy.

The *initial step devaluation* is set with a view to correcting the earlier deterioration in competitiveness, so as to change relative prices in favor or tradable goods and services. The magnitude of the initial devaluation should be, broadly speaking, determined by the existing overvaluation, measured in reference to the period when the rate of exchange was deemed to have been in equilibrium. Again, the task of gauging the extent of the overvaluation is rendered difficult by the dearth of reliable indicators of competitiveness—relative unit labor costs being generally the indicator of choice—in an economy in transition.

The *pace of the preannounced crawl* must be both ambitious and realistic. Retrospectively, it should be realistic in that it helps to restore external competitiveness, in particular if the initial devaluation was not large enough to do so. Looking ahead, however, it should be sufficiently ambitious in the sense that the rate of depreciation should be decreased periodically so to dampen inflation expectations. Specifically, the announced rate of depreciation should not exceed the difference between the domestic inflation target and the estimated inflation rate in major trading partner countries. In this respect, the preannounced crawling peg, or so-called *active* peg, differs from a fixed real rate of exchange, or *passive* peg, intended to compensate for the actual inflation differential at home and abroad. While the latter is consistent with any domestic inflation rate—including rather

high rates—the essence of a preannounced crawling peg (if credible) is precisely to moderate inflation.[1] Thus, the monthly rate of depreciation is usually preannounced for a given period (e.g., six months), with a view to lowering it at successive intervals, so that in due course the exchange rate can be fixed in nominal terms. As long as the credibility of the system has not been firmly established, every effort should be made to avoid a reversal by raising the rate of the monthly depreciation or breaking its path with a new step devaluation.

The third essential parameter, the *intervention band* around the central rate, is intended to provide flexibility to the crawling peg, thus neutralizing the impact of unexpected exogenous developments. If the band is too wide or if it is asymmetric (i.e., wider in a depreciating direction), it will tend to weaken the trust in the announced crawl and will be built into the exchange risk premium, thereby undermining the whole system. Therefore, the width of the band should be determined by striking a balance between considerations of flexibility and credibility. The higher the monthly depreciation rate—especially shortly after adoption of the system—the narrower the band should be. As the depreciation rate declines, however, there is greater scope for widening the band.

After the initial stage, increasingly less latitude remains for altering the parameters of the exchange rate system—short of a significant exogenous shock—and especially for stepping up the monthly depreciation rate. Indeed, the question arises as to necessary conditions for sustaining the system. In the near term, of course, the preannounced exchange rate must be kept within the band through central bank intervention in the foreign exchange market. This presupposes, for one thing, adequate foreign exchange reserves to make the intervention credible. For another, the exchange rate must be supported with an appropriate interest rate policy. Domestic interest rates, such as the yield on short-term treasury bills, cannot be lower than the yield on comparable instruments abroad adjusted for the preannounced rate of depreciation, plus a risk premium for unanticipated devaluation, plus various financial market imperfections. Obviously, the extent to which the domestic interest rate can deviate from this level, even for a short period, depends on the openness of the capital account in the balance of payments. For instance, a drop in the domestic rate influenced by the central bank—below the corresponding market interest rate will induce a capital outflow, through various channels, and the preannounced rate of exchange may no longer be sustainable. In all, with unlimited capital movements, money supply becomes endogenous to the exchange rate.

Beyond the short term, the sustainability of the preannounced crawling peg hinges on macroeconomic fundamentals. As monetary expansion must be consistent with the preannounced exchange rate, net domestic assets, including the net

[1] For a discussion of the distinction between an active and passive exchange rate peg, under various foreign trade or financial systems, see *McKinnon* (1981). *Adams and Gros* (1986) contains an analysis of the implications of a fixed real exchange rate system.

credit extended to the general government, must adjust to the net foreign liabilities position of the central bank, or more broadly, of the banking sector.[2] To this end, it is necessary to restrain domestic demand with prudent fiscal and incomes policies. On the supply side, wage developments have a direct influence on the sustainability of the exchange rate. An increase in domestic unit labor costs (in excess of the preannounced depreciation) relative to those in trading partner countries, will erode competitiveness and undermine the exchange rate system. In other words, wage and fiscal discipline are essential for realizing the stabilizing effect of the preannounced crawling peg.

Relevant experience

There have been at least half a dozen countries where the preannounced crawling peg regime was an essential feature of a comprehensive stabilization program.[3] All these cases provide potentially useful lessons for Hungary.

Between 1978 and 1982 *Argentina, Chile* and *Uruguay* followed, at various times, a preannounced crawling peg, primarily in order to break strong inflation expectations.[4] Prior to the adoption of the new regime, annual inflation had reached around 50 to 175 percent, and—with the exception of Chile—production had stagnated. Earlier measures to restrain domestic demand pressures had met with little success. External liberalization was under way, while more or less accommodating devaluations fed the inflation process even further. Against this background, a crawling peg exchange rate system was launched with a different rate of monthly depreciation—ranging between 1.5 and 4.5 percent—in each country, according to a schedule (*tablita*) preannounced over a horizon of at least six months.[5] In both Argentina and Uruguay, the level of foreign exchange reserves was ample—equivalent to more than one year of imports—to support the introduction of the system (see *Table 1*).

In perhaps the most striking case, Chile, within one year, succeeded in graduating to a fixed nominal exchange rate within a narrow band. However, the real exchange rate appreciated by nearly 30 percent as a result of wage indexation. In Argentina the entire experiment lasted barely two years, given the failure to reduce

[2] For an analysis of the role of the budget deficit and domestic credit expansion in a crawling peg regime, see *Savastano* (1992).

[3] For a description of the exchange rate systems of each country, see *International Monetary Fund* (annual volumes).

[4] Many authors have dealt with South American stabilization programs, including *Corbo and de Melo* (1985), *Dornbusch* (1982), *Barletta, Blejer and Landau* (1984) and *Agenor and Montiel* (forthcoming).

[5] As an exception, Argentina, in the course of 1980, lowered the preannounced rate of depreciation monthly.

Table 1

Selected countries: macroeconomic indicators under the preannounced crawling peg (annual average percentage change or rate, unless otherwise indicated)

Argentina	1977	1978	1979	1980	1981	1982	1983
Real GDP growth	6.2	–3.3	7.3	1.5	–6.7	–5.0	2.9
External current account balance/GDP	2.2	2.8	–0.5	–3.1	–3.8	–4.1	–3.8
General government balance/GDP	–11.9	–10.1	–9.0	–11.3	–16.4	–17.2	–17.3
Change in domestic currency/US dollar rate	191.2	95.3	65.5	39.5	139.7	488.8	306.2
Consumer price inflation	176.0	175.5	159.5	100.8	104.5	164.8	343.8
Time deposit interest rate	145.0	128.0	118.0	79.0	157.0	127.0	283.0
Change in real wages	1.0	–2.8	11.4	11.1	–8.3	–13.0	n.a.
Foreign exchange reserves at year-end (in average monthly imports)	9.6	16.1	17.1	7.9	4.4	6.1	6.0
Preannounced monthly depreciation				4.45	2.8–1.0		

Chile	1977	1978	1979	1980	1981	1982	1983
Real GDP growth	9.9	8.2	8.3	7.8	5.5	–14.1	–0.7
External current account balance/GDP	–4.1	–7.1	–5.7	–7.1	–14.5	–9.5	–5.7
General government balance/GDP	–1.1	–0.1	4.8	5.4	2.6	–2.2	–2.6
Change in domestic currency/US dollar rate	64.9	47.0	17.7	4.7	0.0	30.5	54.9
Consumer price inflation	91.9	40.1	33.4	35.1	19.7	9.9	27.3
Time deposit interest rate	93.8	62.8	45.1	37.5	40.8	47.9	28.0
Change in real wages	12.8	–8.1	8.3	9.0	9.1	–0.1	–10.7
Foreign exchange reserves at year-end (in average monthly imports)	2.3	4.0	5.9	8.5	6.5	7.4	10.1
Preannounced monthly depreciation		1.5	1.0–0.0	0.0	0.0	0.0–0.8	
Exchange rate band (+/–)			2.0–0.5	0.5	0.5	0.5–2.0	

Uruguay	1977	1978	1979	1980	1981	1982	1983
Real GDP growth	1.2	5.3	6.2	6.0	1.9	–9.4	–5.9
External current account balance/GDP	–3.9	–2.5	–4.9	–7.0	–4.1	–2.5	–1.2
General government balance/GDP	–1.3	–0.9	0.0	–0.0	–1.5	–9.1	–3.9
Change in domestic currency/US dollar rate	40.2	29.5	29.7	15.8	18.9	28.6	148.3
Consumer price inflation	58.2	44.5	66.8	63.5	34.0	19.0	49.2
Time deposit interest rate	51.4	42.6	50.6	50.3	47.4	50.1	71.4
Change in real wages	–12.1	–3.4	–3.1	0.4	7.4	–0.3	–25.0
Foreign exchange reserves at year-end (in average monthly imports)	12.4	14.5	8.3	6.5	7.0	6.0	9.3
Preannounced monthly depreciation			1.5	1.3	1.2	1.2	

Table 1 *(continued)*

Selected countries: macroeconomic indicators under the preannounced crawling peg (annual average percentage change or rate, unless otherwise indicated)

Portugal	1977	1978–80	1981–83	1984–87	1988–90
Real GDP growth	5.6	4.8	1.1	2.6	4.6
External current accounts balance/GDP	–0.1	–0.6	–10.9	0.9	–0.8
Unrequited private transfers/GDP	6.9	14.4	11.2	9.9	8.1
Central government balance/GDP	–0.1	–10.5	–7.7	–6.9	–3.8
Change in nominal effective exchange rate	26.4	11.4	17.7	9.2	3.0
Consumer price inflation	27.1	20.9	22.6	17.2	11.9
Time deposit interest rate	12.5	18.6	22.1	21.2	13.3
Change in real wages	–9.4	–0.4	1.9	–1.9	1.1
Foreign exchange reserves at year-end (in average monthly imports)	3.5	5.4	7.9	8.6	8.6
Preannounced monthly depreciation		1.25–0.5	0.5–1.0	1.0–0.5	0.4–0.0

Israel	1989	1990	1991	1992	1993	1994
Real GDP growth	1.3	5.8	6.2	6.6	3.4	6.5
External current account balance/GDP	2.8	1.1	–0.7	0.3	–2.1	–2.8
General government balance/GDP	–6.1	–4.2	–4.3	–2.9	–2.8	–1.0
Change in domestic currency/US dollar rate	19.9	5.2	13.0	7.9	15.1	6.4
Consumer price inflation	20.1	17.2	19.0	11.9	10.9	12.3
Time deposit interest rate	14.1	14.4	13.9	11.3	10.4	12.0
Change in real wages	0.7	0.1	–2.4	–0.3	0.5	2.6
Foreign exchange reserves at year-end (in average monthly imports)	4.5	5.1	4.6	3.3	3.8	3.5
Preannounced monthly depreciation				0.7–0.6	0.6–0.5	0.5
Exchange rate band (+/–)	3.0	5.0	5.0	5.0	5.0	5.0

Poland	1989	1990	1991	1992	1993	1994
Real GDP growth	0.2	–11.6	–7.0	2.6	3.8	6.0
External current account balance/GDP	–2.7	1.1	–2.9	–0.3	–2.7	–1.1
General government balance/GDP	–7.4	3.1	–6.5	–6.7	–2.9	–2.5
Change in domestic currency/US dollar rate	233.9	560.2	11.3	28.8	32.9	25.4
Consumer price inflation	247.7	553.6	76.7	45.3	35.3	32.2
Time deposit interest rate	100.0	41.7	53.5	37.8	34.0	30.6
Change in real wages	10.4	–28.8	–5.4	–5.4	0.6	3.6
Foreign exchange reserves at year-end (in average monthly imports)	2.8	5.7	3.0	3.2	2.7	3.4
Preannounced monthly depreciation			1.8	1.8	1.8–1.6	1.6–1.2
Exchange rate band (+/–)			0.5	0.5	0.5–1.0	1.0

Source: International Monetary Fund and author's calculations

the general government deficit below 9 percent of GDP and to moderate wage increases. By contrast, in Uruguay, the government accounts remained in balance until 1980; thereafter, however, the budget deficit widened to 9 percent of GDP. Compared to the other countries, Uruguay was probably the most vulnerable, as the liberalization of the capital account preceded the opening of the current account.[6]

In essence, none of these countries succeeded in establishing the credibility of the exchange rate system in a lasting way. Despite decelerating inflation, domestic interest rates remained very high in comparison with interest rates abroad adjusted for the preannounced depreciation rate. Initially, the high interest rate differential induced significant capital inflows and the resulting buildup of foreign exchange reserves made monetary control difficult. Later, however, as the fundamental macroeconomic equilibrium weakened, interest rate policy became increasingly ineffective in supporting the crawling peg—or in Chile, the fixed exchange rate—and reserves declined, though in some cases slower than the fall in imports. Consequently, the exchange rate system collapsed and inflation surged again. These cases underscore the importance of consistent fiscal and wage policy. After a relatively brief successful experience, the exchange rate system was no longer sustainable owing to large budget deficits in Argentina and Uruguay, or to the rise in real wages (in the presence of a fixed exchange rate) in Chile. These developments led to even larger external imbalances and higher inflation expectations than before the introduction of the preannounced crawling peg.

Portugal relied on a preannounced crawling peg almost continuously from 1978 through 1989, and it did so with considerable success after 1983.[7] Although it faced sizable current account deficits, inflationary pressures were much milder than in the Southern Cone. Following a 15 percent step devaluation, the authorities announced a monthly 1.25 percent depreciation from the end-1977 onwards, reducing it gradually to 0.5 percent by 1980. The coordinated application of exchange rate and interest rate policies contributed to internal and external balance. This process was interrupted between 1980 and 1983 following a 6 percent nominal revaluation aimed at slowing down the pace of inflation. Only on the basis of the 1983 stabilization program did Portugal achieve significant growth and deceleration in inflation to near the European average. In part, this was the result of a reduced preannounced crawl, down to 0.25 percent per month by 1989. Thus, Portugal was able to join the ERM *de facto* in 1990 and *de jure* in 1992.

The explanation for Portugal's success can be found in several favorable conditions (in addition to the exchange rate system) that were not present in the

[6] This ran counter to the sequencing of external liberalization suggested, for instance, in McKinnon (1982), *Frenkel* (1982) and McKinnon (1984).

[7] *Schmitt* (1981) contains a description of the first phase of adjustment, and Dornbusch (1981) an analysis of the exchange rate system. For a comprehensive review of Portugal's economic policy over the last three decades, see *Silva Lopes* (forthcoming).

Southern Cone. Macroeconomic policy in Portugal was far more credible from the outset—with some exceptions in the mid-1970s and perhaps at the beginning of the 1980s—and the labor market was sufficiently flexible to allow for real wage moderation. In addition, private saving was high—up to 12 percent relative to GDP—with the chief source being remittances from residents employed abroad. These remittances and, since 1987, official EC transfers helped finance sizable (pre-transfer) government deficits. Moreover, Portugal's large gold stock helped support the credibility of the exchange rate system.

Israel, in 1985, and *Poland*, in 1990, resorted to a so-called heterodox stabilization program in order to brake very high inflation expectations.[8] Annual inflation averaged 450 percent in Israel in 1984 and 250 percent in Poland in 1989, accelerating significantly above these rates by year-end in both countries. Under the circumstances, a fixed nominal exchange rate constituted the anchor for macroeconomic stabilization. Other key elements of the program were a virtual wage freeze and a large-scale fiscal adjustment. Over time, consistent application of these tools led to stabilization and growth.

During 1985, in Israel, the authorities reached agreement with the social partners on three corrective packages that served as the basis for a comprehensive stabilization program. The program included suspension of wage indexation, resulting in real wage cuts of 14 percent in the public sector. On the basis of expenditure cuts as well as falling interest costs (associated with a sharp drop in inflation), within two years the general government deficit was nearly halved from some 30 percent of GDP.[9] While inflation decelerated sharply to 20 percent and the current account balance turned from a deficit to a surplus, output growth jumped above 2 percent.

Because of wage pressures—reflecting in part productivity gains—in the face of a rigid monetary policy, it was necessary to adopt a more flexible yet stable exchange rate system. Specifically, in 1989, after having won the trust of economic agents in macroeconomic policies, Israel devalued its currency by 12 percent and opened a (+/−) 3 percent band around the fixed central exchange rate.[10] At the end of 1991, the authorities widened the band to 5 percent and switched to a preannounced crawling peg—reduced gradually from 0.7 percent to 0.5 percent per month by the end of 1993—that was supported with fiscal and wage restraint. The

[8] Essential features of heterodox programs are the abolition of indexation schemes, and fixing of the nominal exchange rate and nominal wages and, in some instances, also the price level, though for a shorter period. Such programs were introduced between 1985 and 1987, for example, in Argentina, Bolivia, Brazil and Mexico, besides Israel. Of these, the Argentine and Brazilian programs ended in failure.

[9] On the fiscal content of Israel's stabilization program, see *Kreis* (1989).

[10] *Helpman, Leiderman and Bufman* (1994) analyze the preannounced exchange rate band used by Chile, Mexico and Israel in the 1990s. Of these cases, the experience of Israel seems the most relevant from Hungary's viewpoint.

gradual decline in the preannounced depreciation within the band helped moderate fluctuations in the exchange rate and in the differential between domestic and foreign interest rates. Inflation decelerated further, the current account imbalance narrowed, and growth was sustained.

Although still in the initial stage of the transition to a market economy, at the end of 1989, Poland's macroeconomic situation resembled that of Israel five years earlier. Besides setting a fixed nominal exchange rate, Poland imposed a highly progressive tax-based incomes policy (*popiwek*) and implemented a fiscal adjustment equivalent to about 10 percent of GDP, achieved mainly through the phasing out of price subsidies. It is worth noting that, under this successful heterodox stabilization program, Poland's output contraction was significantly milder than experienced by other economies in transition that had followed a more gradual adjustment strategy.

Much like Israel, Poland also shifted from a fixed peg to a preannounced crawling peg. In 1991, following a 14 percent step devaluation, the authorities announced a monthly depreciation of 1.8 percent, that was reduced to 1.6 percent in 1993 and to 1.2 percent near the end of 1994. The adjustment process was not entirely smooth. The acceleration in wage inflation during 1992 required an unanticipated 10 percent devaluation. In 1993, a premature domestic interest rate cut made necessary yet another 8 percent devaluation to prevent a drain on reserves.[11] Thereafter, the authorities resisted further interest rate reductions, leading to sizable capital inflows since mid-1994. Initially, a relatively narrow (+/– 0.5 percent) band was permitted around the preannounced rate; the band was widened to one percent in 1993, to 2 percent in February 1995, and further to 7 percent in May. At the end of 1995, partly as a result of a cautious interest rate policy, the central parity of the zloty was revalued by 6.4 percent. A restrained wage policy and falling budget deficit, along with exchange rate adjustments, contributed to a sustainable external position. However, given the prolonged reliance on a relatively high preannounced monthly depreciation, compounded by additional *ad hoc* devaluations, inflation decelerated below 30 percent only in the course of 1995. Increased credibility of the exchange rate system and moderation in inflation expectations was reflected in an impressive pivoting of the yield curve.

In both Poland and Israel the credibility of financial policy had been achieved initially, under the heterodox stabilization program anchored to a fixed nominal exchange rate.[12] Eventually, it was appropriate to allow for some flexibility through shifting to a preannounced crawl (subject to a gradual reduction in the depreciation rate) and widening the band—but the latter only after a satisfactory track record with the fixed nominal exchange rate had been attained.

[11] For a description of economic developments in Poland, see *Ebrill and others* 1994).

[12] Under Mexico's heterodox program, an asymmetric band was used in response to an ever stronger overvaluation, that obviously had become unsustainable by the end of 1994.

The above cases point to the importance of coordinating interest rate policy with the pace of the crawl. In particular, Poland's example illustrates that premature interest rate cuts may trigger additional unanticipated devaluations and may even risk upsetting the system. On the other hand, high domestic interest rates can create sterilization problems. Although the band provides greater latitude for interest rate policy, in both Israel and Poland the central bank effectively intervened within narrower limits than those provided under the official exchange rate band.

The case of Hungary

Whereas in some countries the preannounced crawling peg has been used primarily to brake high inflation expectations, in Hungary the rationale for the regime is based on other factors as well. Besides experiencing stubborn inflation expectations, which occasionally may be accompanied by speculative attacks against the forint—as in early 1995, for example—Hungary's economic environment is characterized by much greater skepticism on the part of economic agents than warranted by objective macroeconomic indicators.[13] In addition, in Hungary it was necessary to reverse the erosion in external competitiveness and the relatively high domestic demand expansion, reflected in unsustainable current account deficits, of close to 10 percent of GDP from 1993 through the first quarter of 1995.

Therefore, the immediate rationale for the new exchange rate system, in combination with appropriate flanking measures, consisted of taming inflation and devaluation expectations, significantly improving competitiveness, and enhancing the credibility of economic policy. The fall in inflation expectations should help ease the interest cost (already in excess of 8 percent of GDP) on a very large public debt burden (nearly equivalent to the level of GDP) and permit financing the budget deficits with lower-interest longer-term government securities. The concomitant decline in real interest rates should stimulate much-needed private fixed investment through expanded domestic financial intermediation. An added advantage of an exchange-rate based monetary policy is that it largely obviates monetary targeting,

[13] The Hungarian situation differs from both the Czech and Polish environment, where households and enterprises seem to have greater trust in macroeconomic policymaking. The lack of policy credibility in Hungary can be traced in part to the stop-and-go reform-cum-adjustment pursued for over two decades. The real danger lies in the fact that if, after such a variegated policy course, the stabilization based on the new exchange rate system cannot be sustained, then it will probably require much stronger medicine to regain the trust of economic agents. The case of Argentina may serve as a dramatic illustration: after trying virtually everything (including asset freeze), the only thing left was to base financial policies on a currency board. Interestingly, under this approach, Argentina attained a 7 percent real GDP growth since 1991; see International Monetary Fund (1994). For a discussion of fiscal and monetary policy management in economies in transition, see *Kopits* (1994a).

which is particularly difficult with unreliable estimates of money demand in an economy in transition. The final reason for adopting the preannounced crawling peg is Hungary's aspiration to join the EU and lock its exchange rate to the ERM. Over the medium term, the preannounced crawling peg—with periodic reductions in the depreciation rate—should evolve into a fixed nominal exchange rate.

It can be argued that the most important component of the corrective package of March 1995 was the 8.3 percent step devaluation, followed by the preannounced crawling peg (with 1.9 percent monthly depreciation through June, 1.3 percent through December, and 1.2 percent from January 1996) within the existing band (2.25 percent around the central rate).[14] Although their precise magnitude and timing can be subject to debate, the initial parameters have proved to be broadly appropriate—as shown below. The rest of the package included a reduction in the budget deficit (of at least 2 percent of GDP), in part due to additional revenue from an import surcharge (8 percent) and substantial real wage cuts (averaging more than 10 percent during the year), especially for public sector employees.[15] Additional prerequisites for the new exchange rate system, namely, adequacy in the level of foreign exchange reserves (equivalent to more than six months of imports) and in key interest rates, have been met. In all, the fact that since March 1995 the National Bank of Hungary has been able to support continuously the preannounced rate at the bottom of the band—reflecting pressures to appreciate—indicates that the system has been viable so far (*Fig. 1*).

Nevertheless, three critical observations have been voiced from the outset, casting doubt as to the success of the new exchange rate regime. One observation is that the forint has been cheaper on the futures foreign exchange market than implied by the preannounced exchange rate for the corresponding time period. Another observation is that the yield on government securities exceeds by a wide margin the comparable foreign exchange yield adjusted for the preannounced depreciation rate. The third observation is that the actual inflation rate has remained well above the inflation target implicit in the preannounced monthly depreciation.

In response to the first critical remark it is worth noting that Hungary's futures foreign exchange market is rather thin and probably still in a learning phase. Thus, futures transactions might not be regarded as entirely indicative of market perceptions. Admittedly, the initial gap between the futures exchange rate and the corresponding preannounced rate for December 1995 and March 1996 was rather wide: 5 to 7 percent above the upper limit of the band. However, the difference narrowed and virtually vanished after mid-1995 (*Fig. 2*).[16] Exchange rates for

[14] For the 1995 monetary policy guidelines, see *National Bank of Hungary* (1995).

[15] For the 1995 supplementary budget and legislative amendments, see *Republic of Hungary* (1995) and *Ministry of Finance* (1995).

[16] Beyond a certain date, of course, the futures rate is bound to converge with the corresponding preannounced—or rather, actual—rate upon approaching the date of the contract.

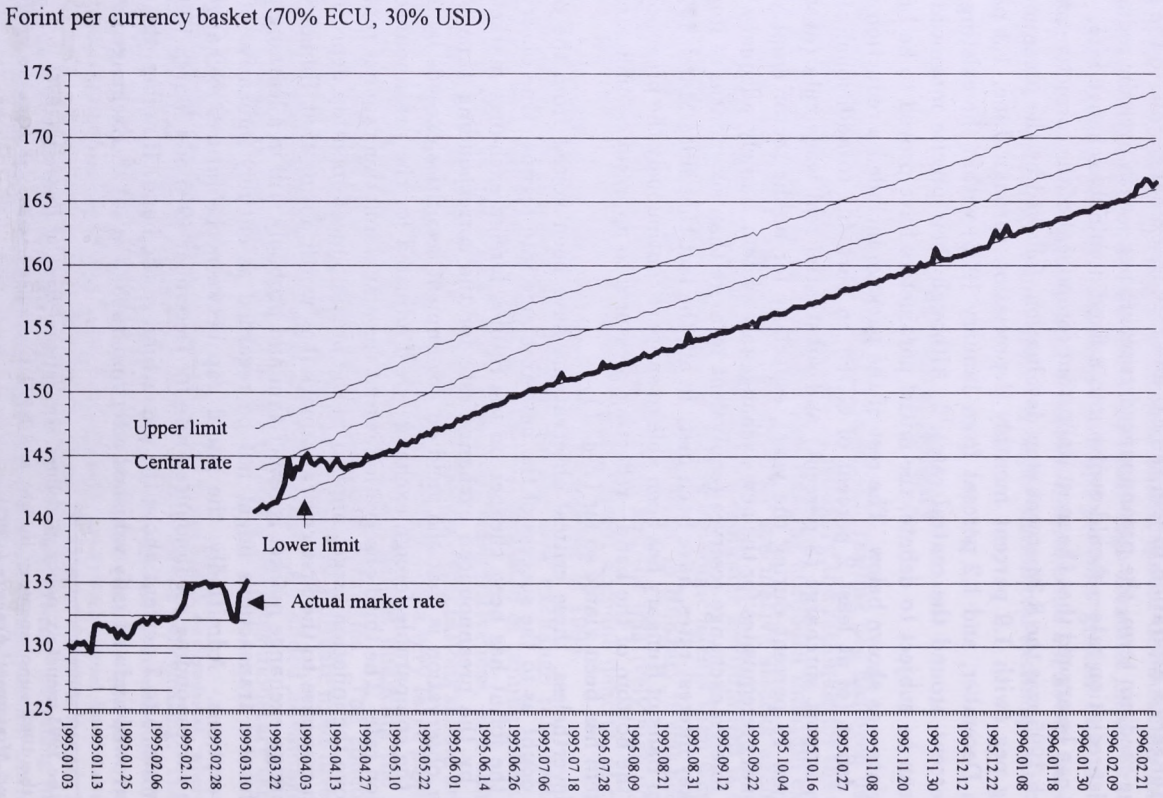

Fig. 1 Exchange rate developments, 1995

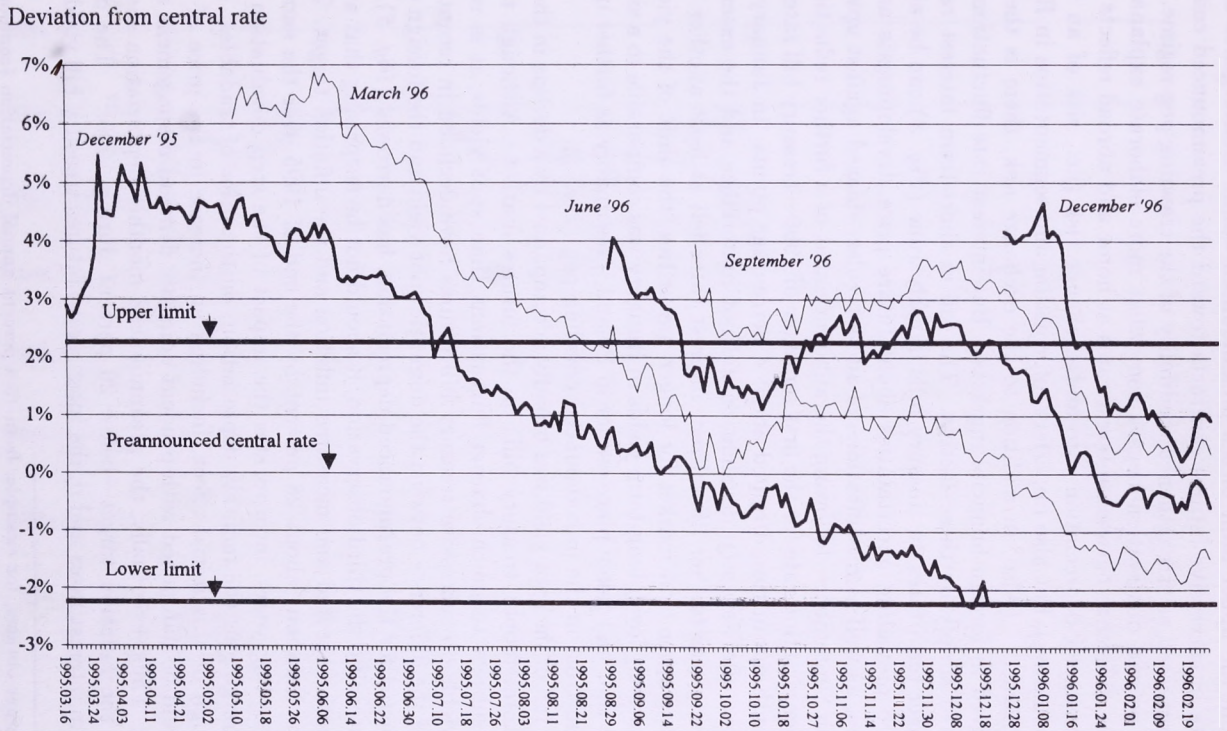

Fig. 2 Future exchange rates and corresponding preannounced rate, 1995

more recent futures contracts display very small deviation (and for relatively short period) from the upper limit of the preannounced band. Convergence of the exchange rate in successive futures contracts toward the preannounced central rate can be interpreted as strengthened credibility of the crawling peg regime.

The second observation begs a somewhat more elaborate explanation. In general, the difference between interest rates at home and abroad reflects not only the preannounced depreciation rate and exchange risk (i.e., risk of an unanticipated devaluation), but also imperfect information and segmentation in Hungary's financial markets. (Also, in addition to the exchange risk, there is the country risk perceived in foreign financial markets.) But interest rate fluctuations cannot be explained simply by these factors. The fall in short-term interest rates relative to longer term rates on treasury bills in early June (*Fig. 3*) can be attributed probably to prevailing uncertainties about future price developments and financial policies, as well as modifications of auction rules—biased against upward rate changes. In September—following the announcement of a further reduction in the monthly depreciation rate for the first semester of 1996—treasury bill rates, except on one-month maturities, dropped about 4 percentage points. In January 1996, as expectations of a new step devaluation did not materialize and the external payments system was further liberalized, interest rates fell at least another 5 points. Despite the rather thin market for longer maturities, the shift of the yield curve toward relatively lower long-term yields in Hungary was comparable to a similar development that had taken place earlier in Poland, presumably as further indication of increased trust in the preannounced crawling peg (*Fig. 4*).

The fall in the spot yield was broadly accompanied by a decline in the interest yield for three-month treasury bills on the futures market. Although the latter has been subject to much sharper fluctuations than spot yields, it is reassuring that the yields on successive treasury bill futures have declined in recent months. Meanwhile the difference between the domestic spot yield and the foreign exchange yield, adjusted for the preannounced depreciation, has narrowed (*Fig. 5*).

Concerning the third observation, it should not be surprising that at the end of 1995, both expected and measured inflation and the inflation target. The measured price inflation (about 28 percent by the end of 1995 over the same period in the preceding year), incorporates the impact of the step devaluation, the import surcharge plus the monthly depreciation, on the price of tradables. However, pass-through of this initial effect, including an increase in the price of nontradables, should be dampened with prudent domestic demand management and wage discipline. Thus, eventually, the preannounced monthly depreciation should help approach the inflation target—below 20 percent during 1996.[17] The decline in longer term interest rates and in the most recent futures treasury bill yields may be

[17] This target obtains, for example, from 15.4 percent annual depreciation (compounding 1.2 percent monthly) and a foreign inflation rate of about 3 percent.

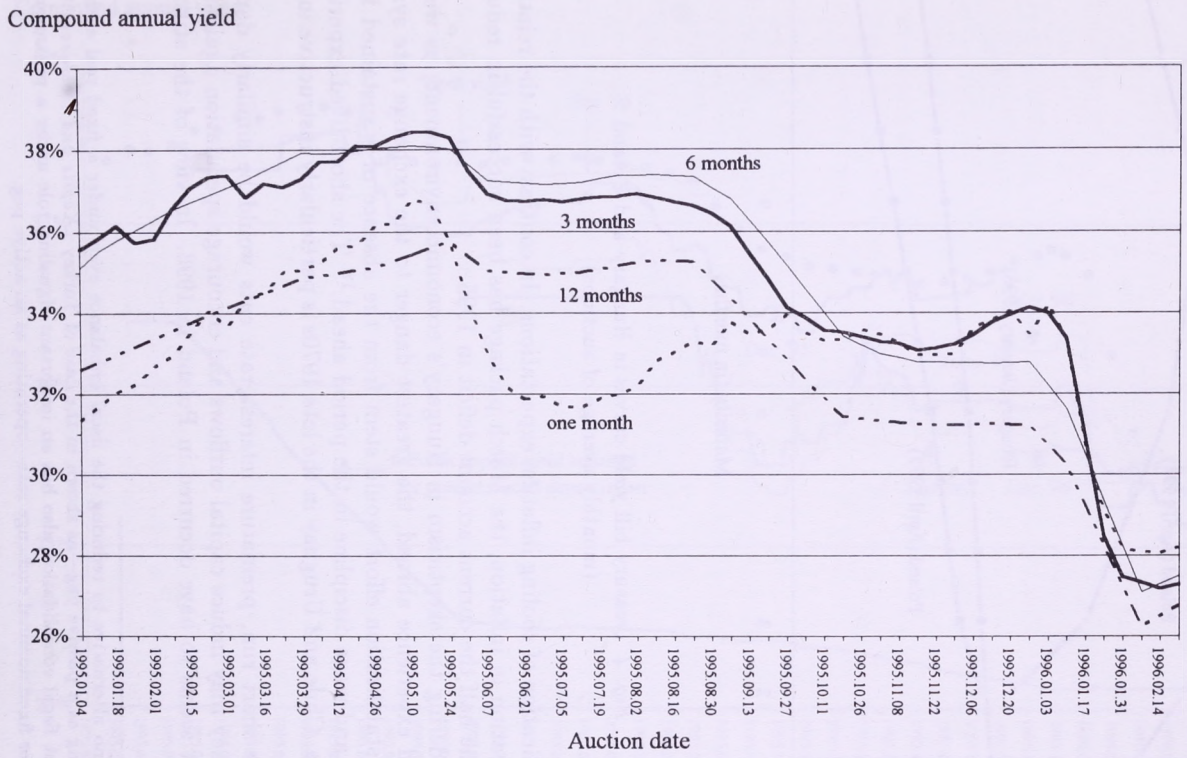

Fig. 3 Interest yield on treasury bills (at auctions), by maturity, 1995

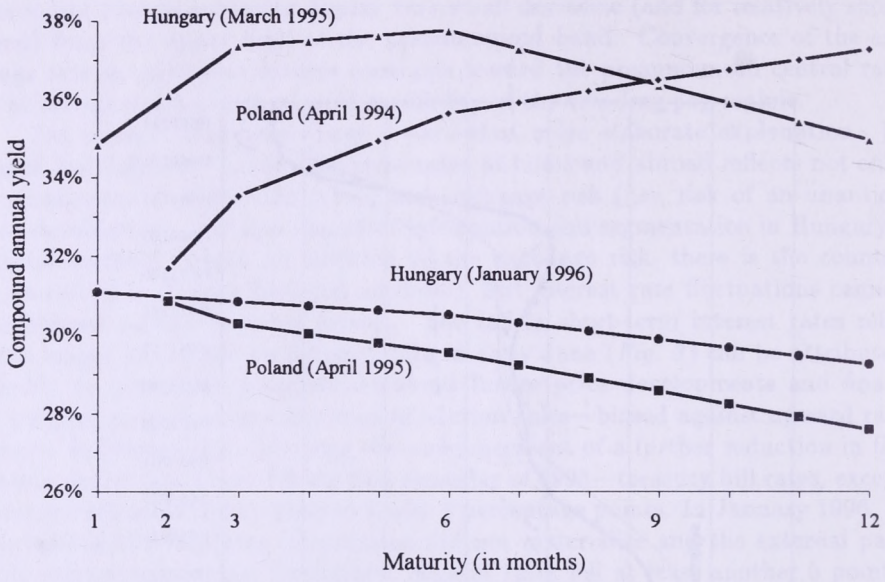

Fig. 4 Treasury bill yield curves in Hungary and Poland (monthly average of auctions)

an early indication of cooling inflation expectations. In contrast with the relatively slow deceleration in inflation, the March package has been successful in reducing by nearly one half the current account deficit in 1995.

Considering the skepticism in Hungary's economic environment, as well as accumulated experience abroad, the greatest danger to the exchange rate system and to the stabilization effort would stem from the absence of a sustained fiscal adjustment and wage discipline in the period ahead.[18] The short-lived experience of Argentina, Chile and Uruguay in the late 1970s is particularly instructive in this regard.

In the short run, premature interest rate cuts would be similarly dangerous, since they may induce capital outflows and encourage speculation against the forint—as it seems to have occurred in Poland in 1993. In view of the still pre-

[18] There is no alternative to reducing the fiscal imbalance even under a fixed real exchange rate—operating as a passive peg—as shown in the case of Turkey (*Kopits and Robinson*, 1990) or Brazil. But fiscal consolidation also has an important signaling role under a preannounced crawling peg or fixed nominal exchange rate—operating as an active peg.

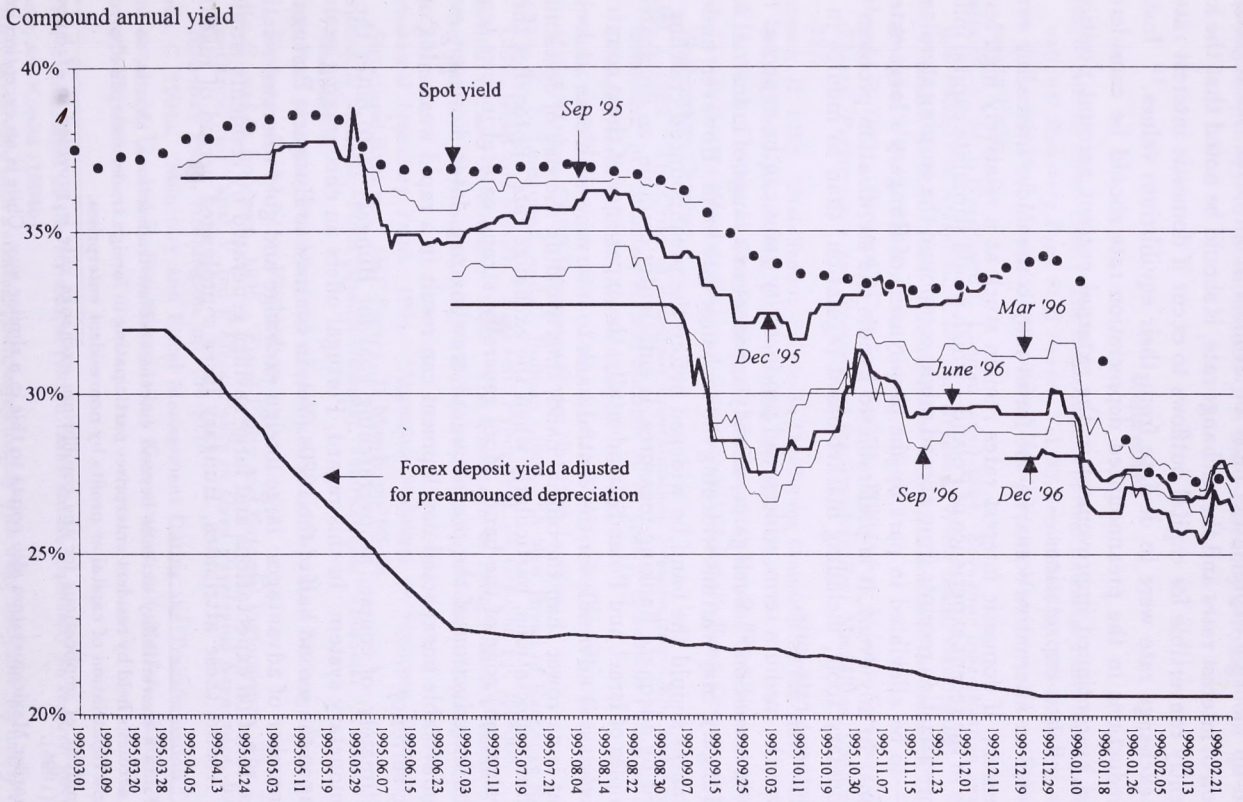

Fig. 5 Spot (auction) and futures yields on 3-month treasury bills, 1995

vailing skepticism toward financial policies, an unanticipated step devaluation or a stepped-up monthly depreciation must be avoided at all costs. As regards the interaction of interest rates and the exchange rate, it should be noted that the forint is sufficiently convertible for capital outflows to occur if domestic interest rates or the real exchange rate were to deviate from their equilibrium values.[19] Instead, further reductions in the preannounced depreciation rate should be considered if permitted by continued improvement in the external current account position to moderate inflation expectations.

Under an alternative scenario, the forint may come under increasing revaluation pressure, if domestic interest rates remain stuck at a relatively high level—much like in the recent experience of Poland—which would stimulate capital inflows. Sizable privatization receipts from abroad might compound the ensuing sterilization problem—to be alleviated in part by the prepayment of Hungary's large external obligations. In any event, it is preferable to handle the sterilization problem with other monetary tools, including market-based regulation, than to indulge in premature interest rate cuts.

Over the medium term, widespread productivity gains can be expected in an economy in transition.[20] Such gains, already apparent in a range of industrial activities in Hungary, may warrant widening the exchange rate band. However, under no circumstances should the band be widened before the preannounced crawling peg, supported by adequate flanking measures, is sufficiently credible, as illustrated by the examples of Israel and Poland. Incidentally, the experience of these countries[21] suggests that it is advisable for the central bank to intervene within an undeclared band that is narrower than the official band, thus avoiding the risk of destabilizing devaluation expectations, particularly when the exchange rate approaches the upper (devaluation) edge of the band. More generally, strong capital inflows tend to follow the introduction of the preannounced crawling peg; later, however, even a mildly unfavorable unexpected development can result in a rapid weakening of the domestic currency.

Ultimately, of course, an overarching goal for Hungary is to enter the European monetary system. In this regard, Portugal offers an encouraging example, beginning in the second half of the 1980s. Yet, in contrast to Hungary, Portugal enjoyed a number of advantages: large foreign exchange and gold reserves, relatively moderate inflation expectations and large savings generated by residents employed abroad. Absent these attributes, Hungary faces a prolonged period of macroeco-

[19] The forint's convertibility extends beyond current account transactions, that is, to foreign exchange accounts held by resident enterprises participating in foreign trade, enterprise borrowing abroad, and repatriation of capital or profits by nonresident enterprises.

[20] An analysis of implications for the equilibrium exchange rate is provided in *Halpern and Wyplosz* (1995).

[21] The earlier Mexican system also points to this in a similar way. Chile is an exception in that the intervention always takes place on the edge of the band.

nomic and structural adjustment,[22] which is a fundamental requirement for the eventual adoption and maintenance of a hard-currency strategy.[23]

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FISCAL ILLUSIONS, DECISION THEORY, AND PUBLIC SECTOR REFORM

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Reforming the public sector in Hungary implies a fundamental restructuring and reduction of government expenditures. Not surprisingly, attempts at radical reform were vehemently opposed by groups that would be adversely affected by the proposed measures. It is more than puzzling, however, that even potential beneficiaries reject the idea of curtailing the fiscal responsibilities of the state. The paper argues that this paradox can be explained by the fiscal illusions of voters and by an "anomaly" of rational decision making, known as the *status quo effect* or *loss aversion* in the literature.

The radical reduction of government spending and the restructuring of government expenditures are an integral part of public sector reform. Such changes hurt certain interests since they usually involve the withdrawal of "acquired" rights over the consumption of public goods, and they often require a reshaping of the financing mechanism (i.e. the distribution of the tax burden) for the provision of public goods. Thus the changes may trigger the resistance of the groups affected by them. Obviously, this is nothing to be surprised about. We should be more surprised, however, if the planned reforms bring about resistance concerning those quasi-public goods, the total costs of which are very likely to exceed their social benefit and which, in the view of those affected, could be produced more efficiently and in better quality under alternative modes of financing—i.e. as private goods.

It is apparent that the social services and transfers of the "premature" Hungarian welfare state (*Kornai* 1994) and (*Tóth* 1994) (state-financed health insurance with "free" health care, "free" education, state financed pension system) consist of those quasi-public goods mentioned above—that is, goods that can at least be partly substituted for by private goods. The quality of the services related to these public goods has been deteriorating for quite a long time, whereas the maintenance and operating costs of the systems responsible for their provision have increased. Despite the general dissatisfaction with the functioning of the social services, we can observe strong resistance to the introduction of reforms on behalf of both the civil servants administering these systems, and—which is paradoxical—on behalf of the otherwise frustrated and discontented consumers and clients.

This paper seeks an explanation for this paradox. I will argue that the resistance towards public sector reform in these spheres can be explained—beyond the open rent-seeking behaviour of groups with vested interests in the maintenance of the *status quo*—by so-called "fiscal illusions" and by some anomalies in decision theory.

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Fiscal illusions

Economics, and more particularly public choice theory, refer to fiscal illusions when voters are unable to assess the effects of government spending, or when they underestimate the real costs of governmental programmes. (*Mueller* 1989, p. 271 and pp. 342–44; *Cullis and Jones* 1992, pp. 314–15; 380; 455.) Fiscal illusions, therefore, derive from the systematically distorted perception of fundamental budgetary parameters and render the fiscal choices of the voters suboptimal. This situation, assuming that voters rationally search for information, can only obtain when legislators deliberately conceal these costs and effects. If voters infer the size of the public sector from the size of their tax burden, then to increase the number of governmental programmes and the size of the public sector against the will of the voters in a democratic society is possible only when the legislature and the executive can raise taxes without the voters noticing that the expanding old programmes and the ever more ambitious new ones are financed through their increased tax burden.[1]

If, however, we take into consideration that the vote of any individual voter has only a negligible effect on the outcome of a collective decision-making process, then—following the classic argument of Anthony *Downs* (1957)—it is easy to recognize that the representative voter has no interest in committing resources to the acquisition and assessment of information concerning the costs and benefits of governmental programmes. Thus, the representative voter is likely to be in a state of "rational ignorance", which naturally enhances the possibility that he/she would perceive the basic fiscal parameters in a distorted way.

The most important forms and sources of fiscal illusions are the following (*Oates* 1988):

1. the complexity of the tax system;
2. the income elasticity of the tax system;
3. illusions concerning public debt and the possibilities of financing public services through the creation of public debt;
4. the so-called flypaper effect.[2]

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[1] On concealing the tax burden and its effects, see *Puviani* (1903), and *Buchanan* (1967). The work of Puviani is considered to be the first systematic exposition of the theory of fiscal illusions.

[2] One further form of fiscal illusions is the so-called *renters' illusion*. Empirical observations show that in communities where the ratio of renters—compared to owners—is high, spending on public goods is relatively higher than in those communities where the ratio of renters to owners is low. The explanation lies in the fact that owners can shift the burden of higher property taxes financing the larger supply of local public goods to renters, but renters do not perceive—hence *renters' illusion*—the relationship between increased rents and the supply of local public goods. (*Bergstrom and Goodman* 1973; *Martinez-Vazquez* 1983)

Renters' illusions, I believe, also exist in Hungary, but their nature is different due to the different structure of the renters–public owner relationship as compared to cases where the supply of local public goods is financed overwhelmingly from local taxes.

1. *The complexity of the tax system* means that the tax burden borne by the voters is dispersed, and therefore it is very difficult for the individual taxpayers to assess the "tax price" of public goods—that is, to estimate the actual costs of governmental programmes. From the perspective of an empirical analysis of fiscal illusions, this statement is equivalent to the following hypothesis: the more complex and less transparent the tax system, the more likely that the representative voter would underestimate the costs of the public goods provided by the government. From this hypothesis we can derive the following—also empirically testable—proposition: the more complex the tax system, the higher the ratio of government expenditures within total expenditures.[3]

2. *The income elasticity of the tax system* relates to the fact that the individuals concerned do not care about the increase of public expenditures as long as it can be financed without any change in the tax rates—i.e. merely through the increase of total income. However, they protest against the extension of government expenditures if it involves an observable rise in the tax rates. This form of fiscal illusions implies the empirically testable statement that tax systems with relatively high income elasticity induce a quicker and larger extension of government expenditures in periods of economic growth or inflation than tax systems with lower income elasticity.

3. The existence of *fiscal illusions related to public debt (or to debt financing of government expenditures)* would mean the refutation of the *Ricardian equivalence* theorem, well-known in macroeconomics. According to the Ricardian equivalence theorem—assuming rational and perfectly informed voters—there is no difference between financing governmental programmes out of taxes or through bonds. Financing through bonds entails a future tax burden and rational voters compare the discounted present value of future tax payments with the present tax burden when they choose between governmental programmes financed out of direct taxes or through the issuing of bonds. There are many signs, however, that individuals perceive the cost of public goods more correctly if they have to pay for them in direct and current taxes—and not in the form of a future increase in their tax burden. If this is the case, then the financing of public goods, as well as governmental and welfare programmes through public debt creation results in higher fiscal expenditure than financing through raising taxes. This is because the first one is more easily accepted by the victims of debt illusion than the second one. What is more, with debt financing individuals may be tempted to take an intertemporal and intergenerational free-ride, expecting that the future tax-bill will be paid by someone else.

4. Finally, *the flypaper effect* denotes the form of fiscal illusions which emerges when local governments receive grants-in-aid from the central budget, but local residents do not perceive this as an increase in their individual income; instead,

[3] For the empirical testing of this hypothesis, see *Oates* (1988, p. 69) and *Wagner* (1976).

they see it as a reduction in the "tax price" of the local public goods (*Courant; Gramlich and Rubinfeld* 1979). Voters display lower resistance to the increase of public expenditure if it is financed through funding from the central budget and not through an equivalent increase in their personal income, which comes from other sources. Although the structure of the Hungarian public sector is not on a federal basis, something similar to the flypaper effect might be at work when local public goods are financed "behind the back" of the voters—e.g. through rechannelling part of the money received by the central budget from personal income tax.

On the basis of these considerations, our hypotheses about the existence of fiscal illusions can be tested with the help of the following simple model.[4] Let us assume that the demand for public goods of the median voter (D_k) depends on the personal tax price to be paid for the goods in question (P_m) and on the income of the given individual (Y_m). More precisely,

$$D_k = P_m^{\beta} Y_m^{\delta}, \tag{1}$$

where β and δ represent the price and income elasticity of demand, respectively. The tax price perceived by the median voter—to be distinguished from P_m, the actual tax price or tax burden—will be denoted by P_m^p. If the demand for public goods equals the supply of public goods—that is, if $D_k = S_k$—and the unit cost of the services associated with the public goods provided equals c_k, then the expenditure on public goods (E) amounts to $c_k \cdot D_k$. That is:

$$E = c_k D_k. \tag{2}$$

In reality public goods are consumed in public institutions (hospitals, schools, etc.). The relationship between public services and public institutions depends on where the given good or service is placed in the continuum between pure private and pure public goods. More closely:

$$S_{ki} = n^{\alpha} S_k, \tag{3}$$

where S_{ki} represents the unit of service supplied by the given public institution, n represents the population and S_k denotes a unit of the given public good. Parameter α measures the position of the public good in the continuum between pure private and pure public goods. In the case of pure private goods the value of α is 1; with pure public goods it is 0.

If the unit cost of public institutions is represented by c_{ki}, then government expenditures on public goods (E) can be expressed in the following way:

$$E = c_{ki} S_{ki} = c_{ki} n^{\alpha} S_k. \tag{4}$$

[4] This model is outlined on the basis of *Heyndels and Smolders* (1994). See also *Wyckoff* (1988; 1991)

The tax price to be paid by the median voter, that is P_m, depends on her share in total taxes. The tax burden on the median voter (T_m) as a function of total governmental revenue, can be expressed as:

$$T_m = (\gamma_m / n)T, \tag{5}$$

where γ_m measures the fiscal pressure on the median voter. The value of the γ_m coefficient is 1, when the tax burden borne by the median voter equals the average tax burden in the given population. In the light of this tax burden, the price to be paid by the median voter for one unit of the public services will be the following.

$$P_m = T_m c_k = \gamma_m T c_{ki} n^{(\alpha-1)}. \tag{6}$$

Thus, total government expenditure on public goods is determined by the following relationship.

$$E = c_k \left(\gamma_m T c_{ki} n^{(\alpha-1)}\right)^{\beta} Y_m^{\delta}. \tag{7}$$

If the goods under discussion are pure public goods, the value of α is 0 and $c_k = c_{ki}$. If the value of the price elasticity coefficient is negative (this is the standard assumption), then, according to the prediction of the model, the coefficient of the population variable will be positive. That is, the size of the budget changes in direct proportion to population growth. In the case of pure private goods ($\alpha = 1$ and $c_k = n \cdot c_{ki}$), the price elasticity coefficient drops out and the coefficient of n equals 1.[5]

The effect of fiscal illusions can be measured by the introduction of variables TBO, TEL, TAD and TLP. The first variable captures the complexity of the tax system, the second the income elasticity of the tax system, the third the illusions associated with debt financing, and the fourth the flypaper effect. Thus we obtain the following specification.

$$E = c_k (P_m^p)^{\beta} Y_m^{\delta}, \tag{8}$$

where $P_m^p = c_k x n^{\alpha} x T_m x TBO^{\sigma} x TEL^{\pi} x TAD^{\mu} x TLP^{\lambda}$ and $\sigma, \pi, \mu, \lambda < 0$.

We assume that the variables TBO, TEL, TAD and TLP produce a direct effect on the voters' perception of the price of the public goods provided by the government. The log linear version of this model can be tested, after dealing with the unavoidable measurement problems, by using the standard least squares

[5] If we take the logarithm of both sides of (7), then—using (4)—we obtain the following relation

$$\ln E = (\beta + 1)\ln c_{ki} + \beta(\ln T + \ln \gamma_m) + (\alpha + \beta(\alpha - 1))\ln n + \delta \ln Y_m.$$

method. As a result of log linear specification, we obtain the following regression equation:

$$\ln E = b_0 + b_1 \ln POP + b_2 \ln T_m + b_3 \ln Y_m + b_4 \ln TBO + b_5 \ln TEL + \\ + b_6 \ln TAD + b_7 \ln TLP + \omega, \quad (9)$$

where POP is identical to the previous n (population) variable.

With respect to the signs of the variables, we expect that b_3, b_4, b_5, b_6 and $b_7 > 0$, whereas $b_2 < 0$. The sign of b_1 [since $b_1 = \alpha(1 + \beta)$] depends on the nature of the given public goods, and on the value of the price elasticity coefficient (β). To test the model, cross-sectional data on local or central budgets would be required. In the latter case, we could infer the strength of fiscal illusions on the basis of the analysis of government expenditures in different countries.

In my opinion, a considerable number of Hungarian voters are simply victims of fiscal illusions similar to those analysed above. The reasons are partly historical and can partly be attributed to the revenue-maximizing intentions of the governments of the last 20–25 years. Here, I would like to mention two of the historical reasons. One is the highly successful myth of "free" social services, which has been artificially propagated for a long time. The other is the highly centralized nature of budget revenues. Although economists have known for a long time that in strict terms there is no such thing as a "free lunch", politicians and bureaucrats have had an interest in offering free feasts—financed by ingenious income redistribution schemes—where the guests did not pay, but neither they, nor the excluded or absent would know who stood the bill. In decentralized fiscal systems citizens have better opportunities—at the level of local government or local councils—to monitor the use of their taxes and the efficiency of local governmental programmes, than in systems with centralized budgets founded on the redistribution of tax revenues.

The complexity and opaqueness of the tax system also contribute to the difficulties of finding out the true costs in the governmental sphere or in the public sector. So, for example, the burden of direct taxes, such as the personal income tax, is more obvious for taxpayers than the burden of indirect taxes. A tax system based on indirect taxes, such as VAT, excise taxes or tariffs, is less transparent because the tax burden is built into the prices of consumption goods. Merging and muddling up the tax bases of different governmental expenditures and programmes, and the practice of cross-financing within the public sector, do not help voters either when they try to find out the actual costs of state activities. Furthermore, governments that seek the maximization of state revenues like to maintain tax systems with high income elasticity. This means that when personal incomes grow due to inflation or other factors, the tax revenues of the state grow at a higher rate than incomes, and the resulting "fiscal drag" increases governmental revenues without the explicit consent of the voters. Finally, it seems very likely that the majority of the Hungarian voters is not aware of the fact that an oversized public

sector, as well as state financed welfare and other programmes under the present circumstances, are going to lead to an increase in public debt which will unavoidably raise the future tax burden of every taxpayer.

One precondition for a successful public sector reform is—I believe—the dissolution of such fiscal illusions. Only when taxpayers are able to form a true notion of the operating costs of the governmental sector and publicly financed programmes and services (e.g. social security, health care, education, pensions) may we hope that a wide coalition of voters would support the planned reforms against the present beneficiaries of the current budgetary financing modes.

Anomalies in decision theory

Obviously, the resistance against public sector reform derives from a wide variety of causes. Another important group of these causes can be found, I would argue, in certain anomalies of decision theory. Primarily, I mean those anomalies which were discussed in the earlier literature on rational choice theory under the heading of "cognitive illusions" and "cognitive misperceptions" (*Camerer* 1995, p. 587). From the large family of cognitive illusions I will discuss in detail only the group of phenomena sometimes referred to as "endowment effect", sometimes called "status quo bias" or "loss aversion".[6] Before the exposition of my views, however, I want to review some of the basic concepts of rational choice theory.

Rational choice models can roughly be placed in one of two groups. The first group includes those models that intend to describe, explain and predict individual or group choices.

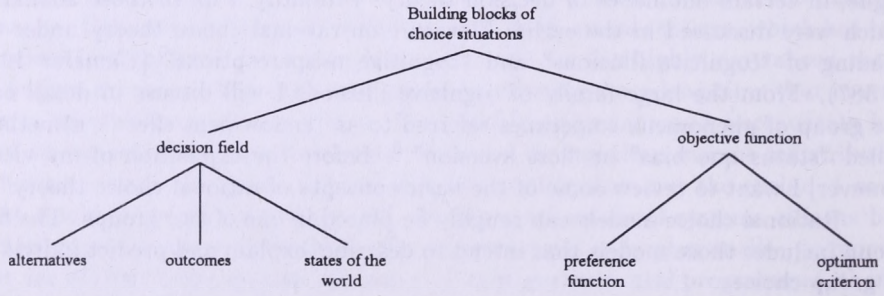
The second group, on the other hand, consists of models that seek to define the technically optimal choices for individual or collective decision-makers. Below, I will discuss only a restricted subset of the first group—that is, empirical individual rational choice models.

Individual choice means that the decision-maker chooses from among given alternatives, on the basis of her individual preferences and beliefs, under certain specific constraints. During the choice the actor has to take into consideration those constraints which restrict the set of (physically, logically, economically, legally, morally, etc.) possible alternatives (PA) to the set of feasible alternatives (FA). Constraints are conditions which the actor cannot manipulate at her will in the given situation.

[6] In this paper I am not going to discuss the problem of what kind of rational choice or which microeconomic models may *explain* the emergence of these anomalies. I believe the explanation may be found in those versions of non-expected utility theories or consumption capital models which are capable of incorporating disappointment or regret resulting from individual choice. Gábor *Kertesi* drew my attention to the importance of explanations in this context.

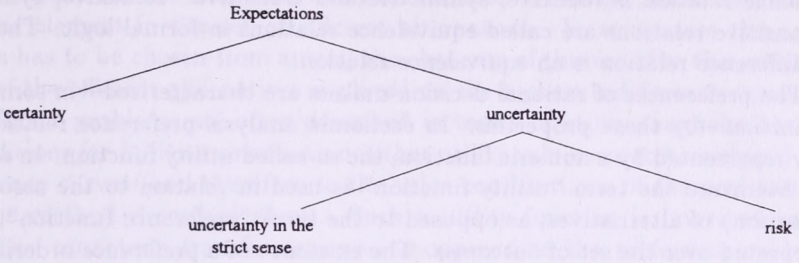
A rational decision presumes the comparison of alternative courses of action (or more precisely: the outcomes of alternative courses of action)—that is, the decision-maker is able—from the perspective of the desired goal or goals—to distinguish between the goodness of the different feasible alternatives. Decision theory, or more precisely rational choice theory, rests on the premise that structural constraints do not fully determine individual actions, and it also assumes that from the elements that can be reconciled with the constraints (that is, from among the elements of the set FA) the decision-makers will choose the alternative that, in their view, yields the best result.

To each decision situation we can attribute a decision field and an objective function. The decision field includes 1. the alternative courses of action, 2. the outcomes of these alternative courses of action and 3. the states of the environment relevant to the decision (i.e. states of the world). The objective function is nothing but a decision rule which consists of 1. a utility function based on a preference scaling function, and 2. an optimum criterion. Schematically:



Alternative courses of action are symbolized with $A_1, A_2, \ldots, A_i, \ldots, A_n$; outcomes are represented by $o_{1j}, o_{2j}, \ldots, o_{ij}, \ldots, o_{nj}$ $(j = 1, \ldots, m)$. A_i indicates an arbitrary element in FA, and o_{ij} represents the jth outcome of alternative A_i. We can treat alternative courses of action as parameters that can be manipulated by the decision-maker within certain limits. For a choice between alternatives only those outcomes need to be assessed the values of which are likely to be important with regard to the goal or goals to be achieved. These outcomes are described by the so-called goal variables which are nothing but arguments of the objective function. Goal variables define which attributes are relevant in the comparison of alternatives (or rather their outcomes) for the decision-maker. Those (mutually exclusive) value constellations of the relevant variables (data) which cannot be influenced by the decision-maker are called states of the environment (states of the world). Decision models consider not only actual but potential states of the world as well. States of the world are represented by the symbols $W_1, W_2, \ldots, W_m$. We distinguish between the following types of choice situations (models) in relation

to the expectations of the decision-maker with regard to the possible states of the world:



In the case of certainty the decision-maker knows which states of the world obtain (i.e. what values the variables relevant for the choice would take). Therefore she knows what outcomes follow from the different alternatives. Under uncertainty the decision-maker believes that at least two states of the world are possible, but only one of them will eventually obtain. When we talk about uncertainty in the strict sense, the decision-maker knows which states of the world may obtain (which states of the world have non-zero probabilities to obtain) but she cannot determine the exact probability of their occurrence. In risky choice situations, however, the decision-maker is able to formulate subjective probability estimates of the realization of the possible states of the world.

Finally, the U utility function is nothing else than a function which—in conformity with the elementary or rough preference values produced by the preference scaling function—assigns a $U(A_i)$ utility value to each and every A_i alternative.[7]

For a well-founded (or rational) choice, as I mentioned before, the comparison of the alternatives, or the outcomes resulting from them, is essential. The theory of individual decision-making assumes that the decision-maker chooses between the feasible alternatives and their resulting outcomes on the basis of certain preferences. In the simplest case these preferences can be formally represented by the dyadic relation, "$\succeq$". This relation is interpreted over the set of outcomes. The expression $A_i \succeq A_j$ reads: "A_i is as good as A_j". Such preference relations are usually assumed to be reflexive, symmetric and complete. Those preference relations that satisfy these conditions are called preference orderings. On the basis of such preference orderings we can distinguish between two further relations: the strict preference relation—represented by the symbol "$\succ$"—and the indifference relation, which is indicated by the symbol "$\sim$".

We prefer alternative A_i over alternative A_j, that is $A_i \succ A_j$ if and only if $A_i \succeq A_j$, and it is not true that $A_j \succeq A_i$. Similarly, we are indifferent between

[7] In what follows, we will consider only maximization (minimization) rules as optimum criteria.

the alternatives A_i and A_j, that is $A_i \sim A_j$ if and only if $A_i \succeq A_j$ and $A_j \succeq A_i$. The strict ordering relation is irreflexive, anti-symmetric and transitive, while the indifference relation is reflexive, symmetric and transitive. Reflexive, symmetric and transitive relations are called equivalence relations in formal logic. Therefore, the indifference relation is an equivalence relation.

The preferences of rational decision-makers are characterized—in some cases by definition—by these properties. In economic analysis preference relations are usually represented by a numeric function, the so-called utility function. In rational choice literature the term "utility function" is used in relation to the assessment (comparison) of alternatives, as opposed to the term "preference function", which is interpreted over the set of outcomes. The existence of a preference ordering over the set of outcomes is a necessary but not sufficient condition for the existence of a utility function. There exist preference orderings (e.g. the lexicographic ordering) which cannot be represented by a continuous utility function.

In the analysis of choice situations under certainty we start from the assumption that the decision-maker is certain about the outcomes of the given alternatives and chooses from among them on the basis of her goal variables. Rational choice—as I have mentioned already—requires the comparison of the outcomes of the given alternatives. If we have reasons to believe that the decision-maker is able to order the alternatives on the basis of his/her preferences, then the solution to the choice problem is reduced to the choice of the first alternative in the ordering. Let us see the steps involved in solving the choice problem with two—continuous—goal variables!

If the decision-maker considers the values of two—continuous—goal variables, G_1 and G_2, then his/her preferences can be represented with indifference curves. An indifference curve is the locus of those value combinations of G_1 and G_2 between which the decision-maker is indifferent. If we assume that the decision-maker prefers higher values of the variables over lower ones, then those indifference curves represent the more desirable value combinations which are higher in the positive orthant of the coordinate system defined by G_1 and G_2. Every point in the positive orthant belongs to one and only one indifference curve. Indifference curves cannot intersect.

The strict convexity of the indifference curves indicates that if the value of the goal variable G_1 increases—in multiple steps—by a certain amount (that is, ΔG_1) then the value of the goal variable G_2 has to decrease in a decreasing proportion in order to yield a $G_1 - G_2$ combination of equivalent utility. In other words, the higher the value of the goal variable G_1, the smaller the G_2 value that the decision-maker is willing to give up in order to "buy" a fixed ΔG_1 increase in the value of G_1.

After defining the set of feasible alternatives, the next step in the solution of the choice problem is the definition of the set of efficient alternatives. An alternative is called efficient (Pareto optimal) if it represents a feasible alternative (it is an

element of the set FA) which if there is no other alternative that is at least as "good" as this one with regard to each and every goal variable, and if it would yield a better outcome in at least one goal variable. Obviously, there may be more than one element in the set of efficient alternatives. In such cases the optimal solution has to be chosen from among the elements of this set. For this we analyze which of the efficient alternatives is placed on the highest indifference curve.

Choice problems are often described in terms of utility maximization. The preconditions for utility maximization is that utility values are to be assigned to the indifference curves (and therefore to the value combinations of the goal variables) with the method described above. Such a utility function is invariant only up to positive monotone transformations—as opposed to the preference calibrating function. That is, we face an ordinal utility function, which does not give us any information on the intensity of the preferences.

I close the description of the basic concepts of decision theory with a brief summary of the logic of risky choices. Since the structure of choices under uncertainty is irrelevant to our topic, I will not enter into that branch of decision theory. When analyzing risky choices, we have to know the $v(o_{ij})$ preference values belonging to each of the outcomes, the $p(W_j)$ probabilities of the possible states of the world—i.e.

$$[p(W_j) \geq 0 \text{ for all } j, \text{ and } \textstyle\sum_{j=1}^{m} p(W_j) = 1],$$

and the decision rule that assigns utility values to the alternatives on the basis of the above information. According to the so-called von Neumann-Morgenstern decision rule (or expected utility rule), the utility value of the alternatives equals the sum of the preference values of the outcomes weighted by the respective probabilities. We can define the utility value of the individual alternatives with the following formula:

$$U(A_i) = \textstyle\sum_{j=1}^{m} p(W_j) \cdot v(o_{ij}). \tag{10}$$

When maximizing the utility function, we seek the alternative that maximizes the expected value of the preference values of the different outcomes.

An important feature of the decision-theoretic models discussed so far is the implicit assumption that the preferences and choices of the decision-maker are independent of his/her initial or actual endowments.[8] I use the term "endowment" in the widest possible sense, to include all goods, skills, opportunities, physical or human capital, and financial assets that have value for the given individual. When we draw the indifference map of the decision-maker—in the case of choices under certainty—or define the preference scaling function of the individual—with risky

[8] For the constructive criticism of the standard theory in this respect see *Kahneman and Tversky* (1979; 1984; 1991).

choices—we do not pay too much attention to the actual, or initial endowment status of the decision-maker. What is more, the Coase theorem, well known from microeconomics, explicitly states that the initial distribution of property rights—that is, rights over the possession and use of goods and assets—has no effect on the resulting resource allocation, if transaction costs are absent.

Similarly, according to the standard predictions of rational choice theory and economics, the price at which a given individual is willing to sell a certain good in his/her possession cannot substantially differ from the price he/she is willing to pay for that good when he/she intends to buy it (Cf. Camerer 1995, p. 665). In other words, according to the standard theory, the "willingness to pay" (*WTP*) of a given decision-maker (which is represented by the price paid at the acquisition of the good), necessarily equals the "willingness to accept" (*WTA*) of the given individual (which is represented by the selling price).[9]

There are numerous empirical data that induce us to treat the predictions of the traditional theory with some reservations. Researchers in environmental economics were the first to notice, at the beginning of the 1970s, that the *WTA* values for a given good were frequently two or three times higher than the corresponding *WTP* values of the same individual for the same good. *J. Hammack* and *G. M. Brown* found, for example, that while the holders of a hunting licence were willing to pay $ 247 on average for the preservation of a wild duck hunting area, the same individuals under the same conditions would have asked for $ 1,044—again on average per capita—as compensation for giving up the right to use the very same hunting area.[10] Since such "contingent valuations" of goods are used widely in the United States and elsewhere in connection with the governmental allocation of public goods, it is important even from a practical point of view to decide which valuation—*WTP* or *WTA*—should be used as a basis in the calculation of the allocation price.

The decision-theoretic explanation of the gap between the *WTP* and *WTA* valuations is known as *endowment effect* in the literature. The endowment effect basically means that the decision-makers prefer—other conditions being equal—the goods already in their possession over similar goods. The endowment effect is closely related to other decision anomalies.[11] The *status quo bias* is an endowment effect such that the value of the actually chosen or automatically prevailing alternative increases because of the very fact that it is the actually chosen or automatically prevailing alternative. In New Jersey, for instance, automobile owners automatically enter into a—cheaper—liability insurance contract that permits only

[9] For a brief and convincing exposition of the relevant doctrines of traditional theory, see *Willig* (1976).

[10] Hammack and Brown (1974), cited by *Camerer* (1995) p. 665.

[11] In describing the decision anomalies related to the endowment effect I follow the exposition of Camerer (1995, pp. 668–669). See also *Thaler, Kahneman and Knetsch* (1992), *Thaler* (1991a) and Thaler, Kahneman and Knetsch (1991).

limited litigation opportunities unless they pay for the enhanced litigation rights alternative. In 1988 only 17 percent of the automobile owners decided to choose the more expensive option. In neighbouring Pennsylvania automobile owners face the same options but the default option is the more expensive alternative. In the same time period considerably more owners chose this alternative than in New Jersey. Experimental tests in other contexts, and after controlling for the effect of transaction costs, also proved the existence of the *status quo* bias.

WTP and *WTA* valuations may differ also because decision-makers may tolerate better the fact that they have sold good below price, than the fact that they have bought a good above price. Among other reasons, this phenomenon may occur because, when buying the good, the cost is actual, "out of pocket" cost; on the other hand, when selling under price, it is the opportunity cost resulting from foregone opportunities. Experimental results show that decision-makers judge active mistakes more seriously than passive mistakes or mistakes resulting from negligence. Sticking to the *status quo* means inaction and this produces a higher *WTA* valuation than the *WTP* valuation (which involves the risk of action).

Some data suggest that the respective buying prices of certain goods have an effect on financial and investment decisions and on the dispositions involved in these decisions. Decision-makers try to avoid those decisions that can cause irredeemable losses and seek those opportunities that can yield benefits. On stock markets the volume of trade is relatively lower in those stocks for which the prices are falling and, similarly, the volume of trade seems to fall in real-estate markets when real-estate prices decrease. Finally, experimental findings suggest that decision-makers act in conformity with the *WTP-WTA* discrepancy when they decide on their own buying or selling actions, but they follow the precepts of traditional theory when they offer advice to others. In short, advisers suggest increasing the buying price to their principals, which seems to imply that they neglect the endowment effect.

According to A. Tversky and D. Kahneman the core of the above decision anomalies is to be found in the loss avoiding behaviour of the decision-makers.[12] In the case of risky choices the best explanation for these anomalies is provided by a theory that is based on the following assumptions: 1. utility values are to be assigned not to the welfare position of the decision-makers but to such status changes (losses and benefits) that occur in relation to a neutral reference point; 2. those changes which may cause the deterioration of the situation—i.e. the changes which result in loss are more important for the decision-makers than those which cause improvement or result in benefit. If we represent the valuation of losses and benefits in a coordinate system, then the theory described above would imply that the absolute value of the slope of the valuation function will be higher in the negative than in the positive orthant, while the marginal values of both losses and benefits decrease when losses or benefits increase. (Kahneman and Tversky 1991,

[12] See footnote 8 and Thaler, Kahneman and Knetsch (1991), *Hartman, Doane and Woo* (1991).

pp. 1039–40; Thaler, Kahneman and Knetsch 1991, pp. 70–71.) *Figure 1* shows such a schematic valuation function.

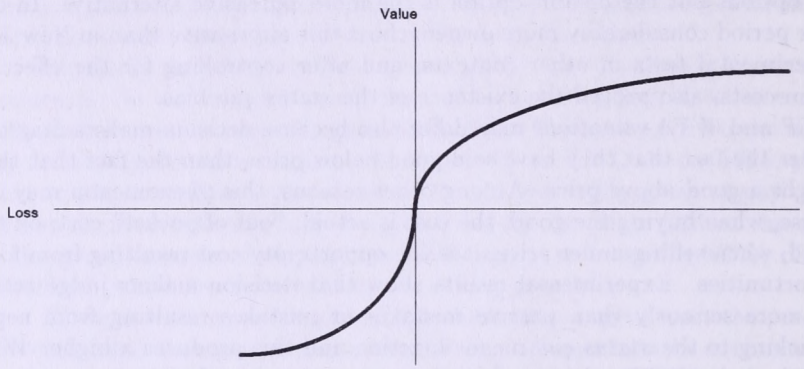


Fig. 1 Valuation function

If we want to extend the previous considerations to choices under certainty, then we have to assume that the characteristics of the alternative courses of action or options (combinations of goods in the standard microeconomic theory of consumer behaviour) are also assessed by the decision-makers as losses or benefits in relation to a neutral reference point (*Figure 2*).

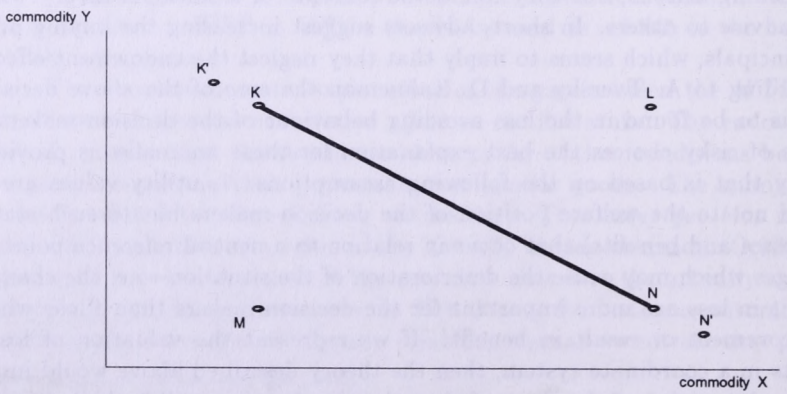


Fig. 2 Reference points with choice between two (K and N) combinations of commodities

The decision-maker has to choose between the states (combinations of good) K and N. Combination K contains less from good X and more from good Y than

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combination N, while state N has more of good X and less of good Y than state K. K', L, M and N' represent four different reference points. If the reference point (*status quo* point) is M, then the decision-maker has to choose between two benefits (more X *or* more Y). If L is taken as the reference point, then he/she has to choose between two losses (less X *or* less Y). If, however, the reference point of the decision-maker is either K' or N', then the problem is that of two different trade-offs, since the decision in both situations entails better results in one, and worse results in the other dimension. The theory described above implies that the effect of the difference between the alternatives will be bigger when the decision-maker perceives the difference as a choice between two losses, and relatively smaller when he/she feels that he/she has to choose between two beneficial outcomes. The *status quo* bias is the direct result of this asymmetry: the loss implied by a certain change seem more important than the expected benefits.[13]

Finally, I would like to indicate the possibilities of analyzing the *status quo* bias empirically through a simple example. R. S. Hartman, M. J. Doane and C. K. Woo attempted to show the empirical existence of the *status quo* bias with the consumer valuation of a non-priced good—namely, with the reliability of public electricity supply (Hartman, Doane and Woo 1991). They tried to clarify through a survey the existing differences between the *WTA* and *WTP* valuations of the reliability of electricity supply among the consumers of a given electricity company. The reliability of the electricity supply was measured by the frequency of blackouts and brownouts, weighted by different factors (season, time of the day, duration, previous warning, etc.). In this case the *WTP* value expresses the amount consumers would be willing to pay to avoid one unit of interruption in the service, while the *WTA* value gives the amount consumers would require as compensation for the increase of stoppage by one unit. In the survey consumers could choose between six tariff-schemes. One of the schemes reflected the actual situation of the consumer (this was equivalent to the consumer *status quo*), while the other five represented different reliability and fee options. Respondents had to define the reliability-tariff combination that they would consider optimal. The authors showed the presence of the *status quo* bias in the following way. They measured and compared the *WTA* and *WTP* values of the respondents with respect to different reliability alternatives. Secondly, they tried to find out what criteria the consumers used to choose from among the six alternatives offered. Then they calculated the amount of compensation required in order that the consumers become indifferent between the various options. *Figure 3* demonstrates the decision-theoretical background to these considerations.

[13] These considerations may be further complicated by the fact that some decisions involve the assumption of moral responsibility by the decision-maker while others have important ethical (justice or fairness related) consequences.

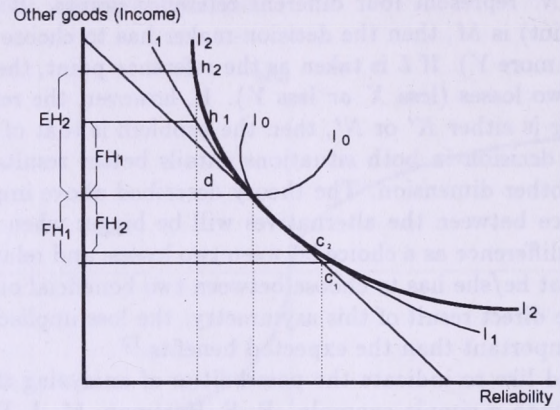

Fig. 3 Trade-offs between reliability of service and other goods

Figure 3 obviously represents the standard situation—well known from microeconomic theory and described earlier (Hartman, Doane and Woo 1991, pp. 374–77)—when the consumer has to choose between different combinations of two goods under a strict budget constraint. In the present case the two goods are: the reliability of the electricity supply (measured by a decrease in the frequency of blackouts, and expressed in hours or minutes) and the income that can be spent on all the other goods. We assume that point a_1 represents the consumer's *status quo*. Point a_1 implies a certain monthly electricity fee and a certain duration (frequency) of blackouts. Along the I_1 indifference curve the willingness to accept a marginal decrease in reliability (WTA_1) basically equals the willingness to pay for a marginal increase in reliability (WTP_1). The slope of the I_1 indifference curve at point a_1 equals d—that is, the relative price of reliability. If b_1 and c_1 represent alternative reliability-income combinations—as can be read from *Figure 3*—then a small change in the relative price of reliability is enough to induce the consumer to move from the *status quo* in the direction of b_1 or c_1. If, however, the indifference curve of the consumer has a kink in it—in accordance with the predictions of the literature on loss aversion—at the point representing the *status quo*, then we are dealing with the indifference curve I_2 instead of I_1. In this case, however, the willingness to accept the decrease of reliability by one unit (WTA_2) is substantially larger than the willingness to pay for a one unit increase in reliability (WTP_2). In addition, a much bigger (smaller) change in the relative price of reliability would now be required to induce the consumer to move from a_1 (representing the *status quo*), in the direction of b_2 (c_2).

Hartman, Doane and Woo tried to show the empirical presence of the *status quo* bias with the help of the survey method briefly described above (Hartman,

Doane and Woo 1991, pp. 146–51 and pp. 381–82). Their results unambiguously show that the WTA values, with every reliability-tariff scenario, are three-four times bigger than the corresponding WTP values. They were able to demonstrate the *status quo* bias even when consumers were placed in groups for which the initial endowments differed considerably. Segregating two such groups they found that approximately 60 percent of the respondents preferred the *status quo* in both groups.

The authors tried to test their hypothesis about the presence of a *status quo* bias with the help of data on the different reliability-tariff scheme options, using the following decision theory model. Each option is characterized by a certain frequency (F) and duration (H) of blackouts. Also a specific electricity bill (V) belongs to each option, and its size is measured by the difference between this bill and the *status quo* electricity bill. So the consumers may buy lower reliability with a cheaper tariff or higher reliability with more expensive tariffs. We assume that consumers behave in a utility-maximizing way—that is, they would choose reliability-tariff option j, which would provide them with the highest utility under the given constraints. Since we want to analyze the characteristics of the I_2 indifference curve in the region of the *status quo* point, we compare the utility of the jth alternative defined by the characteristics F_j, H_j and V_j to the alternative defined by characteristics F_0, H_0, V_0, which represent the *status quo*. That is:

$$U_j = U[F_j, H_j, (V_j/V_0), Z] + d_0 ALT_0, \tag{11}$$

where Z denotes the vector of variables defining the socio-economic status of the consumer, and ALT_0 is a dummy variable indicating the reliability-tariff combination that belongs to the *status quo*. More specifically, $ALT_0 = 1$, if the reliability-tariff combination considered as an alternative is identical with the initial *status quo* of the consumer, and $ALT_0 = 0$, if the alternative option differs radically from the *status quo*. The introduction of this variable allows us to test the presence of the *status quo* bias (SQ) with simple t-test: $H_0 : SQ = 0$, if $d_0 = 0$.

While the utility derived by the representative consumer at the *status quo* point is described by the following relationship:

$$U_{i0} = U_{i0}[F_0, H_0, (V_0/V_0), Z_i] + d_0 ALT_0, \tag{12}$$

the utility of any alternative reliability-tariff combination—j—can be expressed in the following way:

$$U_{ij} = U_{ij}(F_j, H_j, (V_j/V_0), Z_i). \tag{13}$$

During the empirical investigation it was found that the utility of an alternative reliability option j ($j = 0, \ldots, J$) could be usefully measured by the following specification of the above utility function:

$$U_{ij} = d_1F_j + d_2H_j + d_3(V_j/V_0) + d_4(V_j/V_0)Z_i + d_0ALT_0. \tag{14}$$

On the basis of the empirical estimates of equation (14) we can define the compensation which would render the status quo point (F_0, H_0, V_0) as desirable for the consumer as the alternative j (F_j, H_j, V_j), option. That is, we can define the compensation for which it will be true that $U_{ij} = U_{i0}$. Since with this compensation $U_{ij} = U_{i0}$, it thus emerges that:

$$\begin{aligned} &d_1F_j + d_2H_j + d_3(V_j/V_0) + d_4(V_j/V_0)Z_i = \\ &= d_1F_0 + d_2D_0 + d_3(C_0/C_0) + d_4(C_0/C_0)Z_i + d_0ALT_0. \end{aligned} \tag{15}$$

But then

$$\frac{V_j - V_0}{V_0} = (-1)\frac{d_1(F_j - F_0) + d_2(H_j - H_0) - d_0ALT_0}{d_3 + d_4Z_i}, \tag{16}$$

where $(V_j - V_0)/V_0$ measures the relative change in the electricity bill which will be required as a compensation against the change—$(F_j - F_0)$ and $(H_j - H_0)$—in the reliability of the electricity supply. Thus, the full compensation required by the consumer would be the following:

$$\begin{aligned} &TC = (V_j - V_0) = \\ &= (-V_0)[d_1(F_j - F_0) + d_2(H_j - H_0) - d_0ALT_0]/(d_3 + d_4Z_i). \end{aligned} \tag{17}$$

In *Figure 3*, TC measures the compensation which is required for keeping the consumer at her initial utility level—measured at a_1, the *status quo* point—in the case when the reliability of service changes in a positive (c_2) or negative (b_2) direction. If the reliability of service increases, then this compensation will be negative and it expresses the consumer's willingness to pay.

When estimating the model, the resulting WTA values were three-four times bigger than the corresponding WTP values. In addition, the empirical estimates of the amount of total compensation yielded the important but rather paradoxical result that in the case of moving away from the *status quo* point, consumers claimed compensation even if the alternative service regime promised higher reliability than the original reliability-tariff option (Hartman, Doane and Woo 1991, p. 157). Furthermore, the compensation demanded during a decrease in reliability was substantially greater than that which could have been expected on the basis of the WTA values reported by the consumers. For example, in the case of a one-hour blackout during a period of one year, the average WTA value calculated on the basis of the survey data was $ 7.29; yet during the empirical estimation of the decision-theoretic model the researchers found that in such cases consumers would have demanded $ 52.78 on average as compensation. This suggests that the consumer behaviour observable in the region of the *status quo* point might be better

described by the I' indifference curve which has a more emphatic kink in it than the I_2 curve.

Fiscal reforms that affect the large redistribution systems in transition economies aim at restructuring the provision and financing of certain public goods (education, health care, social security). They offer alternative quality-cost combinations to the voters that imply a radical departure from the *status quo* point. The massive resistance—which frequently seems irrational—against these reforms can be explained, in my view, partly by the fiscal illusions of the voters, partly by decision anomalies similar to the *status quo* bias, as well as other forms of loss averse behaviour (leaving aside simple vested interests for the sake of this argument). This problem is exacerbated by the fact that voters—beyond the inherent uncertainties involved in these changes—are mostly unable to form a clear picture of the menu containing the quality-cost options on the basis of which they are supposed to choose between the alternatives put forward. Frequently, even reforms of the utmost importance—which would define the fiscal institutions of the country for decades—are not preceded by feasibility studies, not to mention the fact that standard feasibility studies cannot be relied upon unless they take into account the difference between the voters' willingness to pay and their willingness to accept. As we have seen above, contingent valuation methods can reveal the actual demand for public goods only when the potential difference between the WTA and WTP values are taken into consideration. When new governmental programmes are contemplated, empirical investigations—similar to those described above—would be absolutely necessary, since this is the only way for policy-makers to foresee the resistance and fiscal inertia caused by the *status quo* effect and fiscal illusions.

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MACROECONOMIC EFFECTS OF FISCAL DEFICITS IN HUNGARY

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The article treats the macroeconomic effects of budget deficits under conditions of relatively high inflation, large domestic public debt and significant government expenditures on foreign public debt. Under such conditions the ordinary measures of the budget deficit do not indicate the effect of the deficit on domestic demand. It is the inflation-adjusted (operational) deficit that is relevant from this perspective. However, in the Hungarian case foreign interest payments (made *via* the central bank) also have to be deducted from government expenditures. This corrected measure of the budget balance indicates that over the past few years the central government did not induce domestic demand, thus neither economic growth, nor the external imbalance of the country can be explained by fiscal expansion.

According to a widely held view, the 3 percent growth of the Hungarian economy in 1994 was artificially stimulated by government overspending. This opinion has usually been accompanied by the statement that the budgetary deficit and its continued growth has brought forth a considerable deterioration in the country's balance of payments.[1]

These statements, which are considered as commonplace both in the Hungarian and international (*OECD* 1995) literature on economic policies in Hungary, raise a number of questions; among these we discuss only two issues. The most simple is the following: can a budgetary deficit (or its increment) of a given amount both *generate an external disequilibrium larger than that of the deficit itself and a significant increase in domestic output*?[2] Accordingly, the first question is the

[1] To support the latter, we quote only two sentences from the periodic *Bulletin of the National Bank of Hungary*, published at the end of 1994: "It is difficult to forecast how the demand for additional domestic and foreign loans by the private sector develops in an environment characterized by the recovery of business generated by the central budget." (p. 56); furthermore, "The recovery of domestic demand stimulated by the central budget has necessarily brought about the continued deterioration of the country's external equilibrium and the continued existence of the considerable deficit of the balance of payments." (p. 62).

[2] The sum that generates domestic demand due to the budgetary deficit is spent either within the country (in this case domestic production and/or inflation can grow) or abroad; the latter results in increasing imports. However, that part of the budgetary deficit which contributes to domestic production cannot directly contribute to the increase in imports and vice versa: the amount which contributes to the growth of imports cannot result in the increase of domestic production. Of course, it is possible for the growth of domestic production to be accompanied by growing imports. However, a decrease in output may also coincide with increasing imports and a deteriorating trade balance (as actually happened in 1993). Moreover, the recovery of the economy due to any cause other than the budget deficit may also lead to similar results. Thus, the conclusion may be drawn that the budget deficit is not likely to be of major significance from the

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following: is the *magnitude* of the budgetary deficit which has developed over the past few years (or the change thereof) significant enough to explain both the growth of output and the external disequilibrium (or the increase in the latter)?

The second question is related to a fundamental economic problem: could it be possible that the *nature* of the fiscal deficit in Hungary, experienced during recent years, has resulted in the deterioration of the external balance, or has it brought about an increase in domestic production? In other words: *was the budgetary deficit experienced over past several years actually able to generate domestic demand of any size* and if so, what was the size of the demand so generated?

In the following we wish to highlight these issues. Given the lack of proper clarification there is a serious danger—namely, that the proposals suggested for handling the external and internal imbalance may not eliminate the causes underlying these disequilibria, but would be more likely to result in serious damage to the economy and involve unreasonably high social costs. Economic policy-makers should handle the large domestic and external imbalances by relying on a strategy that does not undermine the conditions of sustained growth of the economy. In our view, this is not an impossible undertaking. However, establishing the correct diagnosis (i.e. accurate identification of the reasons underlying the external and internal disequilibria of the Hungarian economy) must precede the elaboration of this strategy and the choice of appropriate instruments for economic policy.

First however, we need to point out that it is difficult to believe that the economic growth experienced in 1994 was due to domestic demand resulting from fiscal overspending. In addition, we have to explain why we assign fundamental importance to economic growth in correcting macroeconomic imbalances.

As for the growth of the economy in 1994, the reason why it is difficult to believe stories about the effects of "excessive" demand generated by the budget deficit is that the roughly 3 percent increase in GDP was accompanied by a 20 and 16 percent increase in exports and imports respectively (measured in USD); at the same time, industrial exports grew by 21 percent and domestic sales increased by only 6 percent. These figures support the assumption that the economic growth recorded in 1994 cannot primarily be attributed to the increase in domestic demand.

Let us now turn to the significance of economic growth. The most important reason why sustained growth of the economy is essential lies in the very nature of the macroeconomic imbalances of the Hungarian economy. Stagnation (not to speak of a recession) automatically increases both the burden of accumulated public debt and the magnitude of the disequilibria. Nowadays the total amount of interest payable by the government exceeds the budget deficit. (This means that the revenues of the state budget are higher than the non-interest expenditures—i.e. the

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point of view of the macroeconomic developments, if both the growth of the domestic economy and its external disequilibrium can be explained by government overspending. In the article we wish to elaborate on these points.

primary, or non-interest, balance of the budget shows a surplus). Interest expenditures are payable on both domestic and foreign public debt. Although decreasing the absolute amount of accumulated domestic and foreign public debt is not really feasible, there is a chance to reduce the *relative* burden of the debt service, as well as to stabilize the ratio of public debt to GDP. However, the latter becomes an actual possibility only if the economy enters the path of sustained growth.

There is a final consideration, as well: servicing of the foreign debt involves a regular transfer of resources abroad. Such an obligation can only temporarily be met if the country's total revenue decreases. In the long run, however, this commitment can be satisfied only if the economy keeps growing and the *proportion* of the available resources to be allocated for external debt keeps decreasing. Otherwise, it is unlikely that the country could meet its obligation to pay off foreign debts.

In the following we first discuss some concepts related to, and which are interpretations of, the fiscal balance. Next, the nature and size of the domestic budgetary deficit is analysed and an attempt is made to estimate the impact of the budget deficit on domestic demand in recent years. Finally, we address the effect of inflation on the size (proportion) of the budget deficit and draw some conclusions concerning the ways and means available for keeping public debt within tolerable limits.

Impact of budgetary deficit on aggregate demand

Preliminary remarks

In this section, we discuss one of the possible effects of budget deficits on macroeconomic developments. Within this subject, we wish to elaborate on a special problem which, although widely discussed in the international literature (*Eisner* 1989; *Tanzi, Blejer and Tejeiro* 1993), and already analysed by Hungarian authors (*Dedák* 1994; *Erdős* 1995; *Simon* 1994), has so far failed to have any substantial influence on the thinking of Hungarian economic policy-makers. Namely, what is the influence of the budget deficit on domestic demand if most of the deficit is due to interest payments and the rate of inflation is relatively high? As we wish to focus on this specific issue, we shall not discuss a number of other related important problems and, furthermore, we shall, in certain cases, rely on some simplifying assumptions. We shall not discuss issues related to the financing of budget deficits (although we shall briefly touch upon this point) and shall disregard the fact that even a balanced budget can generate additional demand (depending on the structure and composition of expenditures). Moreover, the impact on government capital transactions (for example, debt consolidation, bank consolidation) that may potentially increase domestic demand (but which do not show up in current budgetary expen-

ditures) are also neglected. Basically, we shall focus our attention on the *budget* of the *central, rather than the general* government. As it will later be explained, the economic rationale behind this decision is that if we intend to examine the effect of fiscal *policy* proper we need to focus on the central budget, which is actually under the control of fiscal policy. Another important issue for analysis concerns the macroeconomic effects of the balance of the *general* government (which refers to extra-budgetary funds, the budget of the social security system and that of local governments). However, the discussion of this problem is beyond the scope of this article, for two reasons. First, at the time of writing, comprehensive information on the consolidated general government was not available for the year 1994. Second, and more importantly, an analysis of the general government would require a different approach than the one applied here.

Even if statistical information was available, we could not accept and use the published figures directly. It is common knowledge that mutual payments within the general government are not fully offset against each other. Accordingly, there exists no methodologically clear and reliable information about the consolidated public sector. However, even if we had accurate and comprehensive information on the general government, (and all of its sub-systems), we still could not neglect the fact that the National Bank of Hungary (NBH) also constitutes an integral part of the public sector (considered in its broadest meaning). In other words, an analysis aimed at clarifying the macroeconomic effects of the exhaustive public sector should involve the fiscal effects initiated through central bank transactions.[3] However, here the problem is not simply due to the fact that on this issue even less information was available at the time of writing than with respect to the traditionally interpreted general government. The key problem is that a thorough analysis of the exhaustive public sector (i.e. including the NBH) implies fundamentally different questions from those that we intend to address. Such questions would have to raise issues regarding the quasi fiscal operations of the central bank, the combined effects of monetary and fiscal policy, the financing of public deficits by the central bank and other sources, as well as the generation and the use of seigniorage revenues. However, as indicated, the scope of this article is definitively more modest.

To sum up: no complete and comprehensive data are available regarding general government; the concept of general government is too narrow to cover the quasi fiscal operations of the central bank; on the basis of relevant data for general government in its broadest sense, a different kind of analysis would have to be carried out than the one applied in this article.

[3] *Borbély and Nemény*i (1994) and *Oblath and Valentinyi* (1993) offered this type of analysis with regard to the beginning of the 90's.

The role of public debt and inflation

The impact of the budget deficit on domestic demand is frequently identified with the size of the deficit, while its relative importance is represented by the deficit to GDP ratio.[4] However, this notion can be considered relevant only if the government is not indebted (accordingly, no debt service exists). In this case, a deficit of the budget, if any, should (by definition) correspond to the *primary* deficit (i.e. the deficit excluding debt service). Generally speaking, it may be assumed that the total sum of the primary deficit is likely to contribute to total domestic demand. Depending on the circumstances this may or may not be the case, but for the purposes of this analysis we shall rely on this assumption.[5]

In reality, however, most governments are indebted. Even so, if a government has debts that have to be serviced (i.e. principal and interest payments have to be made), neither the absolute size of the deficit, nor its proportion to GDP gives relevant information on the effects of the budget deficit on aggregate demand. Thus, the distortion is the larger (i.e. the bigger is the difference between the deficit and its actual impact on domestic demand)

— the larger the amount of principal payments;

— the larger the share of interest payments within the deficit, excluding principal payments;

— the higher the rate of inflation, and/or

— the bigger the share of interest payments transferred abroad or to the central bank within total interest payments.

Over the past few years in Hungary, the share of principal and interest payments (the debt service) has increased rapidly within budgetary expenditures, the rate of inflation has been relatively high and, furthermore, the proportion of interest paid to either foreign creditors directly or indirectly (through the central bank) has been considerable. Accordingly, there is enough evidence to presume that neither the absolute amount of the budgetary deficit nor its proportion to GDP, nor their respective change can show the actual impact of the government deficit on aggregate demand.

In the following, we first examine the different concepts of the fiscal deficit and discuss how the above factors influence the effects of the deficit on aggregate

[4] The deficit to GDP ratio (its change) is sometimes used as an indicator of the government's *fiscal stance*. However, for reasons to be discussed, this ratio is unsuitable for describing the stance of budgetary policy.

[5] This assumption is valid if the propensity to save remains unchanged. Of course, the propensity to save may change, but this factor in itself can alter aggregate domestic demand. For the purpose of analysing the effects of budget deficits proper, it is expedient to neglect changes in the propensity to save, or only those changes in the latter should be taken into account which are related changes in the deficit. Our reasoning is based on this logic.

domestic demand. We then turn to our next question: how does inflation affect the fiscal balance and the deficit-to-GDP ratio?

Interpretations of the budget deficit and its effect on domestic demand

Up until 1994, the balance of the state budget was interpreted (and measured) in such a way that principal payments on public debt were considered to be part of usual expenditure. This concept of the fiscal balance (to be referred to as "*gross balance*") is quite different from the internationally accepted definition. There are good reasons for excluding principal payments as this interpretation of the balance mixes up different concepts. Moreover, it does not provide information on either the *new* credit requirement of the government nor on the effect of the deficit on aggregate demand. The "gross deficit"[6] of the budget includes items that can, in theory, contribute to an increase in domestic demand, and others which are, by definition, offset by additional domestic savings. The part of the gross deficit that exceeds principal payments can increase domestic demand, while the amortisation of domestic public debt is "financed" by (a part of) the stock of domestic savings.[7] Accordingly, the gross deficit indicates the *total financing requirement of the government*. This offers important information with regard to management of the public debt and may be important in connection with developments in interest rates. However, it is neither relevant from the point of view of changes in the public debt nor in relation to the fiscal impact on aggregate demand.

From the above it may seemingly be logical that the *budget deficit less principal payments* (the deficit according to the so-called *GFS definition*) is the relevant indicator of the impact on domestic demand of the fiscal deficit. This appears to be the view of experts at the NBH, who claim "The deficit of the state budget interpreted according to the IMF Government Finance Statistics (GFS) system indicates how the government budget influences aggregate demand." (*NBH* 1994, p. 41.).

[6] In the following, we shall refer to the deficit and the effect the *deficit* has on demand—rather than dealing with the balance of the budget—in order to reflect the current situation in Hungary.

[7] No *additional* savings are required to finance that part of budgetary expenditure used to cover the amortisation of outstanding public debt. The number of government bonds issued to finance principal payments does not increase the total amount of public debt; it may change the *composition* of savings but not its total size. Of course, it is possible that new government securities can only be issued at higher than previous interest rates; this may result in an increase in future budgetary expenditure. It is also possible that the new securities are purchased by persons or institutions other than those who/which held those issued earlier. However, these questions are related to the management of the *outstanding* public debt; this topic has to be clearly distinguished from the problems related to the additional demand generated by the budget deficit.

However, experts of the NBH are mistaken. The position of the budget according to the GFS definition indicates the change (in our case, the increment) in public debt, but it fails to provide information concerning the influence the budget deficit has on aggregate demand. This is so because the GFS deficit is not capable of indicating the impact of government overspending if most of the deficit consists of interest payments (in a period characterized by high inflation), and in particular if the bulk of interest payments is made to the central bank and/or directly made abroad.

Let us begin by examining the last issue. Within the domestic interest expenditures of the budget, a clear distinction should be made between interest payments to the central bank on the one hand, and to other domestic economic agents on the other. The other important distinction relates to interest payments made abroad and to the domestic economy. Neither interest payments to the central bank nor those made to foreigners have an effect on the domestic aggregate demand. From the point of view of our topic, it is an accounting issue of no consequence that the NBH uses the interest received from the government budget to finance the domestic equivalent of interest paid in foreign currency on foreign public debt. The essential point is that the interest paid by the government to the central bank either increases the profits of the latter—in which case the profit is transferred back to the government and this transaction does not alter the balance of the budget—or the central bank "absorbs" the interest received (for example, to finance interest payments on foreign public debt). As a result, interest payments of the government to the central bank or to foreigners directly do not have any effect on domestic aggregate demand.

As for interest payments transferred to domestic economic agents other than the central bank (i.e. interest paid on domestic consolidated public debt),[8] this item can certainly influence (increase) domestic aggregate demand. The magnitude of this effect, however, depends on the rate of inflation and on the real value of nominal interest payments.

If the rate of inflation is high, the nominal rate of interest increases and so does the amount of government interest expenditure. However, the effect of inflation lies not only in increasing the burden of nominal interest payments; it also results in a decline in the real value of domestic public debt. Under such circumstances, two distinct developments can be observed simultaneously. On the one hand, inflation erodes the real value of public debt. The larger the amount of the domestic public debt and/or the higher the rate of inflation, the more significant is the extent of this erosion. On the other hand, the amount of nominal interest payments increases—albeit a part of the latter serves to offset the reduction in the real value of the public debt. From the economic point of view, this part of interest

[8] The concept of consolidated domestic public debt excludes the debt of the government to the central bank.

payments should be considered the *return* of capital lent to the government (i.e. this is a sort of principal payment) rather than the *return on capital*. Only that part of interest payments which exceeds the inflationary erosion caused by the debt should be considered as an actual revenue—i.e. as an item that is likely to contribute to the increase of aggregate demand.

The fact that we consider only a part of nominal interest income—i.e. only the real interest component—to be derived from government securities as real income, does not involve any kind of a break with the usual methods of macroeconomic analysis. When examining the effects of nominal wages or other incomes on domestic demand, we normally deflate nominal changes by an appropriate price index (usually, the consumer price index). The approach suggested above implies the application of the same logic for nominal interest incomes.

A number of factors (including inflationary expectations, the return on alternative forms of savings and changes in total income) determine how economic agents perceive that part of their interest income which serves to offset the inflationary erosion of public debt. If holders of public debt actually consider this component as compensation for the inflationary loss, then they save it: in this case this part of interest payments does not induce additional demand. Of course, economic agents may behave differently as well, but the reasons for this should be found in changes in real demand, expectations and/or monetary policy. In the rest of this article, we shall presume that economic agents do not generally suffer from "money illusion". This means that they realise that inflation exists and they know that the nature of the interest paid to offset inflation is different from that of real interest. Given this setting, we can reasonably expect that most of the nominal interest on public debt, which serves the compensation of the inflationary loss, is indeed saved.

The concept of the budget deficit that rests on the above assumption involves three components—the primary balance, interest expenditures abroad and to the central bank, and *real* interest payments to domestic economic agents (excluding the central bank). This concept is the so-called real or *operational deficit*.

The concepts mentioned above concern budget deficit and are based on a "gross" approach in the sense that revenues (if any) from financial assets of the government are not deducted from interest expenditures. It is true that this approach may be criticised on economic grounds. It could formally be defended by reference to the fact West European countries report interest expenditures on a *gross*, rather than a net debt service basis, and the "Maastricht criteria" also refer to gross debt. However, the point is that the approach we wish to pursue allows us to match the relevant concepts of public debt and public deficit. The "net interest" concept cannot be combined with any adequate concept of public debt.

Let us now summarise the above definitions of the budget deficit and indicate their implications for domestic aggregate demand. We shall use the following notations: D_b indicates the gross deficit; D_{gfs} is the deficit less principal payments; A is principal; E is the primary (or non-interest) deficit; I_n is total nominal interest

payment; I_d is the part of interest payment made to domestic economic agents other than the central bank; I_t is all other interest payment ($I_n = I_d + I_t$). Let B denote domestic public debt and p the rate of inflation. Then:

— the *gross deficit* includes principal payments and it indicates the total borrowing requirement of the budget (i.e. $D_b = E + I_n + A$);

— the *GFS deficit* indicates *new* credit requirement of the budget (i.e. $D_{gfs} = E + I_n$);

— the *operational* (or real) *deficit* is the primary deficit *plus* the nominal interest paid abroad and/or to the central bank *plus* the real value of interest paid to domestic economic agents: $D_o = E + I_t + I_r$; where $I_r = I_d - [B - (B/1 + p)]$;

— finally, the *adjusted operational deficit* is the sum of the primary deficit and the real value of interest paid to domestic agents (i.e. $D_{ok} = E + I_r$). This indicator is the one that signifies the contribution of the budget deficit to domestic demand.

In the following section, we make an attempt to quantify the above defined terms and to determine both the absolute and the relative size of the impact of the budget deficit on aggregate demand.

Quantification of the demand impulse

The primary (non-interest) balance of the central government may change partly due to changes in fiscal *policy*, and partly as a result of changes in the level of economic activity. Empirically, the separation of the effects of these factors is not feasible, but it is possible to identify the portion of interest payments that contributes, and the one that does not contribute to the growth of aggregate domestic demand. All absolute and relative indicators to be discussed below draw on reports of the National Bank of Hungary and the Ministry of Finance; in addition, information from bills on the central budget and the supplementary budget for 1995 is also used. There are a number of contradictions among these sources: for example, different sources report different figures for both the primary and the GFS deficit. Therefore, we wish to direct attention to the major trends and magnitudes rather than to the actual figures.

The ratio of gross deficit (D_b) to GDP grew from 5.7 percent in *1993* to 7.5 percent in *1994*. However, as both the amount and the proportion of debt amortization to GDP increased (from 0.75 percent to nearly 2 percent), the amount and relative size of the GFS deficit (D_{gfs}) grew much less (from 5.0 to 5.5 percent). However, most of the relative increase of the deficit has primarily been induced by the expansion of the total amount of nominal interest payments (I_n); the proportion of this latter item grew from 4.5 percent of GDP to 6.6 percent in two years. As a combined result of all these tendencies the *primary balance* of the budget (E)

improved quite considerably: the HUF 17 billion deficit recorded in 1993 (equal to 0.5 percent of the GDP) had swung to the positive side and showed a nearly HUF 50 billion *surplus* in 1994 (which was approximately equal to 1.1 percent of GDP). Accordingly, the fiscal "correction" relative to GDP was more than 1.5 percent. This indicates either the effect of powerful fiscal austerity measures and/or that the consequences of an autonomous recovery of the economy had a beneficial influence on the fiscal balance.

However, as indicated in the former section, it is not the primary deficit (or its change) that matters from the point of view of the impact of the budget deficit on aggregate demand (see the definitions in the previous section), but the adjusted operational deficit (D_{ok}). Let us now review the factors that had an influence on this item.

The government made interest payments amounting to HUF 157 billion in 1993 and 285 billion in 1994 (4.5 and 6.6 percent respectively, relative to GDP). Of these amounts, HUF 100 billion and HUF 130 billion (2.9 and 3.0 percent of GDP) respectively represented the total amount of interest payments (I_t) transferred abroad and to the NBH. This is the very item which undoubtedly cannot induce additional domestic demand. This is due to the fact that this sum, by its very nature, is withdrawn from the domestic economy.

In 1993 and 1994, nominal interest paid by the government to agents in the domestic economy (I_d) were 1.6 and 3.6 percent of GDP, respectively. What was the share of real interest payment and the inflationary erosion of public debt within these ratios? We made calculations on the basis of two different sets of assumptions. First, we assumed that the annual inflation erodes only the opening nominal value (i.e. the sum recorded at the beginning of the year) of the total consolidated domestic public debt. According to the second assumption (this is relevant in a period when consolidated domestic public debt increases rapidly), the real value of the average annual debt is eroded by inflation.[9]

The corrected operational deficit (i.e. the measure of the impact of the budget deficit on domestic demand) continuously decreased in each year. It depends only on the method of calculation in deciding which was the year when that impulse

[9] The year-end and the average amount of consolidated domestic public debt and the change in CPI, as shown below (in HUF billion and percent):

	1991	1992	1993	1994
Year-end consolidated public debt	138	355.0	823.0	1,026.0
Average amount of public debt		246.5	589.0	941.5
Consumer price index (CPI) (percent)		23.0	22.5	19.0

became negative. There is certainly no indication of a fiscal impulse that could give a satisfactory explanation for either the deterioration of the external balance in 1993 or the growth of the economy in 1994.

Thus, the results of our calculations indicate that the primary deficit and the real interest paid to domestic economic agents (i.e. the size of additional demand induced by the budget deficit) is not significant and has constantly been decreasing. Depending on the method of calculation, its size probably decreased from the +0.2 to −1 percent range recorded in 1993, to −0.6 to −1 percent measured in 1994. Accordingly, the balance of the budget did not have a positive effect on domestic demand in either 1993 or 1994. Indeed, the negative signs in the results indicate the opposite.

Several conclusions may be drawn from these results. Most importantly, although the budget deficit has been significant in recent years, the nature and the composition of the deficit has been such that it could not induce considerable domestic demand. On the contrary, the balance of the budget in these years is likely to have contributed to a reduction in domestic aggregate demand. The expansion of domestic investments in 1994 and the continued deterioration of the external balance had little to do with fiscal "overspending": the adjusted operational balance indicated a surplus (i.e. a negative fiscal impact on domestic demand), rather than—as commonly believed—a fiscal expansion.

The effect of inflation on the budget deficit

Some of the misuderstandings surrounding the effects of the fiscal deficit on the economy stem from neglecting the fact that the rate of inflation considerably influences not only the size of the deficit, but also its ratio to GDP. Given the real interest rate and debt-to-GDP ratio, the deficit-to-GDP is the higher, when the rate of inflation increases (and, by implication, when the nominal interest rate becomes higher).

The real (or operational) budget deficit (i.e. its ratio to GDP) is the concept that indicates the size of the deficit *excluding* the effect of *inflation*. As mentioned above, the total amount of interest paid by the budget in 1993 and 1994 represented 5.5 and 6.6 percent of GDP, respectively. If, beside the primary deficit and interest payments of the government to the NBH and abroad, only the *real* component of interest payments on consolidated *domestic* public debt is taken into account, we get a measure of the operational (real) deficit. This gives an idea of what the size of the deficit would have been (i.e. the deficit-to-GDP ratio) had there been no inflation.[10]

[10] Actually, this is only an approximation, as nominal interest payments made by the budget to the NBH and to foreign creditors include a component that reflects the effect of inflation and the resulting devaluation of the Hungarian currency. However, here we disregarded this factor.

Thus, depending on whether the beginning-of-the-year, or the annual average value of consolidated domestic public debt is considered to have been eroded by inflation, the ratio of the budget deficit (excluding principal payments) to GDP—without inflation—would have been between 3.1 and 1.8 percent (instead of the actual 5 percent) in 1993, and between 2.0 and 2.5 percent (instead of the actual 5.5 percent) in 1994.

These calculations clearly indicate that the effect of inflation is not corrected by expressing the magnitude of the budget deficit as a ratio of GDP. Only the relation between the actual and the operational deficit (their ratio to GDP) can reveal the impact of inflation on the size of fiscal imbalances.

Some concluding remarks on handling the fiscal deficit and the growth of public debt

What has been said above does not imply that there is no problem with the budget deficit or that there is no need to halt the increase of the deficit-to-GDP ratio. The budget deficit certainly involves serious problems, but the nature of, and reasons for these problems are different from the ones commonly believed to be valid.

In the foregoing we have tried to demonstrate the assumption according to which it was the "overspending" of the government that "artificially" induced the growth of domestic demand; this caused the economy to "overheat" and, consequently, it resulted in the deterioration of the country's external balance. We have attempted to show that such suppositions are groundless. Nevertheless, even if these notions turn out to be false, a serious problem clearly exists: a huge budget deficit *has to be financed* by government bonds bearing high nominal and real interest rates. This, in turn, implies an increase in future debt service and the budget deficit.

In order to understand the nature of the problem, the factors affecting debt dynamics have to be briefly discussed.[11] Focusing only on factors contributing to the change in *domestic* (consolidated) public debt, the change of the debt-to-GDP ratio[12] can be described as follows:

$$\dot{b} = (d - s) + b(r - \dot{y}) + nd$$

[11] There is no space for a detailed discussion of these relationships in this article; for the details see e.g. Oblath-Valentinyi [1993]).

[12] In the following we discuss only the growth of consolidated *domestic* public debt relative to GDP. The change in the ratio of foreign public debt to GDP is affected by changes in the real exchange rate as well, but here we do not deal with this issue.

where:

b = the (consolidated domestic public) debt-to-GDP ratio
d = the primary deficit-to-GDP ratio,
s = seigniorage-to-GDP ratio
r = real interest rate
y = GDP in real terms
˙ = relative change (growth rate)

There is an uncommon factor in this well-known formula: *nd*, which indicates the change in the ratio of public debt-to-GDP due to factors other than the current deficit (for example, debt and bank consolidation—i.e. government obligations incurred beyond financing current deficits).

The above formula offers a clear expression of the nature of fiscal problems in Hungary. Of course, the increase in the nominal deficit-to-GDP ratio is an unfavourable development, but this, in itself, does not influence the debt-to-GDP ratio. Generally speaking, it is the rapid increase in this ratio that points to an unsustainable deterioration of the fiscal situation.

It can be seen that it is not the primary deficit, in itself, that contributes to the increase of the domestic debt-to-GDP ratio but that part of the primary deficit which is *not covered* by seigniorage (i.e. central bank credit). Given that the current rate of inflation provides for some seigniorage revenue and the primary balance is in a surplus (in 1995 the primary surplus is expected to be 2 percent of GDP), the first component of the formula may have a negative sign: in this case the debt-to-GDP ratio decreases. The second and third item in the formula may be the source of actual problems: if the *real interest* paid by the budget significantly exceeds the *rate of growth of the economy* and public debt unrelated to fiscal deficits increases further, the growth of public debt may turn out to be unsustainable.

If the real interest rate is higher than the rate of economic growth, the revenues of the budget cannot increase quickly enough to cover interest expenditures. Therefore, interest payments contribute to the budget deficit, which, if financed by new debt, increases the future debt service, the deficit, debt and so on. In Hungary's case the so-called debt and bank consolidation schemes added roughly HUF 300 billion to the former amount of public debt, and interest payments on the latter constitute a significant component of the deficit. Thus the financing of the huge burden of interest obligations may lead to a very rapid growth in the domestic public debt-to-GDP ratio.

How can this be prevented? First of all, it is very important to avoid increases in public debt for reasons other than the budget deficit. Thus, the issue of government bonds for bank consolidation and, more generally, the conversion of non-government debt into public debt should certainly be prevented. Furthermore, the conversion of government debt (i.e. debt to the central bank due to devaluation losses, and which does not bear interest) into high-interest government bonds

should be discontinued. Although this latter transaction may appear to be harmless (or neutral, from the point of view of the budget), it becomes dangerous as soon as the central bank decides to sell these bonds. In fact the central bank wishes to use these bonds for open-market operations (i.e. for selling them). In that case, however, an accounting item would be converted into actual public debt, which, again, would automatically swell the deficit by increasing the interest burden.

In addition, well-prepared steps should aim at decreasing the nominal and the real interest rate; this would require close co-operation between the fiscal and the monetary authorities. The decrease in real interest rates is both justified and feasible, as capital investments have not been constrained by high rates of interest (creditworthy companies have been able to attract foreign capital); and the propensity to save cannot be increased by higher interest rates beyond a certain limit. Accordingly, high interest rates do not have any significant effect other than contributing to the increase of budgetary expenditures, the deficit and the government's hunger for additional loans, and thus reinforcing the debt spiral.

In the final analysis, however, it should be clear that the domestic debt-to-GDP ratio can be stabilised only by achieving sustainable growth of the economy (to see this it may be useful to have another glance at the above formula). The same is necessary to prevent a deterioration of the primary balance of the budget and to increase the non-inflationary component of seigniorage revenue. Although further correction in the primary balance may be inevitable, if attempts at a rapid and large increase of the primary surplus result in a recession of the economy, then the fiscal difficulties of the country will only be aggravated.[13]

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[13] In this article we have addressed only a narrow set of questions; a lot of further work is necessary to clarify the macroeconomics of fiscal deficits in Hungary. For example, the macroeconomic effects of the consolidated general government balance (including the central bank) will have to be analysed. Although we consider the continuation of this work rather important, we do not believe that subsequent results would necessitate a basic revision of the findings presented in this article.

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THE HUNGARIAN FISHER-CYCLE, OR A POSSIBLE INTERPRETATION OF THE CAPITAL LOSS OF HUNGARIAN BANKS

J. KIRÁLY

Theory, it seems, is more uncertain about the link between the monetary sector and the real economy than ever before. A witty explanation, an alternative to the earlier Keynesian and monetarist approaches, is provided by the so-called Fisher, or debt/deflation cycle, which is, these days, successfully applied in the analysis of the role that financial intermediaries play in the propagation of depression. In the present study I will attempt to reassess the capital loss of Hungarian companies and banks in the 90s and then, using the basic idea of the Fisher-cycle, formulate some pessimistic conclusions for the near future.

1. Introduction

Three years ago János *Kornai* invited me to take part in a research project dealing with the macroeconomics of the transition; the aim of the project was to build a macroeconomic model on the links between investments, monetary sector, inflation and growth. I still consider this paper to be necessary because I felt that our usual tools of macromodelling were insufficient for answering the question. Last spring, Márton *Tardos* gave me a puzzle about the role of two-tier banking in an economy in which the national wealth has lost more than 50 percent of its value in five years. These challenges—quite separate in time—and my studies on the Hungarian monetary system in the 90s (Király 1992; 1994; 1995) form the bases of the present paper.[1]

It is well-known that the question "What does it mean if the ROE (return on equity) of a bank is −100 percent?" is typical in multiple-choice tests on banking. Students invariably pick the correct alternative: "The bank has lost its capital",

[1]This study is based on a lecture which was given at the XXXIIIth Assembly of Economists, Section on Finance and Privatization, in Miskolc on 15 June 1995. The first version was discussed during a series of lectures, which took place on the occasion of the 25th anniversary of the Rajk László College, in the Section on Banking on 26 April 1995. The study was prepared using assistance of the OTKA No. 293 research programme "Projecting economic processes".

It was Géza *László* who convinced me, after lengthy debates, about the significance of the new alternative theory of finance. My graduate students have helped a lot to form the initial hypotheses. Without Éva *Várhegyi*'s analyses it would have been impossible to rely on widely accepted empirical and theoretical findings on the Hungarian banking sector. I am very grateful to everybody, who provided valuable comments and remarks on the first draft of this paper.

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or, putting it another way, "The owners of the bank have lost their equity." This is what happened to the Hungarian banks: the ROE ratio of the banking sector was as low as -102.7 percent in 1993[2]—i.e. the Hungarian banking system lost its capital base. What is striking about this fact is the magnitude: the losses may amount to as much as HUF 150 billion, which is really staggering.

So far, detailed explanation of the causes of capital loss in connection with the development of the real sector have been of secondary importance, coming after the analysis and the criticism of the bank consolidation and restructuring programme (Várhegyi 1993a; *Balassa* 1994). However, we cannot ignore the efforts to combine the corporate and banking research findings with macroeconomic issues, which seek answers in a common framework analysis.[3] This study will attempt to provide a theoretical outline, supported by empirical evidence, of the possibility that the banks' capital loss had, in fact, happened already in 1991; a key element of this was the corporate capital loss, the consequences of which included a credit squeeze and continued recession. The analysis will rely on research which highlights the macroeconomic role of the credit channel, with particular emphasis on Irving Fisher's ingenious interpretation of the Great Depression. The paper will be confined to this narrow path and will not devote too much space to equally crucial questions, such as privatization, risk management or sociological issues in banking sector in transition. Monetary policy issues will only be mentioned, however, a deeper analysis in required in this field.

In *Section 2*, I summarize the main elements of the Fisher-cycle and the theoretical papers based on this approach. *Section 3* outlines the elements of the Hungarian Fisher-cycle. In *Section 4* the loss of corporate capital is discussed, while *Section 5* deals with the losses of the banking sector. The analysis will put an accent on the interrelationship between the two processes. *Section 6* analyses the possibility of a credit squeeze (i.e. deeper than earlier) and the viable alternatives.

2. Background

The new alternative theory of finance is in some respects closer to the banking school and neo-keynesians than to the currency school and the monetarists. It puts

[2] *Annual Report, State Banking Supervision*, 1993, p. 85. Different figures, but of similar magnitude, are also available, for example in Várhegyi (1995, p. 49) −103.9 percent. This is hardly surprising as the history of Hungarian banking is sometimes even more difficult to forecast than its future, as far as figures are concerned. The figures in the tables at the end of the paper are derived from the most recent publications available.

[3] It is amazing how far apart "corporate" and "finance" literature are: a study on "companies" hardly ever contains a reference to a "financial analysis", and vice versa. Similarly, there are scarce overlaps between studies on "corporate finance" and on macroeconomics. However, a welcome exception is, for example, *Ábel and Siklós* (1994).

credit at the first stage, instead of *money*, when explaining the effect of the monetary sector on the real economy (*Blinder and Stiglitz* 1983, *Bernanke and Blinder* 1988, *Bernanke* 1983, Bernanke 1993, *Bordo* 1992). This implies a central role for alternative forms of finance. The focus shifts from "money channel" to "credit channel". According to all the "conventional" theory, bank credits smoothly accommodate themselves either to changes in the money supply or to real disturbances reflected in the credit demand that is generated by changing interest rates. In the new theory, the crucial factor is not *credit demand* but *credit supply* (Blinder and Stiglitz 1983, Bernanke 1993). Since the first elaboration of the "credit channel" theory, numerous empirical analyses have indicated that bank credits available to economic agents have a much more direct impact on the real economy than money supply, no matter how the latter is defined.

Several major 20th century economic theories may be traced back to explanations which were given to explain the Great Depression of 1929–33 (*Keynes* 1965, *Friedman and Schwartz* 1963). According to Keynes, *insufficient demand* was the cause of the deepening of the Great Depression. Monetary policy is unable to cure it, because—due to the liquidity trap—it is not capable of lowering interest rates to levels which would induce investments. In Friedman's alternative explanation the Fed's flawed policy, and the unjustified rise in reserve requirement ratio led to the further restriction of money supply. This, in turn, slashed real economic activity. Thus, it should not be a surprise that the new theory of finance is another interpretation of the Great Depression, in which the fall of the *banks' credit supply* has a decisive role.

The theoretical foundation of the new school is the specific interpretation of Irving Fisher about the Great Depression (*Fisher* 1933). The debt/deflation cycle that Fisher formulated as a hypothesis has been used as a starting point in a number of research projects. One of the most outstanding studies is that of Bernanke (1983), which established the role of restricted credit supply as a cause of the Great Depression, and it is supported by empirical evidence. Bernanke points out that the reductions of the money supply seem quantitatively insufficient to explain the subsequent falls in output. "... economic institutions rather than being a veil can affect cost of transactions and thus market opportunities and allocation (Bernanke, 1983, p. 275).

The Fisher-cycle does not explain the emergence of the crisis, rather it emphasizes the role of the banking sector in the deepening of the recession. The starting point is debt-financed economic growth, which results in over-indebtedness. Bank portfolios begin to deteriorate and advances are involuntarily suspended. As a response, deposits are withdrawn, which is soon followed by bank runs, banking panics and bank failures. This slows down the velocity of money, and consequently prices begin to fall. Lower prices depreciate corporate assets, thus the value of the underlying collateral diminishes; this then leads to a further fall in bank assets, a continued decline in deposits and a lower velocity of money. Falling prices will

further depreciate assets, generate further sales of assets—and the cycle maintains itself.

The major elements of the Fisher-cycle can be enumerated as follows:

1. credits, notably bank credits have a crucial role in financing the economy;
2. the economic growth is debt-financed, which, at the peak of the economic cycle, causes over-indebtedness and a threat to repayment ability;
3. the deterioration of bank portfolios forces banks to withdraw credits;
4. the confidence in banks is shaken, indicated by banking panics and the withdrawal of the banks' deposits; this, through the slower velocity of money, has a deflationary effect;
5. due to the deflation, the collaterals behind bank credits, notably corporate assets, lose their value, and banks are forced to sell their assets;
6. banks respond to asset depreciation with a reduction of their credit supply;
7. the decrease in the credit supply deepens the recession.

The Fisher-cycle does not explain the first step of the real economic shock: it does not explore why the "original" recession occurs, why loan repayment is threatened, what makes a company overindebted: it considers these phenomena to be exogenous. The investigation is concerned with the possible consequences once this situation has arisen. If companies become over-indebted, the financial sector cannot absorb the losses arising from asset depreciation, and the banks will also suffer from capital loss. This, in turn, further deepens the recession. The endogenous elements of the cycle include a reduction in banks assets and a devaluation of corporate assets.

The central question about the applicability of the Fisher-cycle to contemporary crises is whether the deflation in point 4 is a precondition of the asset devaluation referred to in point 5. If we could prove that asset devaluation may also happen in an *inflationary* environment, we would be able to use the Fisher-cycle to analyze our current crises. If the value of corporate assets is linked not to the general price level but to the net present value of the companies' expected cash flow, asset devaluation may also happen when the general price level is rising. In this case, the value of the corporate assets is interpreted as the present value of the company's future cash flow discounted by its capital cost. An asset devaluation may be triggered by falling income-generating ability or by rising capital cost, irrespective of the changes in the general price level. Therefore, *value loss* may occur in an inflationary environment and the collaterals behind bank credits may decrease in value. This would result in the deterioration of the bank portfolios and a reduced credit supply. Reduced credit supply leads to a rise in the cost of credit intermediation (Bernanke 1993), an increase in the companies' capital cost and a further reduction in the value of assets. The debt-deflation cycle continues to "work". We are going to apply this version of the Fisher-cycle.

3. The elements of the Hungarian Fisher-cycle

The most recent history of the link between the monetary sector and the real economy in Hungary is not an area which economists have described thoroughly. Reality seems to deny all our hypotheses based on traditional monetary theory. Éva Várhegyi (Várhegyi 1993b) concludes that by choosing the usual variables, the declared objectives of the monetary policy do not harmonize with the development of the usual interim objectives, nor do these interim objectives (fixed monetary aggregates, interest rates) correlate with the real economic indicators. It appears that conventional analyses based on "money channel" do not provide a satisfactory explanation to the link between the monetary sector and the real economy. In fact, we know extremely little about the actual affects of monetary restriction, or its impact on the real economy.

It is not clear what role the Hungarian banking system has in the transformation crisis, what the actual reasons of the banks' capital loss are, and how statements like "banks lend carelessly" and "banks are sitting on liquidity instead of financing" can be reconciled. Thanks to numerous empirical studies, we know more about the operation of Hungarian banking than we did two or three years ago, but we still lack the reconciliation of micro and macro effects.

Our initial hypothesis is as follows: banking intermediation plays an independent role in the deepening of the Hungarian economic crisis, where the capital loss of companies and banks have affected one another, and where the reduced credit supply may contribute to the exacerbation of the crisis. The crisis, at least *as far as the degree of recession in concerned*, resembles the Great Depression (Kornai 1993). *Therefore, the adaptation of the Fisher-cycle*, which describes a possible mechanism underlying the Great Depression, does not appear as such an unrealistic proposition. The "Hungarian Fisher-cycle" resembles the original only in its core idea, since the East European recession at the end of the 20th century, despite all similarities, can be traced back to different factors and mechanisms. The emphasis is, nevertheless, put on the significance of the operational deficiencies of banking institutions in both crises.

The "Hungarian Fisher-cycle" consists of the following elements:

1. When the two-tier banking system was introduced, banks inherited a corporate clientele that was already short of capital and indebted. In the first years of the crisis the fall in corporate credits was slower than the economic recession—that is, the indebtedness of the companies increased. This might be interpreted as capital-short transformation indebtedness. This is indicated by the expansion of banking intermediation from 1988 to 1991: the share of the banks' balance sheet total compared to GDP rose to 84.6 percent from 65.8 percent, while the share of

corporate credits in GDP went up to 30.8 percent from 24.6 percent.[4] In times of recession this casts doubts on the possibility of credit repayment.

2. Due to the transformation crisis, the expected free cash-flow of companies declined, their capital costs soared, and consequently the corporate assets put up as credit collateral had already lost a considerable share of their original value by 1991. The fall in corporate net worth is reflected by the fact that ROA of the companies, which accounted for almost 90 percent of GDP, plunged from 3.88 percent in 1989 to 0.69 percent in 1991; in fact, it had turned negative with the majority of domestic, mostly state-owned companies by 1991 (*Major* 1995).

3. The fall in the companies' net worth resulted in a reduction in the market value of the bank credits, which led to capital loss, though *without bank runs or banking panic*. We assume that the banks actually lost their capital in 1991. However, this became obvious only in 1993, after the bad debts had gradually become evident.

4. The capital loss forced banks to cut their credit supply. After 1992 net advances (in excess of interest payments received) to doubtful borrowers did not increase—that is the banks "didn't throw good money after bad money" (*Bonin and Schaffer* 1995). The fall in credit supply is noticeable in the shrinking size of banking intermediation: by 1994 the balance sheet total of banks within GDP had dropped to 69.1 percent from 84.6 percent, while the share of corporate bank credits in GDP went down to 20.3 percent from 30.8 percent. This decrease happened in a period when the economic recession already seemed to have been subdued. In other words, this is by no means justified by the real economic trends in 1992–94. We think that it is not the credit demand but clearly the credit supply that shrinked.

5. A dramatic slump in credit supply may contribute to the deepening of the recession. The dramatic fall in the financing capacity of banks may lead to *capital cost* rises and to drops in income-generating ability; that is, to falls in the company's net worth based on discounting the future cash-flow. This, in turn, may deepen the recession, thereby contributing to a worsening of the crisis.

The hypothetical cycle described above contains several elements and statements which need to be proved or refuted by future research. We are going to examine some of these in the following sections.

4. Capital losses in the corporate sector

The capital loss of companies at the turn of the 1990s is a widely accepted fact: the fact and the size of the capital loss is indicated by the falling profitability and insolvency that came to light with the passage of the Act on Bankruptcy. A key

[4] The summary of the figures referred to in the study and the indication of their sources can be found in the *Appendix*.

element in the corporate capital loss was the "external shock", by which we mean the large-scale loss of external markets in 1991. This market loss, in light of both micro- and macroeconomic figures, contributed to the relative over-indebtedness, the corporate capital loss and the asset devaluation. In 1991 GDP and investment fell by nearly 12 percent, exports by over 15 percent and industrial production by 17 percent. Research done among companies revealed that "in the first half of 1991 industrial losses amounted to the previous year's total and forty percent of all businesses made losses" (*Voszka* 1994). Companies felt the insufficient demand—for example, in the second quarter of 1991 70 percent of companies surveyed indicated insufficient demand as an obstacle to production, compared to an average of 40–50 percent in earlier years.

Most researchers agree that the Act on Bankruptcy did not directly cause but revealed the crisis. However, one cannot deny that the Act on Bankruptcy also deepened the crisis, since not only the indebted businesses but also the ones that were former *creditors* (!) of others suffered losses in their market shares and their profitability fell (Bonin and Schaffer 1995).

The external shock hit a largely indebted and overfinanced corporate sector. Nevertheless, this sector was suffering from permanent capital shortage, which appeared as a financing problem for them and they permanently blamed the banks for "insufficient money supply". To understand better the effect of the external shock on companies we should elaborate a new classification, which is based on the bank-company relationship. Four groups of companies are classified; however, given the lack of data only some hypotheses are drawn (allowing for the possibility that any of the classes may turn out to be an "empty" or irrelevant group).

Group 1: "standard over-indebted giants"—companies whose bank indebtedness was significant before the bank reform and has not declined since 1990/91;

Group 2: "rapidly indebted newcomers"—companies whose bank debts were insignificant before the reform, or the company itself was created after 1987 and then became overleveraged 1987–1991;

Group 3: "bank defectors"—companies whose bank indebtedness was significant before the bank reform, but which was significantly reduced by 1990–91;

Group 4: "self-financers"—companies which did not have significant bank financing in the given period, though members of this group are not self-financers in the sense that they used other external sources of finance. Numerically, this group is supposed to make up the bulk of the companies surveyed. However, the subgroup of companies which primarily relied on foreign funds and posted a significant export performance carries a significant weight.

Lacking data we cannot yet trace the development of these groups from 1987 to 1993, reveal their share in GDP, their indebtedness and bank relationships, nor can we prove or reject our hypothesis described under points 1–3 of the Hungarian Fisher-cycle.

We assume that the "standard over-indebted" companies were the state-owned giants. Before the bank reform this group produced over 80 percent of GDP. These companies became the major clients of the three big banks that were derived from the National Bank of Hungary (i.e. the Hungarian Credit Bank, the Bank of Credit and Commerce, and the Budapest Bank), bringing along their earlier credits, which had been granted before the reform in a world of central fund allocation. These companies had already been over-indebted in 1987 (*Antal and Várhegyi* 1987); in fact, "the 'banking reform' allocated the debts that had accumulated through the earlier investment projects among the then established commercial banks. The banking reform, the principle and the increasing interest rates of former loans were irrationally burdensome for the corporate sector, which, already in 1989, contributed to the emerging losses of the state-owned companies, and led to the subsequent devaluation and the consumption of the capital accumulated" (*Mandel* 1985). When referring to insufficient credit supply, these companies missed the usual and preferred mechanisms of credit allocation that they had been used to.

In the second group, on the one hand, we find state-owned companies that were transformed into limited companies. On the other hand we find new, small and medium-size firms with a Hungarian majority stake. This group had special contacts with the small and medium-size domestic banks. They mostly used external funds to finance their growth, and were shocked by the dramatically shrinking market demand in the early 1990s.

In all probability it is mainly the members of these two groups that belonged to the 2871 loss-making Hungarian companies which were surveyed in the Bonin and Schaffer (1995) study. The debt/capital ratio of the sub-group with the highest—i.e. nearly 80 percent loss on equity (!)—was 1.59 already back in late 1991, so these companies grew over-indebted in absolute terms as well. Consequently, in companies which were "standard over-indebted giants" or "rapidly indebted newcomers" the acute capital shortage was, for the most part, compensated by bank loans. This created companies with such a high gearing that they were bound to be shaken by any small movement in the economic environment, and which would obviously "tumble over" in an economic earthquake.

Thus, for the time being, we have no reason to reject the Fisher-cycle: the expected net present value of free cash-flow of the companies which had accounted for the overwhelming portion of the GDP production before 1991 (that is, members of Groups 1 and 2) worsened significantly in 1990–91, and their capital base was eroded. The same companies had already been or became relatively over-indebted towards banks: their financing problem as well as their capital shortage became even more burning issues. For the banks this situation implied that the loan repayment ability of their borrowers diminished and the collaterals behind the loans lost their value.

5. Capital loss in the banking sector

The capital loss in the banking sector can be "verified" without any statistical figures: had it not been for the capital loss, bank consolidation would not have been necessary. Of course, not all banks lost their capital (e.g. the majority of the jointly-owned banks were profitable in the given period), while some of the losers lost several times the size of their capital (e.g. the three large banks). Not all losers were involved in the credit and bank consolidation (e.g. WestLB was consolidated by the new owner), and not only losers participated in the programme (e.g. OTP received subordinated loan capital under the programme).

While the 14 loss-making banks,[5] which account for some 40 percent of the balance sheet total of the entire banking sector with an even larger share in corporate lending, produced a combined HUF 179 billion (!) of losses in 1992 and 1993, the 19 banks, which were profitable in the same period, generated profits of merely HUF 23.8 billion (Várhegyi 1995, p. 51). So the banking sector lost its capital base "selectively", the losers, however, dominated in corporate lending. The losers can be divided into two large groups: the three large banks that spun off from the NBH in 1987 [Hungarian Credit Bank (MHB), Bank of Commerce and Credit (K&H), Budapest Bank (BB)] and medium-size banks with little or without foreign participation. These had either been set up in 1987–90 or grew out of former specialized financial institutions or funds in the same period.[6]

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[5] The combined losses of the two years in ascending order were as follows (losses and the bank's subscribed capital in 1992, million HUF): Corvinbank (-17; 3202), Investbank (-236; 1245), Leumi Credit Bank (-74; 1400), Konzumbank (-325; 1143), Innofinance (-1055; 500), Iparbankház (-2118; 1070), General Venture Bank [*from 1992: Westdeutsche Landesbank Hungary*] (-4475; 2220), Agrobank (-4895; 1505), Dunabank (-5995; 1000), Mezőbank (-8863; 2361), Cooperative Bank [*Takarékbank*] (-11191; 1357), Budapest Bank (-13524; 7593), Bank of Credit and Commerce [*K&H*] (-47627; 13534), Hungarian Credit Bank [*MHB*] (-79160; 15285). (Source: Várhegyi [1995] pp. 50–1) The list does not include Ybl Bank, as it closed down and Budapest Bank established the Civil Bank [*Polgári Bank*] using its remains. Of the banks listed, all except Investbank and Leumi were involved in the 1992–93 loan consolidation programme. The bank consolidation scheme did not involve Corvinbank, Konzumbank, Investbank, Innofinance, (which had closed down), and General Venture Bank (it was capitalized after being acquired by WestLB), while Leumi was only an indirect beneficiary (through MHB). The eight banks that were involved in the bank consolidation received "capital" in government bonds to a value of HUF 150 billion.

[6] The following banks belong to this group (in parenthesis: their share capital in different periods): Agrobank (1984: 600m partnership, 1987: 1.5bn commercial bank), General Venture Bank [*Általános Vállalkozási Bank*] (1985: 2.2bn specialized financial institution, 1988: commercial bank), Dunabank (1987: 1bn investment banking subsidiary of MHB, 1989: commercial bank), Investbank (1983: Financial Association for Technological Development, 1991: 1.2bn commercial bank), Industrial Bank [*Iparbankház*] (1984: 150m Development Bank of Industrial Cooperatives, 1990: 1.1bn commercial bank), Konzumbank (1986: 400m Development Bank for Cooperatives, 1988: 1.1bn commercial bank), Mezőbank (1986: 1.2bn financial institution for agricultural development, 1989: 2.4bn commercial bank), Cooperative Bank [*Takarékbank*] (1989: 1.4bn commercial bank), Ybl Bank (1983: innovation fund, 1989: 1.2bn commercial bank), Leumi (1990:

The recurring dilemma is: whether the worsening macroeconomic conditions (particularly the recession), or the serious faults in bank management to be blamed for the increasing losses? Whatever the main reason, analysts seem to agree that the major factor of the capital loss was the deterioration of the *loan portfolios*. If bank portfolios are examined in the light of the official statistics, it seems that the large-scale portfolio deterioration happened in the same year as the capital loss, namely in 1993 (*Table 1*).

Table 1

Doubtful debts in the banking system, 1990–93

	1990	1991	1992	1993
Doubtful debts (HUF bn)	43.3	87.5	273.1	536.0
Percent of balance sheet total	2.7	4.1	12.0	20.4
Percent of corporate loans	6.8	11.4	35.4	70.4

Note: The rules of portfolio qualification were only set down in the 1991 Act on Financial Institutions, and then by the regulations for Banking Supervision. In the table, the term "doubtful debt" is used in a more general sense to include all nearly non-performing credits. In 1991 several banks, probably because they misinterpreted the rules, indicated a smaller volume of doubtful debts than they actually had (e.g. K&H claimed that it had only HUF 61 million!). Even official reports concluded that the HUF 87.5 billion in 1991 was an underestimate: according to NBH estimates the volume could have been as much as HUF 100 billion. As we will see later, some analysts believed that doubtful debts were 2.5–3 times higher in 1991. The 1992 figures reflect the situation before the credit consolidation.
Source: NBH [1992], State Banking Supervision Annual Report 1992, 1993 (estimate).

However, analysis shows that the significant drop in the market value of bank portfolios goes back to 1990–91 (*Szalkai* 1993). There are estimates that 33–34 percent of corporate loans were already non-performing by 1992. The rapid increase in non-performing loans in 1992 did not follow from the new advances: it was not a problem of flow but of stock (Bonin and Schaffer 1995).[7] The lending practices of 1992–93 did not essentially modify the situation that had arisen by 1991: they only made it even worse. The non-performing loans, which made up some 20 percent of the balance sheet total (some 35 percent of loans total), "were in the

1.4bn commercial bank, formally a jointly-owned bank, but shows more resemblance to Hungarian medium-size banks), Innofinance (1980: Innovation Fund, 1985: 500m specialized financial institution), Corvinbank (1984: Industrial Innovation Fund, 1988: 3.2bn specialized financial institution).

[7] Balassa (1994) also stresses that "from 1992 onwards the banks' lending practices showed a marked improvement. They became far more cautious: they increasingly refrained from risky advances." However, he adds "In this respect the practices varied from bank to bank since certain banks regularly renewed credit lines to non-performing borrowers as well, though they did not grant new risky credits." (Balassa 1994, pp. 14–5)

balance sheet" already in 1991. The deterioration of the loan portfolios was partly concealed by a shift in the share of loans—i.e. the dynamic growth of non-financial investments[8] as a result of debt/equity swap. For example, the investments of the large banks grew 6 and a half times in 1987–90, and accounted for 39 percent of equity (*MNB* 1991). This reveals an escape forward from non-performing loans to investments, which later became a frozen stock with zero yield and especially high risk.

Thus the capital loss, which was instrumental in portfolio deterioration, happened before 1992, but the perilous weakening in the banks' capital position, as well as in the corporate sector, did not become evident until after *the legal environment* had changed (i.e. with the Act on Bankruptcy, and the Act on Financial Institutions). The capital loss through the reduced market value of the portfolios had in fact happened before the passage of these two acts"...institutional changes, for the most part, did nothing more than to reveal the earlier dramatic drop in the economic value of the loan portfolios." (Szalkai 1995, p. 194)

We are able now to formulate one of our main findings: in contrast with the statistics that failed to reflect the portfolios genuinely, the drastic fall in the market (economic) value of the bank portfolios and the shock to the banks' capital position happened before 1992, together with the falling net present value of companies during the apparent boom of 1990–91.

We must return to the question of *the main reasons*. After all, a portfolio deterioration may be caused by an economic recession, the bad position of borrowers or insufficiently prudent banking operation. Without underrating the significance of the last factor—that is, without denying the existence of anomalies in bank lending practices[9]—we must stress here that the capital loss in the banking sector had been "programmed" into the system, though perhaps not to the actual extent that it appeared. In the previous section, when analyzing the corporate capital loss, we examined this statement from the companies' point of view. As we have mentioned, the loss-making banks can be put into two groups: the "Big Three" (MHB, K&H, BB) and the medium-size domestic banks.

[8] We have no reliable figures available about the whole of the sector. *Spéder and Várhegyi* (1991) points out that investment in the *real sphere* rose from HUF 12.6 billion in 1989 to HUF 23.3 billion in 1990. The *total* investment of banking grew from HUF 6.2 billion in 1987 to HUF 50.3 billion in 1991, and even if we deduct the investments into financial institutions, the growth was alarmingly fast: while assets invested accounted for 11 percent of equity, the share rose to 26 percent, or 39 percent in the large banks in 1990 (NBH 1991).

[9] We could refer to the practice of a couple of banks where credits were granted without credit-rating or in some cases without any documentation. The good or bad faith of such contracts or non-contractual commitments cannot be *proved* later. The generally unregulated position is indicated by the fact that in a number of cases it is the lack of the relevant rules that makes the imposition of charges impossible: violating a non-existing rule is a non-indictable act. Lack of lending manuals, decentralized decision-making without controlling and internal audit, contradictory incentive schemes and untrained credit officers all contributed to the later losses.

We assume that the medium-size domestic banks had close links with clients who "became indebted rapidly", and both the banks and the clients had a gearing which was rapidly rising well above the sector's average (this is an unbonded "junk bond" situation). This is shown by the fivefold rise of corporate loans given out by medium-size banks from 1987 to 1991. In the absence of suitable data, here I will not provide a detailed analysis of the portfolio of medium-size banks.

The "Big Three", which financed the companies that we referred to as "standard over-indebted giants", played the "main role" in the banks' capital losses. In 1990–91 "62 percent of under one-year loans and 80 percent of over one-year loans to businesses were granted by the large banks, especially by the three that derived from the NBH" (Spéder and Várhegyi 1991, p. 21). So, the major element in the loan portfolio deterioration of the banking sector were the loans of the three large banks established in 1987.[10] The lending risk inherent in their portfolios was increased by the guarantees they issued: in 1991 95 percent of all bank guarantees were issued by the large banks, mostly to the jointly-owned banks! (Spéder and Várhegyi 1991) Together with their own advances, the large banks undertook a portion of the lending risk of the jointly-owned banks.

Based on the information that we have available about the three large banks, it seems probable that the banks' capital losses, which actually occurred in 1991, were caused not by *the loans inherited* but by the devaluation of the assets of *the clientele inherited*. I would like to stress this distinction: I have no intention here to revive the idea that the bad debts inherited from the NBH deteriorated the loan portfolios: this has been refuted several times. However, I am convinced that it was the unchanged level of financing and the continued overfinancing of the clients inherited from the NBH that mainly contributed to the deterioration of the portfolios. Only detailed corporate and economic sociological research could answer the question of whether the "Big Three" had any reason at all to cut back the credit lines of these standard over-indebted, mostly state-owned giants, which produced a large share of the total debt.[11]

[10] It is almost impossible to understand "what went wrong" by constructing a detailed historical analysis of the "big three", especially that of the Hungarian Credit Bank. Here I would only refer to a minute fact: the "dirty thirteen" [the most indebted 13 large state-owned companies] were (or still are) MHB clients, and under the 1993 borrower consolidation scheme the MHB sold over HUF 20 billion of their frozen loans, so the "third side" of the redistribution process described by Voszka (1995, pp. 170–90) must be hidden in MHB's files.

[11] The practices of the former National Bank and State Planning Office were undoubtedly felt: some bank managers (perhaps the majority of them) felt (and, I dare say, still feel) that financing was not only a banking decision but also a part of economic policy. Letting Videoton, Rába, Csepel or Ikarus fail—i.e. failing to undertake their (over)financing, their capital-replacement financing:—basically, failing to underwrite their losses would have led to massive unemployment and the collapse of the Hungarian manufacturing industry. "Too big to fail" was the basic principle of large banks in bailing out large companies.

Now, our hypothesis, together with the previous passages, reads as follows: in 1987–91 a significant share of GDP was produced by mostly state-owned companies which qualified as "standard over-indebted" clients. The capital loss of these relatively over-indebted companies played a key role in the crisis of the corporate sector. These companies were mainly financed by the "Big Three" (MHB, K&H, BB). The banking crisis was largely attributable to the worsening loan portfolios and capital loss of these three banks. All was coupled with the relationship of the medium-size banks and the companies that became indebted rapidly, which, due to their high gearing, made both the companies and the banks extremely vulnerable.

In our hypothesis the collapse of the corporate sector obviously led to the collapse of banking. This process was not weakened, but rather strengthened by the lending and risk management practices of banks.

6. Credit squeeze—or any alternative?

In the previous section we examined two key elements of the Hungarian Fisher-cycle: the circumstances of the corporate and banking capital loss and the link between them. We have shown empirical evidence to prove that the capital loss had, in all probability, happened before 1992. As well as the major external shock which hit the corporate sector, the companies' relative over-indebtedness contributed to their collapse, which, in turn, led to the devaluation of the banks' loan portfolios and their capital losses. We detected the significance of the credit channel—that is, the strength of the link between the real economy and the financial intermediation.

According to the original Fisher-hypothesis, the factors that contribute to the propagation of the crisis include *banking panics*, bank runs, a spectacular drop in bank deposits, and a rise in the cash/deposit ratio. More recent analyses of the link between banking panics and recessional crises (*Gorton* 1988, *Steinherr and Huveneers* 1994) have also demonstrated the close link between real economic recession and the plunge in bank deposits. This also suggests that there is an opportunity to stop the slide down the cycle: the introduction of deposit insurance prevents across-the-board banking panic, and therefore it protects bank liabilities and prevents deflation.

Although we mentioned in the first section that bank assets may lose their value even in an inflationary environment—that is, there may be a fall in bank deposits—the higher velocity of money and deflation are not necessary conditions for the exacerbation of the crisis, it seems worth examining the unusual situation that the capital losses of Hungarian banks was not preceded by bank runs (banking

panic) or a spectacular fall in bank liabilities.[12] Hungary—and most Central and East European countries—experienced a banking crisis free from panic: the loss of confidence in banks, if it exists at all, has not taken the "usual" form. The newly-established National Deposit Insurance Fund could not play the role that US Federal Deposit Insurance Corporation (FDIC) did in 1933 (*Harmati* 1995).

Corporate deposits did not fall at all until 1993, while personal deposits only showed a halt of their earlier dynamic growth after 1992. However, this coincided with a drop in the consumer savings rate. One of the most typical signs of banking panic is the dramatic increase in the cash/deposit ratio. Furthermore, the Hungarian bank crisis happened together with the spreading of cashless methods of payment: consequently, the cash/deposit ratio did not increase; instead it went down from 35–36 percent to 26–27 percent during this period. The confidence in the entire banking sector was not shaken before 1994: accounts closed with one bank and then went to another, forint deposits on one Hungarian bank fled into foreign-currency deposits in another Hungarian bank. Though the ratio of cash to *forint deposits* slightly increased in the given period, I believe it would be an arbitrary interpretation, or a misinterpretation to assume that the banking panic took the form of a "forint panic": the flight from forints is, most probably, not a sign of a lack of confidence in banks, but that of the high inflation and the loss of confidence in the forint itself.

A credit squeeze without a fall in deposits makes us revise our basic monetary policy principles. Our research seems to suggest that the link between the corporate credit and the real GDP is much closer than that between the money supply and the real GDP. When the monetary policy is tightened the reduction of the money supply may not reach the projected level due to an increase in the public borrowing requirement, while the credit supply available to businesses naturally declines. It is quite possible then, that an on-going monetary restriction which closely monitors the changes in money aggregates, might lead, without any positive side-effects, to such a narrow credit supply to businesses that it would trigger a self-supporting recession cycle in the real economy. In short, monetary restriction may cause a credit squeeze and recession, and be less effective in curbing inflation and national indebtedness. This conclusion is just the opposite of our former monetarist convictions. Nevertheless, it deserves closer and deeper analysis in the future.

After this deviation a return can be made to the Hungarian Fisher-cycle, about which we have stated that it was a banking crisis free from panic. The crisis led to the banks' capital losses, then to a plunge in the credit volume. The size of the latter exceeded the decrease in the real GDP: in 1992–94 the credit volume, by any measure, increased more slowly (nominal value) or decreased faster (real value)

[12] The paper covers the period before the Agrobank failure. However, subsequent figures do not indicate a spectacular fall in bank liabilities either—the HUF 6–8 billion that fled from Agrobank was deposited in other banks.

than the GDP. Therefore, following the logic of the Fisher-cycle (Bernanke 1983), we might expect that it leads to continued recession.

The rise in industrial production over the past two years and that of GDP in 1994 seem to contradict the hypothesis. We cannot rule out the possibility that our Fisher-cycle turns out to be lopsided: the real economic shock triggered the credit squeeze, but the relative (and, in 1992–94, even the absolute) fall in the credit supply has not led to a further recession. As growth needs some source of finance, we must examine the possible alternatives to bank loans.

Our former analysis was based on the assumption, or suggestion that the bank credit channel is of key importance in the link between the real economy and the monetary sector. In other words, the bank credit channel has no substitute. For good measure, we must examine the possible alternatives. This study will not include a detailed analysis: rather, we will attempt to set down possible paths for future research.

Relying on assumptions and scattered empirical evidence again, we do not think bank credits have been or will, in the near future, be replaced with equity: direct foreign investment fell in 1994, and domestic capital accumulation was, for most part, absorbed by financing the public debt. We have no clear evidence of a jump in capital market financing in recent years, so, for the time being, the banking sector is not exposed to this threat of "disintermediation". In fact, any capital market improvement should imply that the capital market will rely more heavily on the banking system: the banks' information about their clients and the market rating of companies must prevent the issue of further junk bonds.

In the past two years there was only one channel of finance that was important in superseding bank credits: direct foreign financing. Non-monetary credits taken up by companies have been growing steadily for two years now.[13] Not every group of companies has access to foreign credits: they are the export-oriented ones with a foreign stake. A study carried out by Kopint-Datorg in 1994 revealed that the average volume of investments financed from foreign bank credits was highest among companies with large export sales. The big question of 1995–96 is whether the foreign credit channel will be able to partly supersede the domestic one, and whether the production of the companies which raise funds in this way will be able to offset the falling production of companies which rely on domestic credits. If the answer is yes, the pessimistic forecast of the Fisher-cycle is less threatening, as the shift in financing channel will imply more dynamism and not a recession.

[13] This trend continued in 1995: "Of the almost HUF 500 million deficit in the Hungarian current account balance in January 1995, some HUF 400 million is linked to payments outside the Hungarian banking system. Based on information derived from statistics on direct corporate lending, the value of currency imports in the current account balance is nearly HUF 100 million higher than the total claims that commercial banks indicated under this heading" (NBH: *Monthly Reports*, No. 4. 1995, p. 14.)

If the above assumption does not come true—that is, the dynamism of companies financed from foreign credits and foreign capital does not replace the drop due to the relatively lower financing ability of the domestic banking system—the deepening of the recession cannot be avoided. The possibility of further capital loss has not gone away in the distressed sectors, nor has the capital shortage in the corporate and the banking sectors eased over the past two years. Bank and credit consolidation has caused, on the one hand, the rebirth of open and hidden forms of redistribution (Voszka 1995), and, on the other, the inevitable re-nationalisation of banks. However, it has not eliminated the capital shortage and the reasons thereof.[14] The banks formally comply with international safety requirements—i.e. the 8 percent capital adequacy ratio. However, their liabilities frozen in low-value government securities force them, in a highly contradictory manner, to pursue a risky and not very profitable operation: they still do not have the capital base that is necessary for safe operation.[15] It is unlikely that the capital shortage of the Hungarian banking system can be resolved without privatization involving foreign capital-raising, and for this purpose the state needs to pursue any technique of window-dressing as long as window-dressing is not confused with the actual solution.

As yet, we have no reason to refute the original hypothesis. The companies' capital shortage and over-indebtedness played a significant, though not decisive, role in their capital loss. Through the erosion of the collaterals behind the bank credits, the corporate capital loss led to the deterioration of bank portfolios and the loss of their capital base. All this points to the further narrowing of the bank credit channel, consequently leading to a deepening of the recession. However, stopping the recession cycle must be a vital interest of the monetary policy.

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[14] As indicated in the introduction, several excellent studies have been published about the bank consolidation (Balassa 1994, Várhegyi 1995), so I do not think that I must repeat their conclusions here.

[15] Capital adequacy is designed to measure whether banks have an adequate buffer available to cover losses arising from lending and other risks. Formal compliance with the 8 percent ratio alone does not make a bank safe. Unfortunately, this 8 percent has become such a myth in the assessment of Hungarian banking by public administration that it reminds us of Orwell's Animal Farm: on the model of "four legs are good, two legs are bad" we keep chanting that "eight percent is good, anything lower is bad", though we know very well that 8 percent is far from being good!

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Appendix

Hungarian banking system, 1987–1994

	1988	1989	1990	1991	1992	1993	1994
NOMINAL VALUES (HUF bn)							
GDP nominal value	1554.8	1859.6	2255.2	2491.7	2935.1	3537.8	*4310.0*
Banks' balance sheet total	*1023.0*	*1247.0*	*1620.5*	2108.7	2276.0	2630.5	*2979.0*
Corporate loans	*382.8*	494.0	638.3	766.8	771.7	761.9	*875.7*
of which: small businesses		18.7	44.0	61.4	76.2	85.7	*89.2*
foreign currency loans		11.2	27.8	47.3	61.8	72.2	*93.3*
doubtful debts	*6.7*	*22.6*	*43.3*	87.5	273.1	536.0	
Corporate deposits		203.9	314.3	381.9	457.3	532.9	*554.3*
of which: foreign currency deposits		13.7	49.5	65.8	63.2	125.0	*111.3*
Money supply (M2)	*620.3*	707.2	909.9	1168.9	1481.8	1758.7	*1995.0*
Forint deposits		443.1	526.2	618.6	823.9	899.2	*1022.1*
Foreing currency deposits		34.1	112.0	195.3	215.8	329.7	*405.0*
Cash	*164.4*	180.5	209.8	260.2	322.4	371.3	*411.5*
Average balance sheet total		1135.0	1433.8	1864.6	2192.4	2453.3	*2804.8*
Average corporate loan sock		438.4	566.2	702.6	769.3	766.8	*818.8*
PRICE INDICES (%)							
a) Industrial producer price index	104.5	114.6	120.9	131.5	110.7	111.0	*111.3*
b) Consumer price index	115.5	117.0	128.9	135.0	123.0	122.5	*118.8*
GROWTH INDICES (%)							
Real balance sheet*		6.4	7.5	–1.0	–2.5	4.1	1.8
Real balance sheet**		4.2	0.8	–3.6	–12.2	–5.7	–4.7
Real corporate loans*			6.9	–8.6	–9.1	–11.1	3.3
Real corporate loans**			0.2	–11.0	–18.2	–19.4	–3.3
Real money supply (M2)*		–0.5	6.4	–2.3	14.5	6.9	1.9
Money supply (M2)**		–2.6	–0.2	–4.8	3.1	–3.1	–4.5
Real GDP		0.7	–3.5	–11.9	–3.0	–0.8	*2.0*
NOMINAL GROWTH RATES (%)							
GDP		19.6	21.3	10.5	17.8	20.5	*21.8*
Balance sheet total		21.9	30.0	30.1	7.9	15.6	*13.2*
Corporate loans		29.0	29.2	20.1	0.6	–1.3	*14.9*
Money supply		14.0	28.7	28.5	26.8	18.7	13.4

*Based on industrial producer price index.
**Based on consumer price index.

Ratios

	1988	1989	1990	1991	1992	1993	1994
AGGREGATES AS % OF GDP							
Balance sheet total	*65.8*	*67.1*	*71.9*	84.6	77.5	74.4	*69.1*
Corporate loans	*24.6*	26.6	28.3	30.8	26.3	21.5	*20.3*
of which: small businesses		1.0	2.0	2.5	2.6	2.4	*2.1*
foreign currency loans		0.6	1.2	1.9	2.1	2.0	*2.2*
doubtful debts	*0.4*	*1.2*	*1.9*	3.5	9.3	15.2	
Corporate deposits		9.7	12.3	13.0	13.5	14.1	*12.1*
of which: foreign currency deposits		0.7	2.2	2.6	2.2	3.5	*2.6*
deposits of small businesses		1.3	1.6	2.3	2.1	0.9	*0.7*
Household deposits		14.7	14.4	17.3	19.8	19.7	*20.3*
of which: foreign currency deposits		1.1	2.8	5.2	5.2	5.8	*6.8*
Average balance sheet total	*0.0*	61.0	63.6	74.8	74.7	69.3	*65.1*
Average loan stock	*0.0*	23.6	25.1	28.2	26.2	21.7	*19.0*
Money supply (M2)	*39.9*	38.0	40.3	46.9	50.5	49.7	*46.3*
OTHER INDICATORS (%)							
ROE	*46.4*	*53.0*	*51.7*	16.9	−1.8	−102.7	*11.0*
Corporate loans/balance sheet total	*37.4*	*39.6*	*39.4*	36.4	33.9	29.0	*29.4*
Doubtful debts/balance sheet total	*0.7*	*1.8*	*2.7*	4.1	12.0	20.4	
Foreign currency loans/total corporate loans		2.4	4.7	6.7	8.9	10.7	*11.9*
Cash/deposits	*36.1*	34.3	30.0	28.6	27.8	26.8	*26.0*
Deposits/M2		64.1	66.1	64.7	66.0	68.0	*70.0*
Cash/forint deposits		40.7	39.9	42.1	39.1	41.3	*40.3*
Forint deposits/M2		62.7	57.8	52.9	55.6	51.1	*51.2*
Foreign currency deposits/M2		4.8	12.3	16.7	14.6	18.7	*20.3*

Note: The statistical tables contain the whole range of figures and indicators used in the paper for the period 1988–1994. Where possible, I have adjusted the breaks arising from modified methodology on the basis of relative changes. Figures printed in italics do not derive from official statistics, or cannot be compared to figures of later years. 1994 figures also appear in italics as they are considered preliminary.

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ADVANTAGES, DISADVANTAGES AND DILEMMAS. CONSIDERATIONS ON THE ACCESSION OF THE CENTRAL- AND EASTERN EUROPEAN COUNTRIES TO THE EUROPEAN UNION*

S. RICHTER

In the prospective bargaining process between the CEECs and the EU on key issues of accession, the eastern applicants will not have too much to offer; their potentially most valuable asset—provision of unrestricted access to their domestic markets—has been among the stipulations of the Association Agreements. On purely economic terms immediate EU gains from eastern enlargement are perceived as very limited. Thus the CEEC bargaining positions are likely to be rather weak. This, coupled with the not necessarily established but still widespread fears in the EU of unbearably high net transfers to the prospective new eastern members and consequences of unrestricted migration, makes the success of the prospective negotiations on EU eastern enlargement to a large extent dependent on the EU's benevolence, on the one hand, and the CEECs' self-restraint, especially in issues of migration and transfers, on the other hand.

Introduction

Most observers agree that it is not the EU's Eastern enlargement as such, but its timing and conditions which are to be decided upon. Indeed, the timing and eventual conditions of accession are precisely the crucial elements of the problem. As the EU has neither political nor moral grounds to explicitly reject the CEECs' accession, an eventual "yes" or "no" by the EU may easily be manifested in the economic conditionality of accession. Conditions that cannot be fulfilled by the candidates, or timing and conditions that are humiliating and thus unacceptable, may effectively block CEEC accession without any formal rejection. An extreme case might be to offer so-called "empty" membership to the CEECs, i.e. timing and conditions of accession so peculiar as to degrade enlargement to a mere symbolic gesture. As both an explicit and implicit rejection of enlargement (con-

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sidering recent developments) seem very unlikely, there is wide agreement that the enlargement negotiations, when they start, will be a long and complicated process. The overall backwardness of the associated countries adds a specific dimension to the difficulties that have typically emerged in the course of previous enlargement negotiations.

Association Agreements as the prevailing framework for EU-CEEC relations

During 1991–1993 the EU and individual Central and East European countries concluded bilateral Association Agreements (AAs). These "Europe Agreements" foresee the gradual and asymmetric implementation of free trade in industrial products and various concessions regarding trade in agricultural products. Eastern governments had generally considered the Association Agreements as important steps towards the former socialist countries' re-integration into Europe, but the acceptance of several details in the AAs and their implementation was much less favourable than expected (*Mizsei and Rudka* 1995; *Richter* 1994). However, despite obvious signs of disappointment with some aspects of their economic relations with western Europe, none of the eastern governments concerned indicated an explicit intention to renegotiate their respective Association Agreement. They probably believe that further concessions could be achieved by a step-by-step policy rather than a global attack on the AAs. The respective governments were aware of the risk that renegotiated association agreements could easily be worse for them than the valid ones. In the light of the results of the Copenhagen summit in summer 1993, which granted some additional concessions to the eastern associated countries, restraint from questioning the Association Agreements as a whole proved fruitful.

If the Association Agreements are not revised, free trade will apply to all industrial products involved in mutual CEEC-EU trade by the year 2001. However, even in the year 2001 quite a few restrictions will continue to be present in CEEC-EU relations. Agricultural trade will not be subject to free trade. Anti-dumping and safeguard clauses will remain in place. Migration from the CEECs to the EU will generally be restricted, with the option of individual EU members negotiating separate bilateral deals. The AAs do not contain stipulations about systematic financial assistance of macroeconomic significance by the EU to accelerate the CEECs' transition from a planned to a market economy and modernization.

Advantages and disadvantages for CEECs derived from accession to the EU

What do the CEECs hope to gain from accession?

The CEECs' motives in seeking full EU membership can basically be divided into two groups, a political and an economic one.[1]

1. *Political motives*

a) Fear of a revival of Russian expansionism and a possible turning back of the "wheel of history".

b) A desire for recognition by the West, other than empty declarations that the CEECs do belong to "Europe", the "civilized world", or whatever formulation is used.

c) Hope for an unprejudiced forum able to settle any political conflicts among the CEECs.

These political motives are certainly closely inter-related with the CEECs' aspirations for accession to NATO. If NATO accession by the countries concerned took place before their EU accession, most but by no means all political motivations for full EU membership would vanish.

2. *Economic motives*

When trying to identify the CEECs' economic motives to seek accession one assumes that the present internal institutional framework of the EU will continue to exist. That is not very likely, but at the moment no clear tendencies regarding any future changes can be discerned; furthermore, the CEECs' motives are related to the present-day EU and not to an imaginary future one.

Advantages of EU full membership, compared with arrangements under the AAs, can be perceived by the CEECs in the following areas:

a) Commodity trade

— Free access to EU markets for industrial and agricultural or food industry products (elimination of all quantitative and tariff barriers) would improve export opportunities.[2]

— Elimination of the applicability of anti-dumping and safeguard measures against CEEC exports. Consequently, CEEC exports would be treated as domestically-produced commodities, which is now the case for intra-EU production and "export".

[1] As this paper is mainly concerned with the analysis of economic factors, only a short review of the political motives will be given, which does not mean at all that political considerations are not eminently important.

[2] The CEECs will have practically free access to EU markets for industrial commodities by 1997 according to the revised schedule for the implementation of free trade envisaged by the Association Agreements. This is also true for CEEC exports of so-called "sensitive products" (steel, textiles, etc.), against which the EU will only be able to apply the means of non-traditional protectionism.

— A substantial decrease of transaction costs due to the elimination of formalities in across-border deliveries would further improve the CEECs' export opportunities.

b) Capital flow

— A qualitatively new, higher level of attractiveness of the CEECs as potential targets for foreign direct investment would arise both for EU and overseas firms.

— Due to lower transaction costs, multinationals would be more willing to connect their affiliates in the CEECs with their worldwide sourcing programmes. That would mean additional foreign direct investment and also additional exports.

c) Migration

— Unrestricted personal mobility would facilitate the export of CEEC labour to the present EU members, i.e. to countries with much higher wages than those prevailing in the CEECs. That would result in transfers of income to the CEECs, which in turn would ease the current-account constraint to growth in most CEECs.

— As a consequence of outward migration, the number of unemployed persons could decrease and ease the social and political tensions connected with transition to a market economy and would also decrease budget expenditures on unemployment benefits.

— Migrants would gain experience in an environment whose average technological level and management culture are much more advanced than in their respective home countries. This experience would help to enhance modernization in the migrants' home countries after their return.

d) Transfers from EU funds

According to the prevailing "rules of the game" the CEECs, once they become full EU members, will receive substantial net transfers.[3] This would mean that

— modernization of the CEEC economies would receive a major impetus

— balance-of-payments constraints to growth would be substantially eased

— accelerated modernization of the economies concerned would have a beneficial spill-over effect on foreign direct investment, which would in turn contribute to further modernization.

e) Decision-making

— The CEECs would be able to join the "poor" EU members (Greece, Ireland, Portugal and Spain) in fighting for increasing redistribution in favour of the relatively less developed EU members, or in trying to block efforts to diminish redistribution from the high level already achieved.

f) Pressure for modernization

[3] There are several calculations about the possible sum of net transfers with widely different results. For a review of the related literature see *Baldwin* (1994), *CEPR* (1992) and *Eser and Hallet* (1993).

— External compulsion to modernize institutional, legal and education systems in the course of harmonization, as well as the necessity of fulfilling the Maastricht criteria, would help the CEEC governments to push through reforms that would otherwise not be feasible because of resistance by pressure groups.

g) Relative position

— The position of CEEC firms in competing for EU markets would improve compared with both present EU incumbents and overseas competitors.

3.2 The other side of the coin

After listing the hoped for advantages of full EU membership, one must stress that there are disadvantages, dangers or at least uncertainties related to nearly all points listed above. These are rarely mentioned by CEEC officials, rarely discussed in public and poorly understood by the population.

The reason for this is, first, that all advantages of full membership taken together are thought to exceed all combined disadvantages. This judgement by CEEC officials is most probably justified, although quantitative verification is certainly very difficult, or perhaps impossible.

Second, the issue of disadvantages related to EU accession is also one of presentation: the aspiring countries' governments are not inclined to talk openly about the disadvantages of accession proposed by themselves. Politically relevant opposition to EU membership, like the well-organized alliance of various political and economic forces in all former EFTA countries that have recently acceded, either does not exist in the CEECs or is still of irrelevant leverage.

That constitutes a handicap: well-organized lobbies presenting a clear balance of advantages and disadvantages with respect to their distinct field of operation, with elaborated positions concerning the respective details (conditions) of accession, could help CEEC governments to negotiate and fight for optimal conditions even regarding minute details, since they are aware of well-articulated interests of those concerned. Efficient adjustment to the requirements of full membership during the transition period between the date of accession and the end of derogations would necessitate the resolution of conflicts of interest even earlier, or at an early stage in the enlargement negotiations at the very latest (*Inotai* 1994).

In the following an attempt will be made to identify potential sources of danger and/or disadvantages related to full CEEC membership in the EU.

a) Commodity trade

— Once transition to free trade is completed, the still fragile domestic CEEC markets will be exposed to unrestricted competition (and related dangers) by EU firms. This will come true anyway for industrial products by the year 2001. However, in the case of full membership the safeguard clause, an essential trade policy tool to curb sudden import growth in emergencies, will not be applicable after

accession. No policy tools will be left that could be applied if unbearable trade imbalances appear. Using exchange-rate policy measures only to address trade imbalances may have negative trade-offs in other areas of the CEEC economies concerned. Moreover, once the CEEC currencies join the then prevailing monetary system of the EU even that economic policy tool will be more or less out of reach for individual CEEC governments and central banks.

— The EU might be interested in eliminating or reducing potential agricultural trade surpluses of individual CEECs. That is against the interests of the traditional agricultural exporters Bulgaria, Hungary, Poland and Romania.

b) Capital flow

— A massive inflow of foreign investments before the formation of a "critical mass" of domestic economic power, manifested by established firms, banks, entrepreneurs, or distinct national upper and middle classes, involves some economic and political risk. Free access of EU investors to land acquisition may cause political problems in each of the CEECs; this danger is of special significance in the Czech Republic and Poland.

— Disinvestment in the case of possible economic or political difficulties in a target country or its immediate geographical vicinity, or simply the perception of better opportunities in other countries, may destabilize the still fragile CEEC economies, especially at critical moments. This primarily refers to short-term capital flows (see Mexico).

— The room for manoeuvre in economic policy may become restricted if foreign participation is too high relative to the strength of domestic actors, as pressure for adjustment (e.g. higher taxes or stricter environmental regulations) may lead to disinvestment instead of accommodation in the case of firms with foreign participation.

c) Migration

— Migrants will not necessarily be unemployed and unskilled persons whose departure constitutes an asset from a purely macroeconomic perspective. The outflow may drain the pool of highly skilled young workers, technicians, engineers and scientists, etc., whose activity will be missed in the modernization process. Nonetheless this process takes place anyhow, but to a much smaller extent than will probably be the case after the lifting of all restrictions on migration to the EU.

— High budget expenditures on the education of migrants will also be lost in those cases where migrants leave for good.

d) Transfers

— A serious issue is whether the CEECs possess the necessary absorbtion capacity for the huge transfers to which they would be entitled according to the present rules of the game. In many areas the preconditions of efficient allocation may still be missing.[4]

[4] See recent reports on the inefficient use of transfers in eastern Germany (Der Spiegel, Nos. 9 and 10, 1995).

— There is a certain danger that huge transfers would inappropriately lessen the pressure to adjust to conditions of a market economy. The negative example of Greece can be mentioned, where transfers were used to avoid socially "expensive" elements of adjustment, instead of implementing them with less pain.

— Instead of furthering appropriate modernization programmes, transfers might be misallocated to finance the survival of hopelessly uncompetitive sectors or enterprises. That may occur if the strongest lobbies are able to influence the allocation of additional resources (Inotai 1994).

e) Decision-making

— As new EU members the relatively poorer CEECs may enter into a coalition with other poor EU countries regarding redistribution issues which, in the extreme case, may lead to the disintegration of the entire EU through a de-motivation of the more prosperous members.

f) Relative position *vis à vis* the rest of the world

— After becoming EU members, the CEECs would lose their GSP[5] status in the US and other overseas countries. Simultaneously, because of adaptation to EU trade policy, many competitive products from several Mediterranean, African, Caribbean and Pacific developing countries would gain free access to CEEC markets.

Conflicting interests to be resolved

As mentioned, an exact balance of combined advantages and disadvantages cannot be drawn, but this is also true if individual items are compared. Most of the issues mentioned can hardly be analysed and compared in quantitative terms. It is impossible to separate real from apparent advantages or disadvantages, and it is practically impossible to evaluate the proper weight of hopes and fears related to individual points. In many cases the direct and indirect effects may be controversial, or advantages and disadvantages may appear at different points of time (or with time-lags). Moreover, different groups in each country may perceive the same development as advantageous or disadvantageous.

Difficult as all this may be, a clear and well-structured item-by-item perception of advantages and disadvantages would be a condition *sine qua non* for successful accession negotiations by the CEEC governments (Inotai 1994). This is all the more important as it is practically sure that the EU's negotiators will be prepared in a professional way to protect the interests of EU countries, regions and lobbies.

The process of accession will most probably cover a long period. In the case of the two Iberian countries, the period between application for full membership

[5] Generalized System of Preferences.

and accession was nine years, of which genuine negotiations took six years (*Artner, Éltető and Meisel* 1994; Baldwin 1994). The last derogation,[6] the limitation of Spanish fishing rights, was still in place in 1994, nine years after accession in 1985. There is no reason to assume that Eastern enlargement will take less time, just to the contrary, considering the magnitude of the problems involved an even longer time between presentation of the official application for full membership and accession seems to be plausible.

Bargaining positions

The CEEC economies will have to climb a "ladder", from industrial free trade at the bottom to full membership with all requisites at the top. During the transition period CEEC negotiators will have to practice a clever strategy and good tactics to maximize their advantages and minimize their disadvantages. To ensure flexible tactics, they will have to define the most important targets and the hierarchy of those targets, as well as possible alternatives.

Obviously, both the CEEC and the EU negotiators will try to achieve conditions and a timing of accession that would represent the best mix of advantages and disadvantages from their own points of view. This will be difficult, as with the exception of a few issues one party's gain is likely to be perceived as the other party's loss, at least in a first approach and in the short run. It depends on the negotiators' ability and their readiness to develop a vision of longer-term pan-European cooperation to overcome difficulties originating in a one-sided short-term approach to disputed issues.

Anyhow, operating with the assumption that accession will take place notwithstanding all difficulties, we may be sure that bargaining will conclude with a compromise. In principle, the contents of this compromise can vary widely. As an orientation we may introduce two unlikely extreme possibilities:

a) "Empty" membership, namely a very long transition period without derogations favouring the CEECs, and with maximum derogations favouring the EU.

b) Immediate full membership with all rights and the maximum number and length of derogations favouring the CEECs, without any derogations favouring the EU.

[6] New members of the EU do not apply immediately all EU regulations and simultaneously not all rights coupled with full membership are provided the new entrants at once. Derogations are exemptions which favour either the new member country or the EU incumbents. After a transition period which may vary in the case of individual items all derogations are eliminated. It is in the applicants' interest to achieve as many derogations favouring them as possible for a long transition period, on one hand, and to accept as few derogations favouring the EU incumbents as possible with the possible shortest transition period, on the other hand.

The strategic compromise to be achieved will lie somewhere between these two extremes.

There is no doubt that the CEECs' bargaining position will be fairly weak compared with that of the EU. The enormous asymmetry in mutual importance becomes evident from a review of any of the statistical references.[7] Apart from the asymmetry which, though to a *smaller* extent, was also present in the last two enlargement rounds (the southern enlargement and the EFTA enlargement), the prevailing contractual framework of CEEC-EU relations is unfavourable from the CEECs' point of view. Although the AAs constituted a great leap forward in CEEC-EU relations compared to the previous state of affairs, paradoxically they seriously weakened the CEECs' bargaining position, because the main and perhaps only relevant asset that the CEECs were able to offer was free access for EU exporters to domestic CEEC markets. However, the thrust of this asset will be lost anyway through the impending completion of the transition to free trade in industrial goods.[8]

What is the basis of CEEC bargaining with the EU? First, there is a "positive list" consisting of unrestricted access to the CEECs' domestic agricultural and food industry markets and to landed property. Second, there is a "negative list" containing the elimination of potential threats to EU interests that may emerge if the CEECs do not accede: the neighbourhood of a politically unstable and lastingly under-developed belt of countries along the EU's eastern borders, with a potential for massive uncontrolled migration in the case of severe political economic crises within or military conflicts between CEECs. (However, CEEC accession will only move the neighbourhood problem some hundred kilometres to the east, since successor states to the former Soviet Union will appear as the new unpleasant neighbours but, it is true, not for the present EU members.) Third, in the CEECs' perception the West in general and western Europe in particular have moral obligations *vis à vis* this region; playing the "moral card" may have a certain exchange value in bargaining.[9]

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[7] In the CEECs' total exports the EU (12) had a share of about 50 percent in 1993, while in the EU's total exports the CEEC share amounted to about 2 percent.

[8] One comment is necessary on this point. There was a strong increase in market shares of EU firms in the CEECs during 1990–1994 when most of the trade barriers against CEEC imports from the EU were still in place. This suggests that the potential "exchange value" of trade concessions in forthcoming bargaining would have been limited anyway, even if the AAs had not been concluded.

[9] The most frequently mentioned reasons why, according to the Central and East European perception, western Europe should have a bad conscience are the following:

— The CEECs were victims of the Yalta settlement, so they are not to blame that their development level lags so much behind the more lucky European countries which had the historical chance of going their own way. Attempts to get rid of Soviet-type communism in Hungary in 1956, in Czechoslovakia in 1968 and in Poland in 1980–1981 were not supported by the West.

What is the EU's strength in bargaining with the CEECs? In this case there is only a "positive list" including access to the EU's internal agricultural and food industry markets, incorporation of CEEC producers in the Common Agricultural Policy (CAP) or its successor, access to the labour market, to net transfers from EU funds and, finally, allowing participation in decisions influencing the future of Europe.

Next follows a comparison of CEEC and EU assets in the bargaining process. Free access to domestic agricultural markets is formally identical on both sides. Still, one cannot say that the respective assets completely neutralize each other. Incorporation of the CEECs in the CAP as it is operating now would result in huge transfers to most CEECs; there is no counterpart for this very important item on the CEEC side.

The "negative list" is an important CEEC asset indeed, which has no counterpart on the EU side. Certainly the danger of permanently crisis-ridden neighbours cannot be quantified or translated directly into exchange value. No doubt, the challenge posed by a crisis belt along the EU's eastern borders has quite different significance from Portugal's or Great Britain's point of view than from that of Austria or Germany. It is an open question to what extent the interests of the countries most exposed to the impact of success or failure of CEEC modernization will influence the EU attitude regarding this point in negotiations on accession.[10]

The moral card, just as the "negative list", is an item without counterpart on the EU side. It is not quantifiable, either, and cannot be translated into ex-

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— After the Second World War western Europe received generous financial assistance by the USA through the Marshall Plan of economic reconstruction. Nothing similar was offered to the CEECs after the collapse of the communist regimes.

— Through the collapse of the communist regimes the immediate military threat by Central and Eastern Europe has practically vanished facilitating substantial cuts in military expenditures in the countries concerned (*SIPRI* 1994).

— Considering the growing EU surpluses in EU-CEEC trade, western Europe has gained more from the opening up of the CEEC economies than vice versa.

— It is morally unacceptable to reject the CEECs' application for accession if poor countries like Greece, Portugal and Spain were accepted and it is also morally unjustifiable for the EU to offer substantially less advantageous conditions than it did to the EU "poor".

[10]This neighbourhood issue, however, has another side. After CEEC accession, rapid and very successful modernization in the CEECs would on the one hand eliminate the danger posed by the existence of a permanently crisis-ridden belt along the EU's eastern borders, but would on the other hand create another kind of challenge: high competitiveness of CEEC firms could damage non-competitive sectors and branches in neighbouring EU countries. In a scenario more favourable to neighbouring EU countries, successful CEEC modernization would be coupled with such strong import growth from the very same neighbouring EU countries as to compensate or over-compensate the loss of domestic market shares through CEEC penetration. In a less favourable scenario, CEEC imports would come from countries other than EU neighbours, so that the damage mentioned above would mostly not be compensated by gains in export branches.

change value. Still, the West and particularly western Europe has to buy its good conscience. Unfortunately for the CEECs, it is not easy to find the appropriate addressee for the moral card. Also, this card has so often been played by eastern politicians in the past five years that its effectiveness is more than questionable.

Above, the CEEC's assets in the forthcoming bargaining were compared with the respective EU assets, or were evaluated individually if no EU counterpart existed. However, the EU still has invaluable assets on its list, without any counterpart on the CEEC side: transfers from the EU budget, access to EU labour markets and participation in the EU's internal decision-making process.

We must therefore conclude that in terms of economic calculus the EU can hardly gain anything from CEEC accession, while the costs of CEEC accession to be borne by the EU are very high (even if these costs may differ very much for individual CEECs). Combining political and economic factors, we may conclude that if the CEECs are to become full EU members at all, that will be the outcome of predominantly political considerations. This suggests that the CEECs' bargaining power in the enlargement negotiations, which will mostly be running along economic arguments, is going to be very limited. As a consequence of the uneven bargaining positions, the CEECs will probably have to accept conditions of unprecedented one-sidedness in favour of the EU.

Contours of a compromise

Although theoretically accession under conditions that are just marginally better than no accession at all should indeed be acceptable to the CEECs, this cannot be regarded a realistic basis of compromise. There is a minimum set of conditions constituting what could be called the "minimum requirements threshold". This is a point behind which the CEECs will not be ready to withdraw, or put in another way, the CEECs will leave the negotiating table if a set of minimum requirements related to EU accession cannot be fulfilled.[11] (Two of the many possible examples would be unrestricted access to the EU labour market allowed not earlier than 30 years after accession; or granting the CEECs not more than, say, 25 percent of the net transfers they would currently be allowed if they were full EU members already. Both conditions would be better than no migration or no transfers at all, as in the case of no accession, but these conditions are probably beyond the "minimum requirements threshold", i.e. no CEEC government can accept them as a condition for accession.)

The other decisive element in bargaining will be the set of conditions for CEEC accession which the EU would still be ready to accept and which could be

[11] In a more emotional approach the "minimum requirement threshold" could be called humiliation threshold.

called the "maximum concessions threshold". The key to success in bargaining can be visualized as a scale whose left-hand pole represents "empty" membership mentioned earlier, while the right-hand pole stands for immediate accession with all rights of full membership and all derogations the CEECs may wish to secure for themselves. We may locate both the "minimum requirements threshold" (MRT) and the "maximum concessions threshold" (MCT) on this scale (see *Figure 1*). The key to success would be the "minimum requirements threshold" being located to the left of the "maximum concessions threshold". The last chance of compromise would be where the two thresholds coincide. A "minimum requirements threshold" located to the right of the "maximum concessions threshold" would mean an unsuccessful completion of accession negotiations; moreover, the larger the distance between the two points on the scale, the smaller the chances for a positive turn once the parties were ready to revise their attitudes.

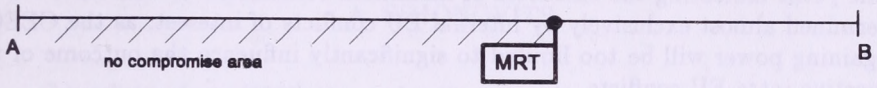
Certainly, the scale described above is nothing but an illustration; there is no way of quantifying the two thresholds.[12] Nevertheless, the outcome of bargaining will really depend on the relationship between the relative positions described above.

As for the package of accession conditions still acceptable to the CEECs, the first point is that individual CEEC delegations are not going to disclose their strategies on that point, as this would be a big tactical mistake. It is also understandable that during talks on accession the CEEC negotiators will do everything to convince the EU that the "minimum requirements threshold" lies further to the right than what they really have in mind. Furthermore, enlargement negotiations may last for a number of years, so that meanwhile the actual "minimum requirements threshold" may move in either direction. It is very important to remember that the CEECs will enter the negotiations individually; the "minimum requirements threshold" may vary substantially among individual countries. That is true even though the EU is likely to try offering a roughly similar package of accession conditions to all CEECs in order to forestall the suspicion of a prejudiced approach to individual countries. Each CEE country will closely follow the bargaining of the others and adjust its tactics accordingly, even without any formal intra-CEEC coordination. Diverging individual CEEC positions on important issues may negatively influence CEEC bargaining power: less demanding CEEC negotiators could provide precedents for the lowest "minimum requirements threshold" to which EU negotiators could refer in other bilateral relations. Thus the "softest" of the CEECs may lower the chances of the less conciliatory ones.

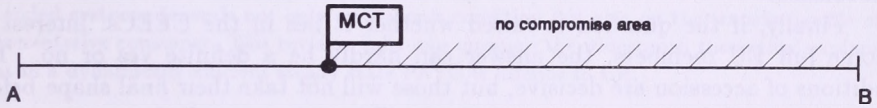
It is not less difficult to describe the "maximum concessions threshold". There will be a compromise between protectionist lobby interests on the one hand, and

[12] Individual compromises will have to be reached in at least dozens, but more likely hundreds of issues, and all of them together, in a combined package, will constitute the above-mentioned set of conditions that would still be acceptable to both sides.

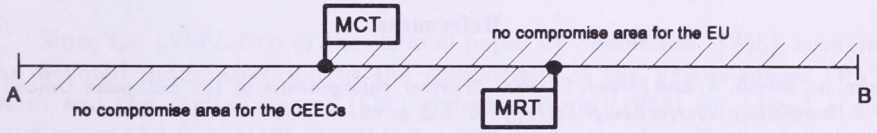
a) the bargaining from CEEC perspective



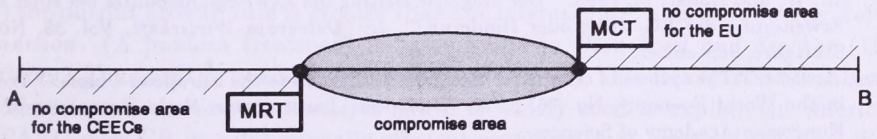
b) the bargaining from EU perspective



c) the pessimistic scenario: accession is not possible



d) the optimistic scenario: accession is possible



A: "Empty" membership: very long transition period with no derogations favouring the CEECs and maximum derogations favouring the EU

B: Immediate full membership with all right, maximum derogations favouring the CEECs and no derogations favouring the EU



Minimum requirements threshold: a set of conditions for EU accession CEECs are still ready to accept



Maximum concessions threshold: a set of concessions for CEEC accession the EU is still ready to accept

Fig. 1

a vision of Europe held by the EU as a whole and by individual EU countries, as well as lobby interests of those who would gain through CEEC accession either as exporters or investors, on the other hand. It is important to see that the location of the point indicating the threshold of maximum concessions on the scale will be determined almost exclusively by internal EU conflicts of interest, as the CEECs' bargaining power will be too limited to significantly influence the outcome of the respective intra-EU conflicts.

Summarizing, it seems to be fairly likely that the success of bargaining will depend less on a balanced exchange of "assets" between the EU and the CEECs, but rather on the CEECs' ability and readiness for self-restraint and on the EU's benevolence.

Finally, if the question is raised whether it lies in the CEECs' interest to become full EU members, the answer can hardly be a definite yes or no. The conditions of accession are decisive, but those will not take their final shape before the last stage of the accession negotiations will have been reached.

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PENSIONS AND FAMILY ALLOWANCES: A RECONSIDERATION OF THE SOCIAL INSURANCE PARADOX

A. SIMONOVITS

Generalizing *Aaron* (1966), this study will compare the capital reserve (CR) and the pay-as-you-go (PAYG) social insurance systems, with or without family allowances: i.e. *extended* vs. *pure* systems. Aaron found that the introduction of a pure PAYG system increases the current value of lifetime earnings (dynamic inefficiency) *iff* the output growth rate is greater than the interest rate—this is known as Aaron's condition. However, the comparison of the extended systems depends not only on Aaron's condition but also on the transfer profile of the representative consumer. This revision calls into question the widespread theoretical explanation that in a dynamically efficient steady state PAYG is inferior to CR.

1. Introduction[1]

Since the publication of the seminal paper by *Samuelson* (1958), economists have devoted much attention to the comparison of the *pay-as-you-go* (PAYG) system and the *capital reserve* (CR) system. Aaron (1966) considered a quasi-stationary model (where all growth rates are constant), assuming two overlapping generations and many cohorts. Under rather restrictive assumptions he found that PAYG is better than CR (in a sense to be defined below) *if and only if* (for short, *iff*) the output growth rate is greater than the interest rate: this is known as *Aaron's condition*. (A modern treatment is to be found in *Blanchard and Fischer* (1989, Section 3.2) under the heading *dynamic inefficiency*.) This steady-state result soon became known as *Aaron's principle* and it is widely used to explain the inferiority of PAYG over CR in a dynamically efficient economy (e.g. *Verbon* 1988, and *World Bank* 1994).[2]

The present paper reconsiders Aaron's study and its follow-up. According to the generally accepted interpretation, Aaron implicitly assumed that the size and the structure of the transfer systems are given, and consumers (workers and pensioners) can borrow at the current bank interest rate. We shall distinguish such

[1] This research was financed by the Dutch National Science Foundation (NWO), the Center for Economic Research at Tilburg University and was complemented by the financial support of the Hungarian Science Foundation (OTKA T 6919) and the Swiss National Science Foundation. I express my intellectual debt to M. *Augusztinovics*, J. *Brunner*, F. X. *Hof*, E. *Siandra* and referees for their comments on earlier versions. Of course, the content of the paper is entirely my responsibility.

[2] As one of the referees underlined, this analysis has no direct bearing on the transition from PAYG to CR, precisely because of the restriction of steady state (see e.g. *Peters* 1991).

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a PAYG system by referring to it as index 1 (i.e. PAYG1). Aaron found that the introduction of PAYG1 increases the present value of lifetime earnings *vis à vis* the CR system *iff* Aaron's condition holds.

It is an unattractive feature of the model that the size and the structure of PAYG1 are exogenously given, and in the case of dynamic inefficiency, the larger its size, the larger is the improvement. Strangely, in his model Aaron worked with wages and consumption rather than contributions and pensions. (He even equalized pensions with gross rather than net wages, but this did not affect the essence of his proof.) Following this line of thought, I (Simonovits 1993 and 1995) developed a second approach and determined the optimal PAYG2 system without private savings and borrowing (see also *Siandra* 1994 for the optimal mix of the pension systems). In this case young workers may consume more than they earn, through receiving transfers from the extended PAYG2 system.

In this paper we shall return to the traditional model of PAYG1 but introduce *family allowances* as well. Then we shall speak of an *extended* PAYG1 system. (At the end of the paper we also analyze PAYG2 for Leontief utility functions, where the ranking of PAYG2 and CR is identical to that of PAYG1 and CR.) The idea of extension is very simple: in addition to the transfers given to the elderly, children and junior people also receive significant transfers. This reflects the obvious but much neglected fact that there are two dependency ratios: the first concerns the ratio of pensioners to workers while the second concerns the ratio of children and students to workers. As the terrible population problems of the Third World testify, the second ratio may be as important as the first![3]

Critically developing *Modigliani and Brumberg* (1954), *Tobin* (1967, p. 247) introduced a similar framework. Tobin applied two alternative approaches: either (i) the consumption of children from the time of their birth is calculated as a separate entity, or (ii) their consumption is included in the consumption of their parents' until they become independent. Using Tobin's framework, *Arthur and McNicoll* (1978, p. 242) criticized Samuelson (1975) for analyzing optimal population growth without taking into account child-dependency.[4] *Augusztinovics* (1989) and (1992) also applied this framework in her synthesis. *Deaton* (1992, pp. 48, 62 and 72) also underlined the sensitivity of certain results which neglected children in life-cycle modelling. In fact, he questioned the empirical relevance of life-cycle models in explaining consumption on the grounds that in reality consumption follows income much closer than predicted by these models. However, this is already moving towards another area of analysis.

[3] World Bank (1994, Box 1.2, p. 35) also asks the questions: "will the falling child dependency rate offset the rising old age dependency rate?" According to this source, "... although the long answer to this question is complex, the short answer is no."

[4] In his last sentence Samuelson (1975, p. 337) at least acknowledged the existence of the problem, but he added: "childhood dependency is intrinsically less costly relative to old-age dependency".

Following the rather restrictive method of *representative agent*, we shall assume that the members of the society have common tastes, and our welfare criterion will be the lifetime utility of a representative agent. A utility function is maximized under CR and PAYG budget constraints one after the other. We say that *PAYG is better than CR* (with regard to the utility function) if the first maximum is greater than the second.

The main result of this paper is as follows: *Aaron's result loses its global validity if family allowances are introduced.*

Finally, several implicit assumptions are emphasized: (i) The growth rates of population and productivity, the real interest rate and the activity rate are not only time-invariant, but independent of the ruling social insurance system, too. (ii) The analysis is confined to the (unique) quasi-stationary path, neglecting stability problems studied by *Gale* (1973) and others in two-cohort models. Despite the limitations of this approach, we have found it a useful first approximation.[5]

The structure of the paper is as follows. Section 2 presents the model and Section 3 provides the results.

2. The model

Generations and cohorts

Following Aaron (1966), Gale (1973), Arthur and McNicoll (1978), and Augusztinovics (1992), we shall consider a model with overlapping *cohorts* rather than *generations*. At this point we make a semantic remark: we prefer the neutral word *cohort* to the more colourful expression *generation*. In fact, we shall consider many (up to a hundred) cohorts living together, while in the original meaning of the word only three or four generations may overlap.

At period t the population consists of D cohorts numbered as $i = 0, 1, 2, \ldots, D-1$. Suppose that at the beginning of period t, B_t "babies" are born (or enter the workforce if independent children are excluded), and at the end of period $t+i$, $N_{i,t+i} = s_i B_t$ persons from the original population survive: $1 \geq s_0 \geq s_1 \ldots \geq s_{D-1} > s_D = 0$. (The survival probabilities are time-invariant.) Total population N_t is given by $N_t = \sum_{0 \leq i < D} s_i B_{t-i}$.

We assume that the growth factor of the number of newborn is time-invariant and is equal to b: $B_t = bB_{t-1}$. Then the growth factor of the population is also equal to b and

[5] For a combination of classical growth theory and overlapping cohorts models, see Auerbach and Kotlikoff (1987), Blanchard and Fischer (1989) and Peters (1991).

$$N_t = B_t \sum_{0 \le i < D} p_i \qquad \text{where} \qquad p_i = s_i b^{-i}.$$

Here p_i shows the ratio of the number of people in cohort i to that of cohort 0, and we shall refer to $\{p_i\}$ as the *population profile*.

Having defined the demographic relations, we turn to the economic relations. We assume that the wage share in output is time-invariant. Then per capita (real) average wage w_t grows parallel with per capita output (productivity), and their joint time-invariant growth factor is denoted by g: $w_t = g w_{t-1}$.[6]

Let L and R be integers, $0 \le L < R < D$. It is well-known that positive wages significantly differ across *worker* cohorts ($i = L, \ldots, R-1$) and there are *child* ($i = 0, \ldots, L-1$) and *pensioner* ($i = R, \ldots, D-1$) cohorts defined by zero wages. We assume that their profile is time-invariant, i.e.

$$w_{i,t} = g w_{i,t-1}, \qquad i = 0, \ldots, D-1. \tag{2.1}$$

We shall denote the per capita (real) *consumption* of cohort i born in period t (realized in period $t+i$) by $c_{i,t+i}$.

Utility function

To derive and rank optimal consumption paths for different social insurance systems (represented by different budget constraints), we need a *utility function*. To be precise, we shall denote the variables of this function as $c_0, \ldots, c_{D-1}$, dropping the calendar time. Since the length of the life of our representative agent is a random variable (n), we have to introduce his *conditional utility functions* $U_n(c_0, \ldots, c_n)$, $n = 0, 1, \ldots, D-1$. Then the *expected* (Neumann-Morgenstern) utility function is

$$U(c_0, \ldots, c_{D-1}) = \textstyle\sum_{0 \le n < D} \pi_n U_n(c_0, \ldots, c_n) \tag{2.2}$$

where $\pi_n = s_{n-1} - s_n$ is the probability of death at age n, and $s_{-1} = 1$.

The representative consumer chooses an optimal consumption path which maximizes a given expected (homothetic) utility function under a suitable budget constraint (see below).

[6] The neglect of productivity growth (e.g. Samuelson 1975) might have a strange consequence: it reduces Aaron's condition to "population growth rate is greater than real interest rate", which is much less likely to hold than the original proposition.

CR system

We first consider a capital-reserve (CR) system. We assume a perfect annuity market—namely, one where any baby (or worker just entering the workforce) can sell his stream of future earnings to an insurance company which pays him an income stream (possibly non-homogeneous), while he is alive. At the end of his life his expected total net wealth, his *bequest*, will be zero. Although a baby cannot write an insurance contract, we assume here that his parents manage his assets (debts) until he becomes independent (cf. *Tobin* 1967).

Considering a cohort born in t, we have the following budget constraint:

$$B_t \sum_{0 \le i < D} s_i r^{-i} c_{i,t+i} \le B_t \sum_{0 \le i < D} s_i r^{-i} w_{i,t+i}.$$

In fact, the L.H.S. and the R.H.S. of the inequality represent the expected current respective values of the lifetime consumption and earnings taken in period t. Taking into account (2.1) and assuming away slacks, a new budget constraint is obtained:

$$\sum_{0 \le i < D} s_i r^{-i} c_{i,t+i} = g^t \sum_{0 \le i < D} s_i r^{-i} w_{i,i}. \tag{2.3}$$

Because of homotheticity of the utility function, the age-controlled optimal consumption vector increases at the same rate as productivity:

$$c_{i,t+i} = g c_{i,t-1+i} = \ldots = g^t c_{i,i}.$$

PAYG1 system

The study of the PAYG system is more involved. We investigate a PAYG system, where each person of cohort i receives a *net transfer* $d_{i,t}$ from the system. (If the transfer is negative, then $-d_{i,t}$ is paid by the consumer.) The total sum is zero at each period. His modified income becomes $e_{i,t} = w_{i,t} + d_{i,t}$, which he can use like his original earnings $w_{i,t}$ in CR. We shall call this system PAYG1.

Then an individual born in t will experience a change in the expected current value of his lifetime earnings (at the R.H.S. of (2.3)) due to the transfer system:

$$\delta_t = \sum_{0 \le i < D} s_i r^{-i} d_{i,t+i}. \tag{2.4}$$

We have the following *intercohort* (cross-sectional) budget constraint:

$$B_t \sum_{0 \le i < D} s_i b^{-i} d_{i,t} = 0. \tag{2.5}$$

Note that (2.4) and (2.5) are very similar, but the 'discount factors' $1/r$ and $1/b$ are different and path $\{d_{i,t+i}\}$ and profile $\{d_{i,t}\}$ appear, respectively. To eliminate this latter difference, we shall replace the longitudinal (intertemporal) individual formula (2.4) by a cross-sectional social constraint. Therefore we assume that age-controlled transfers increase at rate $g - 1$ like wages:

$$d_{i,t+i} = g d_{i,t-1+i}.$$

We shall introduce the *output growth factor* $h = bg$, *relative interest factor* $u = r/h$, and the *relative current value of the transfers*

$$F(u) = \sum_{0 \le i < D} p_i d_{i,0} u^{-i}. \tag{2.6}$$

Then (2.4) and (2.5) can be simplified respectively to:

$$\delta_0 = F(u), \qquad (\delta_t = g^t \delta_0); \tag{2.7}$$

$$F(1) = 0. \tag{2.8}$$

Results

Having outlined the model, we turn to its analysis.

Criterion

We are now able to formulate the well-known criterion:

Theorem 1 (cf. Aaron, 1966). a) The extended PAYG1 ensures higher discounted lifetime income than CR iff $F(u) > 0$ *subject to* $F(1) = 0$. *b) Since there is no borrowing constraint, higher discounted lifetime income implies higher welfare.*

We shall now look for conditions ensuring $F(u) > 0$.

Local analysis

First we shall analyze the problem locally, assuming $r \approx h$ (i.e. $u \approx 1$ and *near golden rule*). As is evident from Gale (1973), we need to define the *mean age of net transfers* as the average age of consumers weighted by the cohorts' shares and transfers:

$$d^* = \sum_{0 \le i < D} p_i d_{i,0} i / \sum_{0 \le i < D} p_i. \tag{3.1}$$

Next we shall call a *population-transfer profile* $\{p_i, d_{i,0}\}$ either *debtor (classical)* or *creditor (Samuelson)* or *symmetric (coincidental)* if the mean age of transfers is respectively, either negative or positive or zero:

$$\text{either} \quad d^* < 0 \quad \text{or} \quad d^* > 0 \quad \text{or} \quad d^* = 0.$$

Now we have

Theorem 2. The introduction of extended PAYG1 is locally welfare-improving iff $d^*(1-u) > 0$.

Proof. Using (2.6)–(2.8) and (3.1), $0 < \delta_0 = F(u) \approx F(1) + F'(1)(u-1) = d^*(1-u)$. ||

Remark. Using the new terminology, Aaron's principle holds locally for creditor profiles and does not hold for young profiles.

Global analysis

Nevertheless, local analysis is of little use if the interest rate is not sufficiently close to the growth rate. Thus we turn now to global analysis. As a simplification (cf. Augusztinovics 1992), we shall assume the existence of two integers, L^* and R^* with the following properties: $0 \le L^* < R^* < D$ and transfers are positive *iff* age is less than L^* or larger than $R^* - 1$:

$$d_{i,0} > 0 \quad \text{for} \quad i = 0, \ldots, L^* - 1 \quad \text{and} \quad R^*, \ldots, D^* - 1; \tag{3.2}$$

$$d_{i,0} \le 0 \quad \text{for} \quad i = L^*, \ldots, R^* - 1. \tag{3.3}$$

The number of positive roots of any polynomial is less than or equal to the number of changes in signs of coefficients of polynomial D: i.e. the Descartes-rule (Gale 1973, *Pólya and Szegő* 1976). Hence $F(u) = 0$ has two positive roots: $u = 1$ and u^* and the behaviour of $F(u)$ leads to

Theorem 3 (cf. Augusztinovics 1992, Section 5).

a) *The extended PAYG1 is better than CR iff one of the following three alternative conditions holds*:

$$\textit{either} \quad u < 1 \quad \textit{or} \quad u > u^* (> 1) \quad \textit{for a creditor profile}, \tag{3.4}$$

$$\textit{either} \quad u < u^* (< 1) \quad \textit{or} \quad u > 1 \quad \textit{for a debtor profile}, \tag{3.5}$$

$$u \ne 1 \quad \textit{for a symmetric profile}. \tag{3.6}$$

b) *In pure PAYG1 systems every profile is creditor and (3.4) holds with* $u^* = \infty$.

Remark. The World Bank (1994, Issue Brief 2, pp. 297–303) compared a pure PAYG1 system to CR under the simplifying assumptions given below (for latter reference $L = 0$ is replaced by $L \geq 0$).

The cohorts' survival probability is flat:

$$s_i = 1, \qquad i = 0, \ldots, D-1. \tag{3.7}$$

Workers pay flat contributions and pensioners (and children in our framework) receive flat pensions (and family allowances):

$$d_{i,t} = d_{L,t} < 0, \quad \text{for} \quad i = L+1, \ldots, R-1, \tag{3.8}$$

$$d_{i,t} = d_{R,t} > 0, \quad \text{for} \quad i = 0, \ldots, L-1 \quad \text{and} \quad R+1, \ldots, D-1. \tag{3.9}$$

Here $L^* = L$ and $R^* = R$, but in general $L \leq L^* < R^* \leq R$.

Optimal transfer system without private savings: PAYG2

Until now we have assumed a transfer system (PAYG1) and discussed whether its introduction has the effect of improving welfare. Now we turn to the optimal size and structure of our transfer system. To avoid complication we have to assume that the recipients of transfers do not save or borrow. The system will be referred to as PAYG2.

Since the problem was fully investigated in Simonovits (1993) and (1995), here we shall only study the simplest limit case, namely Leontief utility functions:

$$U(c_0, \ldots, c_{D-1}) = \min_{0 \leq i < D} (\tau_i^{-1} c_i) \tag{3.10}$$

where τ_i's are the age-weights. For example, if the consumer wants to smooth his absolute or relative consumption path, he will assign weights $\tau_i = 1$ or $\tau_i = g^i$ to the utility function, respectively.

Here we shall present the optimal consumption paths in CR as well as in PAYG2. As a distinction, we shall use index r for the former and index h for the latter and x for their 'common' symbol. We need the following notations, too:

$$W(x) = \sum_{0 \leq i < D} s_i w_{i,i} x^{-i}, \tag{3.11}$$

$$C(x) = \sum_{0 \leq i < D} s_i \tau_i x^{-i}, \tag{3.12}$$

$$H(x) = \frac{W(x)}{C(x)}. \tag{3.13}$$

Theorem 4. a) For a Leontief utility function (3.10), the optimal CR and PAYG2 consumption at age i are given respectively by

$$c_{i,i}^{(x)} = \tau_i H(x) \quad \text{and} \quad x = r, h. \tag{3.14}$$

b) Consumption in PAYG2 is uniformly higher (lower) than in CR iff

$$H(h) > H(r) \quad [H(h) < H(r)]. \tag{3.15}$$

Remark. Note that for other utility functions (not studied here), the ranking of the optimal PAYG2 and CR consumption generally depends on age. Therefore the ranking of the optimal PAYG2 and CR consumption paths depends on the utility function. In contrast, PAYG1 has larger/smaller income than CR, thus the ranking is independent of the utility function.

It will be useful to introduce the following weight profile and the corresponding functions $W^\circ(u) = W(r)$ and $C^\circ(u) = C(r)$:

$$\tau_{i,0} = \tau_i g^{-i}, \qquad i = 0, \ldots, D-1, \tag{3.16}$$

$$W^\circ(u) = \sum_{0 \le i < D} p_i w_{i,0} u^{-i}, \tag{3.17}$$

$$C^\circ(u) = \sum_{0 \le i < D} p_i \tau_{i,0} u^{-i}, \tag{3.18}$$

$$H^\circ(u) = \frac{W^\circ(u)}{C^\circ(u)}. \tag{3.19}$$

Then (3.14) reduces to

$$c_{i,0}^{(u)} = \tau_{i,0} H^\circ(u). \tag{3.20}$$

We shall normalize the wage and weight profiles by $\sum_{L \le k < R} p_k w_{k,0} = 1$ and $\sum_{0 \le k < D} p_k \tau_{k,0} = 1$, i.e. $W^\circ(1) = 1$ and $C^\circ(1) = 1$. Then $H^\circ(1) = 1$—i.e. the optimal PAYG2 consumption profile is identical to the weight profile:

$$c_{i,0}^{(1)} = \tau_{i,0}. \tag{3.21}$$

Since there is no saving/borrowing, the transfer is identical to consumption less wage: $d_{i,0} = c_{i,0} - w_{i,0}$. Thus (2.6), (3.21) and (3.19) yield $F(u) = C^\circ(u) - W^\circ(u) = C^\circ(u)[1 - H^\circ(u)]$. Note that $F(u) > 0$ *iff* $H^\circ(u) < 1$. Hence we have proved

Theorem 5. For a Leontief utility function (3.10), PAYG2 and PAYG1 are simultaneously superior (inferior) to CR, namely iff

$$H^{\circ}(u) > 1, \quad [H^{\circ}(u) < 1]. \tag{3.22}$$

Example. As a benchmark, we shall illustrate our concepts on the very special profiles studied by Aaron (1966): (3.7) and

$$c_{i,0} = c_{0,0}, \qquad i = 1, \ldots, D-1, \tag{3.23}$$

$$w_{i,0} = w_{0,L}, \qquad i = L+1, \ldots, R-1, \tag{3.24}$$

(and in Aaron there are no juniors: $L = 0$).

Adding the stationary assumption $b = 1$, these specifications imply $p_i \equiv 1$; hence (3.1) reduces to $d^* = (D - L - R)/2$. A flat population(-transfer)-consumption-wage profile is creditor *iff* the retirement stage is longer than the childhood stage: $D - R > L$. For $L = 0$, $D > R$—i.e. a pure profile is always creditor.

Remarks. 1. As mentioned in the introduction, under (3.7), (3.23)–(3.24) Aaron found a simple condition for $\delta_0 > 0$ and $c_{i,t}(h) > c_{i,t}(r)$, $i = 0, \ldots, D-1$. This condition now bears his name. *Aaron's condition* holds if the growth factor of the economy is larger than the interest factor: $h > r$ or equivalently, $u < 1$. Theorems 3b and 5 are maximal generalizations of Aaron's principle.

In practice, profiles are debtor (cf. Arthur and McNicoll). Even an ageing population may yield a debtor population-consumption-wage profile. According to *Theorems 3* and *5*, this calls into question the practical validity of Aaron's extended principle.

2. Deaton (1992, pp. 61–63) considered the dependence of consumption on interest rate for Leontief utility functions and obtained similar results.

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REVIEWS

OPEN AND HIDDEN CHANNELS OF VENTURE CAPITAL FINANCING IN HUNGARY

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It could be regarded as heretical to state that venture capital has already played a considerable role in financing enterprises in Hungary. Experts often emphasize the lack of venture capital when analyzing enterprises' problems in finding capital.

The presence of venture capital is difficult to notice because in general the investors are not specialized venture capital corporations, venture capital funds or fund managers. Furthermore, a lot of investments in Hungary are very risky according to western standards; thus "normal" and "venture" investments overlap to some extent. In many cases it can only be said after the passage of some years whether a particular investment was a strategic one (an investment to be kept in the long run), or whether it was a short- or mid-term investment, typical to venture capital, and serving only the attainment of market gains at the time of sale.

In addition, venture capitalists have until now preferred areas different from those expected by domestic experts. They have shown no real interest in investing in small, starting ventures, nor in supporting innovation, nor in furthering privatization. Instead, their main targets have been the rehabilitation of companies in difficulties or under liquidation.

This study aims to prove that this is not incidental at all. As, on the one hand, "venture capital investor" is still (legally) a non-existent category in Hungary, and on the other hand, the market prices of debts, shares and assets of ailing companies have become realistic (and thus acceptable for venture financiers), it is no wonder that this area is the most promising one for such investments.

Concept and functions of venture capital

In Hungary the concept of venture capital had for a long time been closely related to financing innovation, or to be more precise, to making risky investments in this area.

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The combination of the concept of venture capital with innovation was not accidental, as even in Great Britain in the early 1980s it only meant speculative, risky investments in enterprises at an early stage of their development. However, a broader definition of venture capital had appeared by 1983 in the western countries (*Lloyd* 1989).

Venture capital—according to its internationally accepted current definition—is the equity investment of professional financial intermediaries in an unquoted company having a growing or value-adding potential above the average. The primary goal of the investors is to maximize their capital gains. (Cf. The new palgrave 1992, (*EVCA* 1994)) In addition to financing, venture capitalists participate in the financed company. They give expert advice to the management and have a say in the control of the company through their representative on the board of directors. They generally plan their investment for a longer period of 3 to 7 years, and they exit only after the passage of this time. In practice, this means the sale of their ownership share to the former owners of the company or to other investors. During this time they generally do not claim their dividends, as their aim is to maximize capital gain—i.e. the difference between the buying and selling prices of the shares.

Venture capitalists are willing to assume high risks and to finance (still) unquoted companies. In the hope of excess profits, they are more patient concerning the payback period than creditors, who require immediate interest payment. Hungarian enterprises know that there are other important features of venture financing as well. When a venture capital investor participates in the operation of the financed company, he "lends" his expertise and his established market and professional relations to the financed company as well. Owing to the venture capitalist's interest in the profitable operation of his portfolio firm, the venture capitalist can provide, if required, managerial knowledge and connections necessary to enter money and capital markets (*Grosfeld and Roland* 1995).

Long-term mutual interest is ensured by a special contract between the parties, making it possible for the venture capitalist to exert control over the portfolio firm continuously as well as to keep his capital liquid, as much as possible. The owners of the company—in addition to the capital, expertise and new connections offered by the investor—will have the incentive compensation of an increasing ownership share, depending on the company's performance. (*Sahlman* 1990).

Thus venture financing is not simply investing in high-risk enterprises. In the cases of private enterprises with outstanding prospective returns, it provides a combination of finance, consulting and control for the business parties, where their mutual interest is secured by a special contract.

Magnitude of the Hungarian venture capital industry

Taking into account the varied nature of institutions dealing with venture financing, it is no wonder that there are no official statistics concerning the magnitude of the domestic venture capital industry. An estimation of the overall capital strength can only be based on the scarce statements found in domestic publications and analyses published mainly abroad.

In 1994 the European Venture Capital Association (EVCA) pioneered the issue of a publication introducing Central and Eastern European venture capital firms. (The survey was financed by the PHARE Program of the European Union.) It discloses that three foreign funds own 80 percent of the ECU 265 million venture capital represented by the Hungarian Venture Capital Association. The publication, however, warns that this amount does not include the banks' compulsory conversion of debt to shares in the framework of reorganizing their clients (EVCA 1994, p. 14).

The most detailed report on the magnitude, participants and investments of the Hungarian venture capital industry was published in the February 1995 issue of *Business Central Europe* (*Meth-Cohn, Simpson and Papp* 1995). (The study refers to the Hungarian and the European Venture Capital Associations as sources of data.)

According to this article, Hungary's venture capital industry has funds of around USD 300 million, being the largest among the neighbouring ex-socialist countries. This leading role is not accidental. Nascent private enterprises had already appeared in the 1980s, thus both the state and the banks had time to gather some experience with investments, and the various country funds fared ill in stock-exchange investments more than once. Owing to the relatively longer history of the industry, foreign funds have domestic managers today, which is not typical in the neighbouring countries. In the meantime, the state has also established some venture capital companies as well.

According to the article, the *First Hungary Fund* has the largest fund (USD 120 million), of which it has invested the largest portion by far (USD 100 million). Second is the *Hungarian-American Enterprise Fund* with a fund of USD 60 million and USD 47 million capital invested. The regional development funds of the *Hungarian Investment and Development Bank (MBFB)* have the third largest amount (USD 26 million). Although there is no data concerning their investments, they finance smaller start-ups. The next two are foreign-owned private companies: *Venture Capital Hungary* (USD 20 million) and *Euroventures* (USD 17 million), with invested capital of USD 6 and USD 8 million, respectively. As far as the number of financed companies is concerned, the leader is the government-backed *Covent Ltd.*, established with USD 6 million to finance innovations. In addition to the above companies, the article mentions the government-backed *Multinova Llc.* (USD 2.4

million), also to further innovation, and the foreign private company, *EDventure Ventures*, with a fund of USD 1.6 million.

Commercial banks in the venture capital industry

Data from foreign sources concerning the magnitude of potential and actual investments of the Hungarian venture capital industry give a false picture; thus the estimate of USD 300 million for the magnitude of the industry is also misleading. One of the reasons is, as the already mentioned publication of the European Venture Capital Association emphasized, the omission of banks' investments.

The size of the debt-to-share conversion, according to a July 1994 summary (*Gyenis and Makara* 1994), reached HUF 11.7 billion at the Hungarian Credit Bank Ltd. (MHB), HUF 2.6 billion at the Commercial and Credit Bank Ltd. (K&H), and only HUF 0.2 billion at the smaller General Banking and Trust Co. Ltd. (ÁÉB). In most cases these were compulsory investments necessary for the banks to reduce their losses arising from bad debts. In general, they resorted to this method only when their debtors were unable to meet their debts. Financial institutions have become co-owners most frequently by raising the capital of the companies not meeting their debts with the sum in arrears.

These types of investments are only remunerative for the banks if the company can be rehabilitated within two or three years. Banks need an ownership proportion of at least 25 percent to have sufficient control—through their representatives on the board of directors and the supervisory board—over the operations of the company. Banks with a smaller investment proportion can stipulate a power of veto for the most important decisions at the general meeting. Banking expertise and a crisis manager hired by the bank can accelerate the rehabilitation of the company considerably. As is obvious from the above, in many cases the capitalization of the debt has effectively turned the banks into venture capital investors, regardless of whether they wanted it or not.

Similarly to commercial banks converting debts into shares or quotas, companies—not necessarily in banks' ownership—buying and selling qualified debts can also be considered as participants in the venture capital market. The market of qualified outstanding debts—mobilized during bank consolidation and presenting a headache for the banks since then—has developed into a flourishing business. [See, for example, (*S. T.* 1995); (Gyenis 1994; 1995).]

Organizations established to clean banks' portfolios or to buy up outstanding debts provide a typical venture capital function by executing reorganization or selling the debt, depending on the debtor's financial status. Purchasing overdue and irrecoverable debts is presumably a profitable business for organizations having the necessary amount of venture capital to invest, because debts of companies in

liquidation can be bought at around 20–25 percent, while debts of companies still operating are sold at 30–50 percent.

In addition to companies owned by banks, there are others which also buy and sell debts. One of the well-known buyers of risky placements is *AB Faktor Kft.*, in the interest sphere of Bankár Kft.; another is *Globex Holding* (Gyenis 1995). Occasionally consulting or liquidating firms also appear on the market with their own capital, trying to take advantage of their knowledge of promising investment opportunities, which have been obtained in their main business sphere.

It is important to emphasize that investing venture capital has been an involuntary function for commercial banks. Investing capital, deposited primarily for the short term, in long-term and risky investments is against the very nature of these financial intermediaries (*Varga* 1993).

Venture capital and the investment banks

Investment banks need a more specific approach. The two capital market institutions—that is, venture capitalists and investment banks—are similar in that they both invest for the long term. However, they differ in their willingness to assume a risk situation and in their respective attitudes to the size of financed ventures. Investment banks provide resources primarily to companies mature for admission to listing, and they also finance big acquisitions. They are chiefly intermediaries between investors and companies seeking capital. As intermediaries, they organize syndicated capital market deals, issue guarantees, and assume the role of market leaders (*Csabai* 1995).

Venture capitalists, on the other hand, finance primarily smaller companies still too immature for listing. The size of their investments is limited by the fact that they are compelled to participate in the financing of several companies in order to cover the losses of certain actions by the exceptionally high profits from some others.

Thus investment banks, in contrast to commercial banks, live neither on the difference between the costs of their resources and the returns of their investments, nor on the rapid buying and selling of papers. However, they are similar to venture capitalists in that, through their long-term investments, they acquire a controlling interest in the financed companies and lend their expertise as well (*L. G.* 1995).

Participants of the venture capital industry outside the banking sector

In addition to omitting banks' investments, which in practice can be considered to be venture investments (forced debt-to-share conversions and "deals" with

overdue debts), the restriction of the venture capital industry to venture capital funds and companies is wrong for many other reasons. On the one hand, the above list would contain neither the officially registered country funds, that provide venture financing as well, nor some professional venture capital firms. On the other hand, there are a number of other types of companies dealing with venture financing in Hungary.

The previously mentioned EVCA publication omitted the *Hungarian Capital Fund*, established recently upon the initiative of *Bankár Investment and Consulting Llc.(Bankár Llc.)* to finance middle-size companies. By the end of the subscription period its capital is excepted to reach USD 60 million, thus becoming a matching partner for the already functioning foreign funds (*S. I.* 1995). *Kaptár Ltd.* has been launched as a venture financing company as well, with a nominal capital of HUF 32 million (*Jakabos* 1995).

We know little of two other investment funds established to buy up and rehabilitate unlisted companies. They are *Riverside Budapest Rt.*, founded in 1993, with a nominal capital of HUF 200 million, in order to rehabilitate half a dozen domestic companies.

It is quite difficult to identify Hungarian investment companies dealing with venture capital investments, because the establishment of such a firm is not contingent on the acquisition of a financial institution licence (*Hámor* 1994) or membership in the Hungarian Venture Capital Association. As a consequence, true venture capital firms can only be distinguished, after a period of time, from companies buying up others with the strategic aim of creating a big corporation. In fact, sometimes it is difficult to distinguish them from those fraudulent companies that participate in speculative gambling and collect money from investors by promising multiple returns.

This special segment of the venture capital market is a group of private firms dealing with company consulting, property management and liquidation. In recent years they have gathered extensive experience during their work as privatization consultants, property managers or liquidators in rapidly growing numbers of bankruptcies following the adoption of a rather strict bankruptcy law. Equally important is that they have amassed considerable capital as well. Their role deserves attention, because this is probably the area where the advantage of the Hungarian venture capital industry, compared to the former socialist countries, is most apparent. In the neighbouring countries privatization is not market-based or the bankruptcy law is not as stringent as in Hungary, because there have been no massive bankruptcies in those countries.

The most characteristic representative of the above group is probably *Bankár Llc.*, which deals with the acquisition, rehabilitation and selling of companies. It played an active role in the establishment of the above-mentioned new venture capital fund, attracting foreign capital as well. There are venture-type investments among the investments of the other consulting, liquidating or commercial firms

as well. However, such a situation often turns out to be the case only after the profitable sale of the rehabilitated company, as investments could serve many other purposes, too. Such firms are, for example, *Dunaholding Ltd., Co-Nexus Ltd.* and *Novotrade Ltd.* Some of them are already listed on the stock exchange, which means that their size, management and transparency are above the average. Besides the banks, these "moonlighting" venture capitalists are the second most important players on the take-over market. Their names appear among privatization investors, initiators of investment funds, buyers of overdue debts, owners of banking interests or portfolio managers of state assets as well.

The role of venture capital in Hungarian privatization

Seemingly contradicting the important role of privatization consultancy firms in venture capital investments, the EVCA publication describes the number of investments making use of cheap privatization financing together with venture capital as "surprisingly low". The study explains it by referring to the competition arising from preferential loans for privatization purposes and the mass of compensation notes.

The "reserved nature" of venture capital can be explained by other factors, too. Preferential loans and compensation notes made available for buying state assets meant that the state wanted to sell them well above their real market value, reflecting their true earning capacity. This obviously contradicts venture capitalists' logic. Venture capitalists wish to buy companies at a low price and sell them after rehabilitation with as high a profit as possible. While these prices remain artificially high, the interest on venture capital will not be raised. The more frequent purchase of companies in liquidation by utilizing venture capital indicates that prices on this "market" are more realistic.

Another option for venture capitalists looking for participation in privatization would be to join other buyers entitled to the above preferences.

A basic problem is the lack of mutual interest, because in the framework of such constructions venture capitalists risk their own capital, while their co-owners risk only their shares (which represent only a minor ownership proportion). Employees' own contributions are often paid or advanced by their companies. (Thus the bank, or rather its owner, the state, stands the risk of default. In the end, the state gets back the company, the value of which has been further reduced in the meantime.) (Cf., *Boda, Hovorka and Neumann* 1994; Karsai 1994; *Karsai and Wright* 1994) Many factors hinder their joining to buyout offers of employees and managers, thus it is no wonder that up to now there has not been a single deal of such construction. Venture capital has only appeared to replace employees as owners in already privatized companies facing serious financial troubles.

Companies' chances of attracting venture capital during their development

Venture capitalists rarely finance companies in their early stages of development, nor do they look for involvement in starting-up companies. Financing the expansion of existing ventures is more frequent. The establishment of new companies to realize innovation was financed almost exclusively from the state budget. The two state-owned venture capital firms, *Covent Ltd.* and *Multinova Llc.*, which both specialized in financing such companies, have already used up their capital, and it is almost hopeless for them to exit from the financed companies with a profit large enough to continue similar deals in the future.

Taking into account the large number of indebted and undercapitalized companies near or under liquidation, as well as the relatively low price levels on this market, venture capital favours these turnaround deals in Hungary.

Venture financing methods in Hungary

Players on the domestic venture capital market apply various investment methods and procedures. We can identify three groups of investors:

1. Venture capital funds using foreign capital, managed by either domestic or foreign managers;
2. Private companies investing domestic capital;
3. State-owned venture capital companies or financial institutions investing capital allocated from the budget.

The first group obviously invests according to western standards in Hungary as well. Owing to their strict selection criteria and the close control applied, the number of such deals is quite low.

The methods of the second group are quite similar to those of the first group, with the difference that they are not fund managers. In other words, they invest their own capital, not others' savings. The number of ventures financed by them is much higher than that of the first group, because they know local conditions better. Thus they do not have to report to foreign owners, and they conclude more flexible contracts.

The third group mainly invests its own capital, just like the second group. In many cases, however, the selection process is faulty and the contracts support neither the interests of the entrepreneurs nor the necessary control. Investments are often selected on the basis of the capital available, not on the basis of the expected yield. Business expectations are often mixed with other state considerations.

The undeveloped money and capital markets in Hungary limit the exit options for all three groups. In many cases, the third group even lacks any definite idea concerning the exit time. In the examples of exits in the case of the second group, sale to other companies dominates; sale to the former owners or flotation are less

frequent. Liquidation, especially in the third group, is quite usual. This can be explained by the uneven interests of the co-owners (amplified by the shortcomings of the domestic legal system) and unforeseeable changes in the economic environment.

Venture capital returns

In view of the further development of the venture capital industry, it is a key question whether the present participants have been successful, achieving rates of return which compensate for the longer immobilization of their capital and the higher risks.

Unfortunately, this data is hardly available, as such information is regarded as a business secret. An indirect answer to the above question, however, could be that the industry appears to be on the verge of a boom. The number of organizations offering venture investment is definitely increasing. Institutions and regulations of the capital market are also developing. It is especially important that the number and financial strength of institutional investors (pension funds, insurers and investment funds) are also growing. The gradual strengthening and capitalization of the stock exchange, the elaboration of its regulations, the modernization of its equipment and the increasing number of categories facilitate the further development of the venture capital industry. As a result, it is highly probable that the industry can attract new capital, and thus it will be able to participate more and more in the long-term financing of ventures.

The future of the industry depends on emerging regulations concerning venture capital investments. At present "venture capital investment" is still a non-existent legal category in Hungary; it is mixed with other long-term financing methods. Thus, in certain respects, the present system of economic regulators "punishes" venture financing. For example, the new financial and accounting rules (effective since 1994), in contrast with the previous ones, make the accounting of temporary losses of assets in the investment company's portfolio firms compulsory, proportionally to the total investments of the company. (This means that this loss should be written off as expenditure, and on the other hand, the company's tax base must be increased by this amount.)

Thus domestic venture financiers have a disadvantage compared to those in western countries, the latter having some tax allowance at home (e.g. either when savers place their savings in their hands, or when venture financiers invest in their portfolio companies, or when they pay tax on capital gains).

Country funds investing venture capital only "incidentally"

The *First Hungary Fund* and the *Hungarian-American Enterprise Fund* invested venture capital only "incidentally", or rather, under duress. (Other investment funds, unless they specialized in venture financing, have never invested in this field.) These two funds, organized abroad, always tried to reduce risks. They purchased listed stocks and wanted to involve other—professional or financial—investors to spread the risk. Thus they are not typical venture capital funds, and they financed such deals only for want of something better.

They appeared during the early stage of the historical change of regime. Owing to the shortcomings of codification, tangled ownership relations, and undeveloped money and capital markets, these funds could hardly comply with the risk-reducing principle of trying to acquire only a controlling ownership share, not a majority one. Paradoxically, in certain cases, it was this majority share that made the reduction of risks, arising from the impenetrable domestic conditions, possible. They realized that their losses in minority cases were due to the inadequate knowledge of the "chaotic" domestic situation. These funds, representing typical financial investors, were perplexed when they had to participate in creating and organizing a market for their financed companies in order to ensure their success.

Both funds tried to find safe investments in order to compensate for the incidental losses arising from risky portfolio investments. It is no accident that both of them purchased shares of the listed companies *Pick Szeged Rt.* and *Petőfi Nyomda Rt.* They indeed had to compensate for losses, caused by not only the unforeseeable changes in the economic environment, but by fraudulent bankruptcies as well (*Sebők* 1994).

In addition to the identical features, there are a number of differences, too. True to its name the First Hungary Fund was established in 1989 (preceding the other by one year) with a capital of USD 80 million given by pension funds, insurers and investment funds. Its declared goal was to acquire the best Hungarian investment projects at a lower price, the latter being due to the moderate demand in the early stage of privatization (*Gál* 1994). The USD 60 million of the Hungarian-American Enterprise Fund, together with the USD 10 million received from the USA International Development Agency as a non-refundable support, was provided from the state budget, not by institutional or private investors, (who would have given it at their own risk). The Congress sanctioned this according to the support for eastern European democracies (SEED) act in order to foster the development of private ventures in Hungary.

The USD 80 million registered capital of the First Hungary Fund had been invested in full by 1993 in 16 projects. Thus, at the end of 1993, the fund's capital was increased by USD 63 million. (USD 18 million, however, was given to former owners not wishing to further participate in the fund.) By the end of 1994 the Hungarian-American Enterprise Fund had invested USD 47 million in Hungary,

including 31 capital investments and 200 credit extensions to small businesses (*Figyelő* 1994). (USD 6 million had been disbursed from the USD 10 million of the Technical Cooperation Programm.) In March 1995 the new president of the fund announced that they had invested USD 55 million in the Hungarian private sector (*B. GY.* 1995). Naturally, only a part of it can be considered to be venture financing.

Certain investments of the First Hungary Fund were typical venture financing. For example, it purchased ailing but promising companies in order to rehabilitate and sell them for a profit, and it participated in greenfield investments, also to realize capital gains. In most cases it sought to attain majority ownership and to assume operative control, instead of the role of a traditional financial investors (*Fahidi* 1994).

Venture financing size was far smaller than that of safer investments. The fund, in accordance with its business philosophy, prefers to acquire a minority stake and to exit in three or four years, reinvesting its profit in the Hungarian economy. A new direction can be perceived in the investment policy of the Hungarian-American Enterprise Fund: to finance companies in their growing phase. A good illustration of this is the recent venture capital investment at one of Hungary's largest light industry companies (*Világgazdaság* 1995).

Funds established expressly for venture financing

Three funds belong to this group, and all of them are in majority foreign ownership. They are *Euroventures Hungary B. V.*, *Venture Capital Hungary B. V.*, and *Hungarian Investment Fund*, established in 1995 upon domestic initiative.

Euroventures Hungary B.V. (Euroventures) was incorporated in the Netherlands in 1990 with NLG 32.4 million nominal capital. The ownership proportion of the foreign shareholders reaches almost two-thirds: Euroventures deserves special attention, because this Netherlands-based company has established a network of venture capital funds in 16 European countries. Euroventures is in fact the first eastern European member of this franchise-like network (Sebők 1994).

The other professional venture capital fund, the Dutch-Hungarian Venture Capital Hungary B.V. (VCH), was also incorporated in the Netherlands in 1990. Its registered capital is NLG 30 million, of which 6 million was paid in at the time of establishment.

The two venture funds have similar ownership structures and management strategies, and they resemble the experienced Dutch investors.

Both funds intend to finance small- and medium-size enterprises having growth potential and both funds aim to achieve only a minority stake in the financed

companies (10–40 percent) yet, in such a way that they have a say in the life of the company.

They participate in ventures where not only their money is required, but their professional and strategic cooperation as well. Their goal is to maximize the profit of the financed company in such a way that in a few years—i.e. within 5 years—they can sell their shares or quotas at a profit.

Until now Euroventures has only invested a fraction of the available NGL 30 million—more precisely, HUF 700 million in six ventures. The fund is not to be blamed: promising projects were scarce (*I. A.* 1992). VHC has not been able to invest very much either. Since their establishment they have invested in ten companies—HUF 5–25 million on average.

There is a third venture fund, also in foreign majority ownership, that was registered in January 1995. It was established upon the initiative of a Hungarian company. The Hungarian Investment Fund was established by the EBRD, Citibank, an English insurance company and the initiator Bankár Kft. Although at the end of the first subscription period USD 25 million was compiled, the fund will soon reach the planned USD 60 million (*Management Consulting* 1995). The fund intends to buy companies which are in very bad shape or to manage the debts of companies under liquidation. Thus its targets are somewhat different than those of the other two funds. (Cf. *Bossányi* 1995a; *Farkas* 1994).

Venture companies financing innovation

Of the two companies, involved in this activity—*Covent Ipari Kockázati Tőke Befektető Rt. (Covent Ltd.)* and *Multinova Befektetési-Vállalkozási Kft. (Multinova Llc.)*—the first one was the first and largest venture company to be established from state budget sources with the expressed aim of promoting innovation.

These two companies differ from the previously discussed venture funds with regard to their limited targets for investment and entitlement over the capital. They had to invest in innovation by "consuming" their own capital. This means that the owners—if they wish to continue financing innovation, the return on which is very slow—must replenish capital continuously.

Unfortunately, the real capital requirement for financing innovation has not been taken into account—neither at the time of the foundation, nor since that time.

An additional problem for Covent Ltd. is that the replenishment of capital was in part made in the non-pecuniary contribution of shares of certain companies. In many cases these companies had suffered from serious problems; thus Covent Ltd. had to restructure and clean this inherited portfolio. At present 85 percent of its capital is tied up, thus only a very small amount is available for further venture financing.

Business and governmental considerations have often been mixed up. The companies were compelled to prefer certain areas in compliance with the development guidelines in the government's medium-term industrial policy. The founders strictly held to the condition that only innovation be financed. Thus when choosing a project, this had to be the main selection criteria, instead of profitability.

The state's determining ownership role has distorted the operation of the two domestic venture companies, as compared to foreign venture funds in general. Firstly, it limited investment targets to the most capital-intensive innovation field, where the speed of recovery is the slowest. Secondly, the state did not allocate enough capital for the two companies to carry out their task; and some part of that capital was illiquid. Thirdly, it required that the companies prefer the fields designated by the state, behave as venture financiers when choosing projects, and be profitable at the same time. As a result, the state's presence limited the two venture companies' freedom of movement to such an extent that in practice it prevented their functioning as venture financiers.

The most important venture financing bank

The state-owned *Hungarian Investment and Development Bank (MBFB)* is the most important venture financing bank in Hungary. This financial institution is a licensed investment bank, and venture financing is only a part of its activities.

MBFB handles its investment portfolio as a venture financier when it rehabilitates companies acquired as contribution in kind or purchased, and operates regional venture funds. In addition it also "manages" its debt portfolio as a venture financier.

In the first phase MBFB finds a management to operate a company transferred to its portfolio. Then a reorganization programme is worked out, for which it provides the necessary capital. Following rehabilitation, the company is sold at a profit. The profit is used to buy another company, and the process is repeated (Bossányi 1995b). The bank strives to acquire at least a 25 percent stake in the company to be rehabilitated. The bank's goal is to maximize the profit from the sale after the successful rehabilitation; short-term dividends are ignored. In general, rehabilitation requires 2–4 years (*KÁPÉ* 1993). Although the bank considers this activity to be a traditional investment banking function, it is in fact pure venture financing. (Naturally, no selection could have been applied with the companies transferred as contribution in kind.)

In the framework of credit consolidation MBFB swaps debt to shares, reschedules the debt or remits it, depending on the bank's assessment of the debtor's future (*Kurcz* 1993). If rehabilitation seems to be useless or the assets that can be acquired through liquidation are valueless, then the bank tries to sell or swap the

debt. The decision always depends on the debtor's position, earnings capacity and the prospects of rehabilitation. This means that the bank handles debts as a true venture financier.

MBFB has established a number of *regional venture funds* since 1993, and in these it has a majority stake. These funds help in the foundation or expansion of small- and mid-sized companies within a region by granting capital for a specified term on the basis of a required rate of return. Thus, in this instance MBFB plays the role of the venture financier indirectly.

MBFB is well-prepared for venture financing. Its staff has gathered experience with reorganization projects which have been going on in recent years, and it has had some consulting and financial support in the framework of the PHARE programme. What is more important, however, the bank has significant financial means to invest in the rehabilitation of companies. The capital of the investment company (established in 1991 with HUF 6.8 billion equity capital) was expected to reach HUF 20 billion by the end of 1995 (Bossányi 1995c). Naturally, only a portion of this extraordinary amount will be utilized in the rehabilitation of companies or venture financing, as the capital serves the bank's other purposes as well.

The main goal of the bank is to develop previously indebted companies so that they can be profitable ventures. Sale can follow only after this; and very few companies have reached this stage yet. Each company requires individual treatment, and a lot of changes must be made before a company can become profitable (*Kaposi* 1995).

Regional venture funds

MBFB has established *regional venture funds* since 1993 to help its venture investments indirectly. At the time of establishment, the bank's ownership proportion was always above 50 percent. The co-owners were state property management companies and local governments.

The capital of these venture funds is around HUF 500 million. They may finance deals too small for MBFB (below HUF 80–100 million) (*Papadopulosz* 1994).

Although these funds are explicitly venture financing companies, paradoxically their investments are less venture-like than those of MBFB, which does not function as an official venture financier. They resemble venture companies established to finance innovation in many respects and thus their problems are quite similar as well.

Their capital is also small, not being enough to finance as many deals as would ensure the compensation of inevitable losses. Furthermore, they received a part of their capital as contribution in kind. Their investments consume their own capital, so they must find other kinds of profitable activities to maintain themselves. Their

investments are restricted to a given region, and they must also take into account development preferences of the government. Thus state expectations are in conflict with strict business considerations in their case as well.

The primary goal of the regional venture funds was to finance promising small- and mid-sized companies in industry, agriculture or infrastructure, and to further the development of less developed regions. According to MBFB's business policy, the ownership share of these funds cannot exceed 25–30 percent per investment, thus co-owners must have significant resources of their own. This is necessary to ensure credits as well. The funds decide on investments on the basis of mid-term dividend expectations.

Taking into account that the recovery of investments takes a lot of time, the funds, from the very first, were compelled to find profitable activities to compensate in part for the capital decrease. Thus they are allowed to provide various financial, investment, property management and consulting services. They can place a part of their assets on the interbank money market, or they can utilize real estates received as contribution in kind (Papadopulosz 1994). Following a zero balance first year, they are expected to produce a yearly 5–10 percent yield—which means continuous loss of assets, as the inflation in Hungary well exceeds this level (*Szalai* 1994).

A venture financing private firm

Bankár Investment and Consulting Llc. (Bankár Llc.) extends its business activities into disparate fields, one of them being venture financing. Others include financial, privatization and company transformation consulting; buying and selling securities and active company debts; mediating foreign-exchange loans; crisis management (liquidation, bankruptcy agreements); and the newest field, trust management for, for example, pension funds.

Bankár Llc. is especially active on the market of company trade, and this is the field where it functions as a venture financier. In the beginning it purchased on its own account, but later (since January 1995, upon the order of the registered *Hungarian Investment Fund)* by handling the money of other institutions. The majority of the owner-managers worked previously at Citibank in London or Budapest, and became familiar with the market of company takeovers. They brought their western-style professional approach to Bankár Llc.

Bankár Llc.'s strategy is buying on the cheap, then rehabilitation and sale with significant profit. They primarily risk their own money, but are ready to associate with partners for larger deals. Their approach is different from the usual one in the Hungarian market. It is based on cash-flow, not on assets. They finance transactions, not balances. In order to realize this strategy, they buy only majority

stakes, and determine how the management should reveal reserves and change the information system (*S. Z.* 1993).

It must be obvious from the above presentation that, contrary to public belief, venture capital is already an important player in the market of financing domestic ventures. By nature, it finances mainly small- and mid-sized companies promising outstanding profit, and it only does this when the price of acquiring ownership reflects the actual profitability—that is, the price is a market price. It supports new ventures only in the hope of extraordinary profits.

The most successful venture capitalists are those handling others' savings, which are under strict control, and which risk their own capital. Investors using state funds are less successful, and they only use up their capital.

The further development of the venture industry depends, in addition to its "formal" recognition, on the evolvement of the institutional system of the capital market, a change of the economy onto a growth path, and the creation of an enterprise-friendly environment.

This would make possible a significant increase in the number of promising enterprises financed by venture capital. On the other hand, more capital would be attracted to participate in this sphere of the economy.

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HUNGARIAN NEGATIVE TRADE BALANCE AND FOREIGN TRANSIT TRADERS

É. TÖRZSÖK

It is well-known that Austria has played an important role as a transit country in East-West trade. This activity has traditionally brought Austria advantages due to the fact that its Eastern or Western neighbours (sometimes both) have to fall back upon its services in this field.

It is also well-known that in the 50 year history of East-West trade there were times when, due to the characteristics of interstate relations, this was absolutely necessary, regardless of export or import companies. Quotas, strict export–import licensing and sometimes embargoes were responsible for the classical transit deals of the '50s and '60s, when exported East European goods were usually given a new "face", enabling them to get to their actual costumer. Thus it was the strictly bilateral clearing and trade agreement, as well as the re-export prohibition clauses and constantly unbalanced payment status, which created a basis for switch trade and switch traders.

The second half of the '70s and particulary the '80s brought about a really flourishing situation and became all over the world a variety of countertrading known as the "communist-type of trading", in which Austrian traders (and the trading companies of banks) took a very active part.

In the '90s, interstate relations underwent a change: bilateral restrictions ceased to exist in the region; there is now no longer any need for switching roundabout ways or detours (except perhaps weapon traders), nor does the hope for a higher profit to be obtained through the difference in customs duties stimulate transit deals. Also the inclination of international business for countertrading has dropped and the centres of interest have shifted as well, both with respect to countries and the types of deals.

Knowing all this it is justified to put the question: what is the reason for the fact that transit trade in Austria should (but also in Germany and Switzerland) prosper? Also, why is it that one of the most important of Austria's transit partners (and also the most profitable one) should be Hungary?

Transiting—what does it mean?

In order to avoid misunderstanding it is useful to define the various types of transit deals. The participation of a third party in the trade between the companies of two countries could be justified by the following factors:

— The profit orientation of the intermediary. This is what we call a classical re-export. It means simply that the re-exporting party is buying abroad at a lower price in order to sell the same goods in another country at a higher price. This part of the deal may be legal or illegal.

— Trade policy reasons: the party in question may wish to circumvent some export or import restrictions between two countries; it wants to fix a deal though the quotas are used up already; it would like to use the advantage of the differences in duties; and it wants to make use of duty preferences even if the country in question is not entitled to it. These are the types of deals which used to be called in Hungary "transit deals" (in fact intermediary deals). The role of the traders in such deals is much more passive than that of a re-export dealer; traders simply lend their names and letterheads and get a commission for the deal.

— Also the so-called *retour* and *aller* deals (in the switch category) are, in fact, transit deals. The former aims at mobilizing either the plus balances of clearings or frozen credits, while the latter serves to partially settle debts. Both types are in fact of a re-export character; their main protagonist is the switch trade and their existence is based solely upon bilateral clearing agreements. Due to the abolition of the latter, this type of deal is a souvenir of the past—at least in our continent.

— Among the numerous types of countertrading there are quite a few instances where the companies of three countries are involved. Apart from the classical triangular barters, which are based on strict equivalence or on the natural exchange of goods, these countertrade deals can also be considered as re-export transactions because of the characteristics of their export or import sides (eventually of both). The buying obligation of one of the parties is transferred right away in the original contract to a third country dealer, or the party in question which has bought the goods back passes them on to a barter trader without letting his seller know. The barter trader then resells these goods. The international barter deal itself is not registered statistically; its countertrading side, however, might appear in the statistics as a transit deal.

— Marketing considerations, too, may justify the presence of a foreign intermediary. This happens when the companies of a country lack experience and market connections, and are then compelled to use the marketing and business know-how and the market connection and network of a foreign country.

— Besides marketing considerations, cost or quality aspects may be the reasons why foreign sub-contractors are being used, for instance, in the case of larger low-key projects. A more general interpretation of the motion of an intermediary transaction allow us to list this type of deal under this heading.

To interpret the following figures correctly it has to be stressed that transiting in this case means all such transactions where Austrian (or other) companies sell foreign goods in a third country.

Transiting in Austrian international trade

Transiting is one of the factors positively affecting Austria's balance of payments. The transit balance—amounting to about 10 billion ATS—covers about 10 percent of the shortage of the country's trade balance. The trend of Austria's transit exports *vis à vis* imports is illustrated by *Table 1*.

Table 1

The transit trade of Austria (in billion ATS)

	1980	1982	1985	1990	1992	1993
Transit exports	25.2	34.1	217.2	84.9	87.3	89.9
Transit imports	22.0	32.0	203.3	74.1	77.6	79.5
Balance	+3.2	+2.1	+13.9	+10.8	+9.7	+10.4

Changes as compared with the previous year (in percent)

	1980	1982	1985	1990	1992	1993
Transit exports	+16.8	−0.2	+38.8	+4.9	+4.8	+3.3
Transit imports	+27.6	+8.5	+32.7	−0.7	+6.0	+2.5

The significance of transiting as compared with the total foreign trade turnover (in percent)

	1980	1982	1985	1990	1992	1993
Transit exports	11.1	12.9	61.4	18.2	17.9	19.3
Transit imports	7.0	9.6	47.2	13.3	13.1	14.1

Balance, in percentage, to transit exports

	1980	1982	1985	1990	1992	1993
Balance	12.7	6.2	6.4	12.7	11.1	11.5

Source: *Stankovsky* 1994.

Nevertheless, these data are not fully reliable, since completely liberalised payments make it impossible to follow-up fully the country's transiting activity. This is the reason why the National Bank of Austria applies about a 25–30 percent estimate, as a result of which the rounding off distorts the figure relating to the turnover within a given region. Another reason why these data cannot render a

Table 2

Austrian transit trade for countries and regions

	Transit export			Export		Transit import			Import	
	1982	1993	1994	1994	1994	1982	1993	1994	1994	1994
	share in percentage			in bill. ATS	in percent	share in percentage			in bill. ATS	in percent
East European states	35.6	42.7	43.1	38.9	13.6	25.0	33.0	33.6	26.7	8.5
Czech Republic	4.2	5.4	6.1	5.5	2.6	2.3	3.1	3.4	2.7	1.8
Slovakia	–	1.5	1.9	1.7	0.9	–	1.1	–	–	0.7
Hungary	8.3	10.9	9.4	8.5	3.9	10.1	6.1	6.0	4.8	2.0
Poland	1.6	5.3	5.3	4.8	1.2	0.9	3.9	3.1	2.5	0.8
Romania	1.2	1.4	1.4	1.3	0.3	1.1	2.3	1.3	1.0	0.2
Bulgaria	3.8	1.6	1.3	1.2	0.3	0.3	1.4	1.3	1.0	0.1
ex-Yougoslavia	7.0	7.4	8.3	7.5	2.6	4.1	3.7	3.1	2.5	0.9
Slovenia	–	5.4	5.7	5.1	1.6	–	3.7	3.1	2.5	0.7
Croatia	–	2.0	2.6	2.3	0.8	–	–	–	–	0.2
ex-Soviet Union	9.5	7.1	7.7	6.9	1.8	6.2	8.5	11.9	9.5	1.9
Ukraine	–	0.7	1.9	1.7	0.1	–	0.3	–	–	0.2
Russia	–	6.4	5.8	5.2	1.5	–	8.4	11.9	9.5	1.6
West European states	39.7	35.5	37.5	33.8	76.3	58.7	51.5	54.8	43.6	78.4
EU	26.0	24.8	26.5	23.9	62.9	42.4	35.0	38.7	30.8	65.9
Germany	15.7	12.8	11.9	10.7	38.1	29.9	17.2	19.0	15.1	40.0
France	1.1	2.4	2.4	2.2	4.6	1.4	1.7	2.2	1.8	4.7
U.K.	1.0	2.0	3.7	3.3	3.2	2.5	4.1	6.3	5.0	2.9
Italia	2.9	3.3	4.6	4.1	8.1	3.0	3.2	3.3	2.6	8.8
Holland	2.1	1.3	1.2	1.1	3.0	1.9	4.0	3.1	2.5	3.0
EFTA	12.1	6.6	7.0	6.3	8.9	12.0	10.1	10.1	8.0	6.8
Swiss	11.7	4.3	5.4	4.9	6.4	9.5	6.1	6.0	4.8	4.1
Other European states	1.0	1.7	1.2	1.1	0.5	0.3	2.5	1.7	1.4	0.5
North America	0.6	2.4	2.8	2.5	4.1	4.0	3.9	4.3	3.4	5.1
USA	0.5	2.1	2.4	2.2	3.5	3.2	2.7	3.6	2.9	4.4
Developing countries	24.7	21.8	19.4	17.5	10.1	16.3	15.5	11.6	9.2	13.1
Hongkong	–	2.6	2.3	2.1	0.6	–	1.5	1.3	1.0	0.5
China	0.2	3.7	1.9	1.7	0.7	0.4	–	–	–	1.5
Iran	–	2.6	1.5	1.4	–	–	–	–	–	–
Total	100.0	100.0	100.0	90.2	100.0	100.0	100.0	100.0	79.6	100.0

Source: Der österreichische Aussenhandel 1995. p. 160.

full picture is that it is impossible to register all the payments which appear at the foreign sister companies of Austrian firms in the course of their imports or exports.

The figures prove that Austria has an outstanding role in the transiting of East European goods and *vice versa*. Its share of transit exports is twofold-threefold of its participation in East European exports.

As to the principal directions of the Austrian transit trade, these are well illustrated in *Table 2*.

Limiting our analysis to the East-European region, it can be seen that besides the traditional East-West links, Austrian transit traders are also represented in an increasing number in the foreign trade between the countries of the East European region. This new function of the Austrian transit trade largely explains the fact that, though the different foreign trade barriers no longer exist, the transiting activities of Austrian companies do not slump; on the contrary, it seems to gain strength.

In 1993 the value of goods transited from West to East amounted to about ATS 26 billion, whereas from East to West it was about ATS 13 billion only. The volume of transit activity between East European countries and the countries of Eastern Europe and the developing countries—all realised through Austrian intermediaries—amounted to about ATS 8 billion and ATS 10 billion respectively. In 1994 43.1 percent of the total Austrian transit export went to Eastern Europe, whereas Austria's total export to this region amounted to 13.6 percent only. Hungary's share in this turnover is quite considerable: while in 1993 Hungarian imports from Austria amounted to 3.5 percent, Hungarian participation in the Austrian transit export came to about 9.4 percent. In the total of Austrian imports these same proportions were 1.9 percent and 6.0 percent respectively. In the former COMECON region, Hungarian companies were the biggest buyers of transited goods, and likewise it was Hungary which sold the most to the West (apart from Russia). There is only one country in the East European region (Russia) where the balance of the Austrian transit trade is negative.

Foreign transit traders in Hungarian export-import

A considerable proportion of Hungary's foreign trade activity in Eastern Europe is being realized through foreign transit traders. This is confirmed also by different foreign statistics and is illustrated by the figures in *Table 3*.

It is further supported by more recent Hungarian statistics. *Table 4* shows the direction and share of transit deals realised in the export-import activity carried out with the most important countries.

To interpret the figures of this table properly, it is necessary to take into consideration that:

Table 3

The role of transit trade in Hungarian foreign trade

	Transit export			Transit import		
	1991	1992 as a percentage of total imports	1992 in million US$	1991	1992 as a percentage of total imports	1992 in million US$
ex-Soviet Union	22.2	34.8	490	26.2	35.1	654
ex-Czechoslovakia	19.0	26.2	76	33.8	24.8	118
Poland	30.5	19.6	28	55.9	38.2	66
Romania	31.4	21.2	40	30.8	19.1	13
ex-Yugoslavia	49.2	58.2	220	10.0	13.6	19
			854			870

Source: ECE in Stankovsky (1994) p. 509.

— in Hungary the order of magnitude of transit trade has to be established statistically by comparing the figures of the "contracting country" *vis à vis* the "country of origin/destination".

— Group "A" includes those countries which play an active part in transit trade; they are "the intermediaries".

— Group "P" contains those countries which have a passive role in transit trade.

The most important active countries and the turnover with them are listed in *Tables 5* and *6*.

From the figures of these two tables it is obvious that foreign transit traders are predominant primarily in Hungarian imports and that also the balance of transit trade with the countries in question is negative.

Examining the country group of "active intermediaries" it can be seen, unequivocally, that their activity affects the indices of Hungarian foreign trade in a negative way. As seen in *Table 7* the negative balance of transit trade increases (with the exception of two countries) considerably the negative balance of trade if considered on the basis of the countries of origin/destination (in the case of a few countries to a very large extent). Hungary's exports and imports with them would be much less without any transit trade (and thus Hungary's share in world trade would also drop), but it would also mean that Hungarian debt coming from foreign trade activities would also decrease and become—at a lower level—much more balanced. There are only some countries—Russia and France—among those which have a predominant role in Hungarian foreign trade, where the negativ balance would be still higher if imported goods came directly from there and also Hungarian goods were to be delivered there in the same way.

Table 4

The share of transit trade in Hungarian foreign trade in some highlighted countries (in percentage calculated on dollar statistics)

Country	Export			Import		
	1993	1994	1995	1993	1994	1995
Group A						
Germany	2.7	0.6	1.1	4.3	5.1	7.7
Austria	21.7	18.1	23.3	30.0	30.6	33.8
U.K.	20.8	8.3	12.0	41.3	48.7	38.4
The Netherlands	3.4	8.8	24.8	11.8	5.8	8.7
Switzerland	48.8	55.4	67.0	48.3	56.7	60.3
Sweden	7.1	9.5	2.9	in Group "B"		
France	in Group "B"		4.5	in Group "B"		
Group P						
Russia	8.7	10.9	20.9	26.3	45.7	58.7
Italy	2.7	5.2	7.1	3.7	3.2	7.9
France	3.5	0...		14.7	14.6	4.2
The Ukraine	11.1	16.8	24.5	21.6	49.6	47.1
Belgium	3.0	10.8	16.0	5.0	10.7	10.3
Poland	19.0	22.2	23.9	35.3	36.4	37.4
Slovakia	15.1	16.8	16.2	10.7	15.6	15.6
The Czech Republic	43.1	27.3	10.1	28.0	26.8	33.2
Romania	13.0	10.3	25.4	4.6	34.0	30.0
Sweden	in Group "A"			9.4	10.1	7.9
Slovenia	59.0	52.0	50.2	12.0	10.8	19.4
Spain	17.7	20.8	24.3	10.0	8.2	6.4
Finland	0.4	3.4	0.7	0...	2.7	3.9
Share of the two groups in total trade	80.9	83.2	82.6	83.4	83.8	83.9

Source: calculated on basis of Hungarian statistics

It would be irresponsible to draw far-reaching conclusions from these figures, but these indices warn us, however, that a thorough analysis of the Hungarian export-import data is indispensable and ought to be carried out according to countries, in product or company categories. The reasons, namely, must be and can only be found there, in the microeconomy.

Austria's membership of the EU has—as expected—further increased their transiting role in Hungarian export and import. Based upon Hungarian statistical data for 1995, it can be said that both the Hungarian export activity through Austrian intermediaries, and the Hungarian imports realised in this way, grew more quickly than the actual Austro-Hungarian turnover (calculated on the basis of countries of origin/destination).

Against the 11.9 percent increase of Hungarian exports to Austria (calculated in USD), the Hungarian exports to third countries via Austria were enhanced by 53.4 percent. In imports: actual imports dropped by 4.8 percent, whereas those realised through Austria increased by 10.6 percent. It is also worth considering that while the negative Hungarian balance dropped (61.8 percent of the negative balance of 1994), the share of transit trade in this negative balance increased considerably; in 1994 46.7 percent of the negative share came from higher transit imports while in 1995 this came to 55.8 percent.

Table 5

The role of transit traders in Hungary's export (in million dollar)

Transiting country (Group A)	Transit export			Change in percentage		Direct export change with the transiting country	
	1993	1994	1995	94/93	95/94	94/93	95/94
Germany	65.8	19.0	40.0	28.9	210.5	127.0	122.1
Austria	249.0	257.0	395.7	103.6	153.4	129.3	111.9
U.K.	53.3	42.0	53.5	78.8	127.4	229.3	84.2
The Netherlands	7.5	26.2	123.9	349.3	472.9	129.5	138.3
Switzerland	156.3	198.6	356.5	127.1	179.5	97.2	110.0
Sweden	7.0	13.1	3.7	187.1	282.4	136.8	150.6
France			24.3		243.0		136.5
Total	538.9	556.8	997.6				

Source: calculated on basis of Hungarian statistics

Table 6

The role of transit traders in Hungary's import (in million dollar)

Transiting country (Group A)	Transit import			Change in percentage		Direct import change with the transiting country	
	1993	1994	1995	94/93	95/94	94/93	95/94
Germany	123.5	182.2	301.7	147.5	165.6	125.4	106.5
Austria	628.2	769.4	850.8	122.5	110.6	119.3	95.2
U.K.	225.3	286.6	297.2	127.2	103.7	178.4	83.4
The Netherlands	45.7	27.2	46.3	59.5	170.2	130.5	109.1
Switzerland	322.7	497.0	575.5	154.0	115.8	109.8	100.3
Total	1345.4	1762.4	2071.5				

Source: calculated on basis of Hungarian statistics

Table 7

Transit trade as means of effecting trade balance in some countries (in million dollar)

Country	1993				1994				1995			
	Trade balance		Transit balance	Percentage	Trade balance		Transit balance	Percentage	Trade balance		Transit balance	Percentage
	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.
Group A	-			3/1				3/1				3/1
Germany	-394.8	-337.1	-57.7	14.6	-547.9	-384.7	-163.2	29.8	-203.5	+58.2	-261.7	128.6
Austria	-945.4	-566.2	-379.2	40.1	-1095.8	-584.4	-511.5	46.7	-816.0	-361.0	-455.0	55.8
U.K.	-289.5	-117.4	-172.1	59.4	-351.0	-106.4	-244.6	69.7	-328.7	-85.0	-243.7	74.1
Switzerland	-347.5	-181.1	-166.4	47.9	-517.6	-219.3	-298.3	57.6	-423.5	-204.5	-219.0	51.7
Group P				3/2				3/2				3/2
Russia	-902.8	-1452.6	-549.9	37.8	-230.4	-938.9	-708.5	75.4	-109.2	-1017.0	-907.8	89.2
France	-58.1	-108.7	-50.6	46.5	-43.1	-117.6	-74.5	63.3	-42.9	-92.9	-50.0	53.8
Slovakia	-103.8	-109.9	-5.1	4.6	-180.7	-212.0	-31.3	14.8	-133.6	-156.8	-23.2	14.8
Czech Rep.	-92.9	-95.0	-2.1	2.2	-110.6	-149.7	-39.1	26.1	-56.8	-156.6	-99.8	63.7

Remarks: 1. = "contracting country" statistics
2. = "country of origin/destination" statistics

Negative trade balance and the Hungarian companies' foreign activities

Export figures—even if only the countries in *Table 5* are considered—show that in recent years Austrian, Swiss, German, British, Holland and Swedish traders had incomes totalling about 55.7, resp 99.7 million dollars, resulting from the transiting of Hungarian goods (with a calculated average commission 10 percent). It is, however, more than probable that this amount was in fact higher because traders in this line usually charge their clients higher rates in order to compensate themselves for the additional work in organizing and realising the deal, and for the additional risks and financing which their transactions represent for them.

Presuming that these goods transited by them could have been sold directly (the more so as there are hardly any political trade barriers) as a result of more efficient marketing, Hungary's income from its exports could have been much higher.

Even more striking is the situation in imports; transit imports were three times greater in these years than transit exports. Thus in 1994 Hungary paid to foreign transit traders, in hard currency, a sum which equals a minimum of USD 176.2 million. In 1995 this amount totalled USD 207.1 million. In other words, Hungarian imports cost more than they would have if Hungarian importers had bought the very same goods direct from the countries of origin.

Table 8

The actual destination of Hungarian goods exported directly to the transiting countries

Country of destination Group P	1993	1994	1995	Percentage 94/93	Percentage 95/94	Increase of the direct export to the country of destination 94/93	Increase of the direct export to the country of destination 95/94
	in million dollar						
Russia	82.1	88.6	172.5	107.9	194.7	85.4	102.0
Italy	19.5	47.4	77.4	243.1	163.3	126.9	121.0
France	10.7	0.1		1.0		123.2	136.5
The Ukraine	17.7	31.0	77.7	175.1	250.6	116.0	171.9
Belgium	4.9	22.3	42.0	455.1	188.3	129.3	126.8
Poland	31.0	49.3	80.4	159.0	163.1	136.4	151.9
Slovakia	19.3	24.1	34.5	124.9	143.1	112.5	148.2
Czech Republic	72.9	54.0	21.0	74.1	38.9	117.0	104.9
Romania	24.0	20.3	90.8	84.6	447.3	106.7	181.2
Sweden	7,0	13.1	3.7	187.1	282.4	136.8	100.6
Slovenia	82.0	101.9	128.5	124.2	126.1	141.2	130.5
Spain	11.6	19.7	29.7	169.8	150.7	145.5	128.8
Finland	0.2	2.5	0.4	1250.0	16.0	148.2	78.3
Total	372.9	474.3	788.6				

Source: calculated on basis of Hungarian statistics

These import figures are therefore so startling because it is well-known that nowadays it is, worldwide, easier to buy than sell. Even more astonishing is the picture we get when we try to show to which countries the Hungarian goods transited (*Table 8*) and from where did the imported goods arrive (*Table 9*).

Table 9

The actual origin of goods imported from the transiting countries

Country of origin (Group P)	1993	1994	1995	Percentage		Increase of the direct import from the countries of origin	
	in million dollar			94/93	95/94	94/93	95/94
Russia	631.9	797.0	1080.3	126.1	135.5	72.8	105.4
Italy	27.7	32.4	96.7	116.9	298.5	135.6	120.0
France	61.3	72.6	25.7	118.4	35.4	119.3	122.9
The Ukraine	30.5	108.9	163.3	357.0	149.9	155.1	158.1
Belgium	12.3	33.0	39.2	268.3	118.8	126.3	123.3
Poland	52.3	70.3	93.1	134.4	132.4	130.5	128.6
Slovakia	25.4	55.5	57.7	218.5	103.9	147.7	104.0
Czech Republic	73.9	93.1	120.8	125.9	129.7	131.6	104.8
Romania	4.0	40.5	36.4	1012.5	89.9	137.6	109.4
Sweden	18.0	30.7	24.8	170.5	80.8	157.9	102.7
Slovenia	7.5	8.7	18.0	116.0	206.9	129.1	115.4
Spain	10.6	11.9	14.1	112.2	118.5	136.9	152.6
Finland	0.7	6.5	8.4	92.8	129.2	165.9	90.7
Total	382.9	454.3	1788.5				

Source: calculated on basis of Hungarian statistics

The figures in *Table 8* prove that there are countries where in 1995 direct exports increased more speedily than re-exports; there are some, on the other hand, (e.g. Russia, Belgium, Romania, The Ukraine) where transit traders strengthened their position in their re-export activities from Hungary.

The same process is evident in Hungarian imports as well.

Far reaching conclusions should, of course, not be drawn from the comparison of the figures in *Tables 5* and *8*, but one fact is sure to be seen: namely, that more than the half of the Hungarian goods re-exported by the largest transit traders were delivered to the former COMECON countries neighbouring Hungary. (Were they indeed the final customers?)

With regard to imports the situation is even more astonishing. A great proportion of the goods exported by the more important transiting countries to Hungary originates likewise from the neighbouring countries. In 1995 only 62.7 percent of Austrian exports to Hungary originated in Austria, 7.6 percent in Germany, 3.1 percent in the Czech Republic, 3 percent in Japan, 2.7 percent in Russia, and 2.6 percent in France.

The figures in these tables are spectacular evidence for a fact which is known by so many: Hungary's foreign trade with its neighbours (with whom it has had close ties over the past 50 years) is being realized to a great extent through third countries. In the case of Belorussia, Lithuania, Croatia or Slovenia this is understandable and can be easily explained; however, it is more difficult to account for in the cases of Bulgaria, Poland, Romania, the Czech Republic, Slovakia and even Russia. The actual demand in these countries is higher than Hungary's direct sales, which is proved by the fact that they do purchase Hungarian goods in the same way as Hungary buys their products: i.e. through foreign re-exporters. It is therefore rather difficult to find an explanation which would not qualify the situation.

Possible reasons for the large share of re-export in Hungarian foreign trade

There are quite a number of reasons which justify, historically, the presence of transit and re-export activities in the region around Hungary. Looking at some of these reasons, it can safely be said that political aspects do not (or only by transmission) explain satisfactorily why should, for instance, the Czech Republic and Hungary (i.e. their companies) choose to use indirect trading. It may occur, of course, that political considerations also play a role (e.g. border changes, new states, unsolved nationality problems); nor is it impossible that as a natural psychological after-effect of the former state-directed trade, the companies/entrepreneurs of these countries drift apart from each other to a greater extent than would be justified merely from an economic point of view, particularly because of the social-political changes they have experienced.

Moreover, trade-political aspects do not offer an explanation for the strong presence of transit trade in the region. There are no export or import restrictions, or any other trade policy barriers. The balance problems—an everyday phenomenon in the age of bilateral clearing agreements—no longer prevent trading between two countries. Also, considerations relating to geographical distances (often used as justification for re-export) can be safely neglected in this region.

Thus it is unavoidable that our analysis should be restricted to the problems resting upon three main objectives: market risks and the extent to which they can be undertaken; unsatisfactory marketing know-how and market contacts; and finally, the export-import activity of multinational companies and joint venture in Hungary.

— *Market risks*: payment risks, payment safety and the reliability of the partner are factors that need to be emphasized, and so too do some of the moral changes taking place in the transforming Eastern European societies; namely, the fact that beside honest to good businessmen there have appeared (hopefully only temporarily) some disreputable characters as well (i.e. so-called "entrepreneurs"

who lack both business and human ethics). They do not know what fair trading means and are unaware of the fact that individual profit-chasing only, and the deceiving of partners cannot be a solid basis for lasting business connections.

The unsettled invoices of the "purchased merchandise", the bitter experiences of contracts concluded without proper settlement securities and the like, may induce many businessmen of the region—Hungarian, Czech, Romanian, Ukrainan etc.—not to trust each other, so they sell exclusively against cash or a letter of credit. The high grade trust invoked by the prompt collection system of the former COMECON and the confidence in the other party's payment capability and willingness has turned into mistrust directed against each other. There are, however, many businessmen in the region who are simply unable to meet or to undertake these more severe payment terms. The market gap thus formed as a result of unreliable or incapable payments is skilfully used—backed usually by large banks—by, for example, Austrian and Swiss traders. They are both willing and able to pay for the goods offered in the region and create thereby a safe possibility for the buyer to purchase, and for the supplier to sell.

— *Unsatisfactory international marketing*: following the collapse of COMECON, the state-constructed pillars of trade between the member countries collapsed. However, although COMECON no longer hinders trade (there are no quotas to be used up), the former COMECON countries cannot grant safe import markets nor can they offer safe and reliable suppliers. Parallel to the dissolution of the COMECON, the company-structure of Hungarian foreign trade changed considerably: the big FTO-s—exactly those which had 50 years of experience in the region—had built-up excellent "market" connections (with the authorities in the first place). Yet the "market" (the right people) they knew ceased to exist. Although these companies were abolished or transformed, thousands of their employees—the majority of whom had qualifications and knowledge we may be justly proud of—are now actively working in Hungary, often owning their own company. Both the home market and that of the neighbouring countries are presenting genuine market possibilities. Most of the Hungarian foreign trade experts are now—either as independent entrepreneurs or as employees of private firms—both financially interested and affected parties; the independence of companies, their wider sphere of action and higher motivation exceed and surpass the level which characterized foreign trade activities in recent decades, both here and in all the neighbouring countries. Yet, figure show something else.

Has it become apparent that in the surrounding countries Hungarian businessmen did not truly know the market in spite of the big volume of contracts formerly concluded? Has it become obvious that in fact they had no real contacts with the actual users of the products they exported? Has it become apparent that, as soon as Hungary is no longer protected and has to compete under genuine market conditions with genuine competitors, it is a loser? Or is it that we simply do not know how to "market" a market? Is it true that in this currency-poor world

others understand much better than Hungary does the most up-to-date financing and bargaining techniques? Is the Hungarian export-financing system, embryonic as it is, lacking the necessary force?

Many are the questions, many are the possible and objective answers; there might be even ones which are disturting but, even so may be partly true. One thing is sure nevertheless: in the long-run Hungary will become its own enemy if its companies and businessmen do not learn how to trade with neighbours and if they fail to acquire the market knowledge of the Czech, Bulgarian, Ukrainian or Slovenian markets, besides what is already possessed about the U.S., German or Spanish markets. Hungarian marketing studies have already taught what an American or even a Swedish consumer requires, and how they decide; we are more familiar with their buying behaviour than with that of a Pole or of a Bulgarian. We are, for example, much more aware of the distribution system of the Japanese market than that of the Russian. In the very heart of Central-Eastern Europe we hardly know anything about the marketing of the region and this applies not only to the theoretical, but also to the practical, everyday routine issues. Do we need really Austrian, Swiss or German intermediaries to be able to conclude business with people across the Hungarian border?

A part of these deliberately sharpened questions could be objectively answered. Prior to 1990 the foreign trade between the countries of the region was—as is well known—determined by factors which, in spite of the best intentions of experts, had nothing to do with true market work. The market activities of the companies were mostly predetermined, arising from the annual quotas. Due to the predetermination, the true independence of companies is this region was limited, while on other markets they could make independent decisions.

Owing to the low level of independence and the characteristics of interstate trade, the marketing-mix gained special significance. The competition was keenest in import goods of limited availability, which would then be overcome by bartering (either within the frames of bilateral clearing or countertrade deals). Although "real" competition with Western companies did appear on these markets, its chances, rules and means were far from being identical. More and more of the East European exporters became losers in this competition due to the fact that the quality of their products was inferior, and their service standards were lower, even if they enjoyed all the advantages of a "local" market. An ever-increasing number of East European exporters had to realize that in this growing competition, in order to defend their positions, stronger emphasis had to be put on classical marketing mix, since the rules of COMECON trade no longer offered them protection against their more aggressive Western competitors. At the same time however, on account of state regulation, certain elements of marketing strategy could be applied to a limited extent only. For instance, the widening of the assortment of products and the introduction of new products often met resistance from the buyer-FTO-s; frequently, it was against the suppliers' own interest. Distribution decisions were

likewise restricted: in most of the countries import products proceeded on a predetermined channel; the chance to follow an independent policy towards buyers was limited and there was almost no possibility at all to shorten marketing channels or to introduce new ones. In the majority of these countries there was simply no way to induce the customer (e.g. a designated FTO, or an all-federal association) to purchase a given product. Yet even if there had been a way, the exporter himself lacked the natural means (a higher margin) and other business terms. This was due to the pricing rules and the general delivery conditions of COMECON. Thus the objectives were rendered unattainable. As a result of this, a special type of selling and buying behaviour developed in the trading of the region's companies. This behaviour was characteristically determined by the aims of the macroeconomic environment of both the buyer and the seller, and also by some prestige aspects of the participants.

The classical elements of price strategy could be applied to a limited extent only; most of the exporters were unable to offer more favourable delivery terms. Communication policy was hardly applicable either (e.g. due to shortages, forced channels, etc.). Marketing mix in the COMECON trade thus had the fixed aim of winning over the employers of the authorities, upon whom depended an increase of the price or a more convenient quota. The company expert, who was the actual negotiating party, did not have the same influence as the employers of the authorities.

This environment has now considerably changed in the East European countries. Important changes have come about in the formerly uniform "marketing environment" and these demand genuine marketing methods in the increasing competition with Western companies. The decades-long retardation in international (East European) marketing, has, however, shown its result: the comparative disadvantage of Hungary in selling under real market conditions, as well as in using fully the business possibilities offered by the real buyers' position, has become spectacularly obvious. The statistical data of transit deals are the most convincing proof of this.

Parallel to this, the map of Eastern Europe has been redrawn, too: Ukrainian, Estonian, Uzbek or Kazakh purchases are no longer centrally decided and registered in Moscow; also Yugoslavia and Czechoslovakia have split. Not only the traditional partner countries have disappeared from the region but the functioning foreign trade authorities and companies have gone as well. A drastic change in the structure of Hungarian foreign trade organization has also simultaneously taken place. Quite a number of smaller companies—the members of which were just about to learn international business and know about the marketing mix from hearsay only—started rigorously to search for reliable business partners in the "new" neighbouring countries. However, these would-be partners were equally uninformed, lacked market experience and connections and were—in the most cases—controlled by the local mafias. This search was, due to the mutual mistrust, far from easy in any of the

countries, however, regardless of whether a seller or a buyer was involved. Available were, however, the western traders with their well established contacts, a better knowledge of local conditions and enjoying a higher level of trust. Their flexibility, reliability, their financing facilities, the familiarity of their employees with the cultural environment, the goodwill of the banks, and with multinational companies behind them granted them a big advantage in acting as transit dealers in trading with the neighbouring East European countries. (For us the most unusual thing in this situation is that a part of the "Austrian" intermediary companies are owned by Hungarian institutions or they have Hungarian managers and employees.)

— *Activities of the joint ventures and foreign companies*: there is, however, another issue—namely, the trading subsidiaries of multinational companies and joint ventures working in Hungary realized with their parent company or sister companies all over the world what it is that formally qualifies as transit trade. Therefore, their activities ought to be analysed from this aspect, and this will enable us to draw a line between "bad" transit deals and "good" ones, from the Hungarian point of view. The inter-company trading of joint ventures and of multinational companies are the natural consequences of the internationalization of world trade. In an age when national companies are becoming international, foreign capital is expanding and world is becoming globalized, every country having an open economy has to face the contradictions existing between the severe bilateralism of the statistics and the multilateralism of the international companies with their world wide network. All this raises the question—irrespective of Hungary's would-be membership of the EU: is it necessary to re-evaluate—at least in a given group of the partner countries—the strictly bilateral trade-balance approach and handle the trade balance jointly?

The activities of joint ventures, or the foreign corporation through which the shortage in the trade balance keeps increasing, is becoming more and more intense. According to the data of KOPINT-DATORG (1995) in 1991 half of the deficit, and in 1992 almost the whole of it, was the result of the foreign trade activities of joint companies. For the trade balance deficit, which in 1993 was tenfold higher than in the previous year, foreign companies and joint ventures were responsible for 40 percent of its total, and in 1994 this figure was 56 percent.

Due to their more favourable financial and market positions, and to their investment and import activities (which highly exceeded those of the Hungarian national average), and also owing to their greater flexibility, joint companies were in a position to react more quickly and intensively to the import requirements of the home market. As a result, by the end of 1994 Hungarian foreign trade balance showed a deficit higher by 46 percent in USD and by 63 percent in HUF over the previous year. Total turnover in this period showed a deficit of 6 percent in USD and 19 percent in HUF, according to the expert study of KOPINT-DATORG. Additional research work would be required to prove—with figures—the extent to which the activity of these companies is distorted by the bilateral trade balance, particu-

larly in those countries in which the foreign trade turnover is of great significance and where from working capital is imported. To have a clearer picture, it would be worth spending more time and energy uncovering the relationship between foreign direct investments and the volume of transit trade.

The distortion caused by transit trade which affects the bilateral trade balance, could be considerable. To illustrate this, again Austria could be mentioned as an example. Austria's predominant role as a transit country, and the activity of the 5500 Austrian-owned or partly owned companies in Hungary are responsible—through the "foreign" trade realized within their own company or company-group—for the negative balance being more than two times higher, according to the statistical data. See *Table 7*.

Analysing transit trade, it must be taken into consideration that Austria, following its recent membership of the EU, has changed its traditional transit role and, for various reasons, this process will intensify. It is to be expected that both those countries of the EU which are unfamiliar with the Eastern European trade and unwilling to take risks, and those American, Japanese, and Swiss companies which have Austrian sites and have chosen Austria (Vienna) as their East European HQ will, in their export activities, rely more and more upon Austria as an intermediary. Thus they will realize a part of their imports through Austrian companies (their own companies registered there) as well. Austria's traditional experience with the East European markets and culture, and its existing contacts and know-how are assets, the value of which has considerably increased through Austria's membership in the EU.

Speaking of the relationship between transit trade and the EU, it should be mentioned that, with membership in the EU, transit trade itself will have to be re-interpreted: re-export is no longer re-export, transiting is no longer transiting, if an EU member is acting as an intermediary between another member and a third country. Thus, for Austria as well, transit trade has a new interpretation and a new significance; if statistical data adopt the interpretation of the EU, the order of magnitude of transit trade will also change. The time for this, however, has not come yet; the Federal Bank of Germany for instance, is still registering transit trade in the old way.

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FOUNDATIONS, ASSOCIATIONS AND GOVERNMENTAL INSTITUTIONS*

Á. VAJDA

Introduction

The time has yet to come even for academia to formulate a clear opinion about the nature and role of the voluntary sector. To help overcome at least a part of the uncertainty, let us offer a definition of the non-profit sector, one which is accepted both by theorists, practitioners and the Hungarian statistical practice.

There is agreement that those organizations which are considered as non-profit-making are ones whose by-laws say they are *institutionalized, independent from the government* and *abstain from distributing profit* (*Kuti and Marschall* 1991).

The various theories on the non-profit sector agree that in welfare states with a market economy the *non-profit sector* is composed of voluntary (non-governmental) organizations. The *function* of the non-profit sector is to *complement the assortment of public goods and offer an alternative to the private goods that are created by the market sector*. This is why the voluntary (non-profit) sector is often called the *third sector*. The philosophy behind this term is this: along with the profit-oriented companies (of the market sector) and the institutions that are financed from the state (or local government) budget, a third option is offered by the voluntary non-profit organizations; the latter are more or less financed from public sources but are not under state control. (*Weisbrod* 1991)

Other aspects of the operation of non-profit organizations are subject to debates.

Associations and *foundations* are without question, components of the non-profit (civil, voluntary, non-governmental) sector, yet the literature reflects disagreement on where the *Churches, trade unions* and especially the *parties* belong there because their independence from the government is highly debatable.

The classification issue is not merely academic as it is one of the aspects that is considered when the size of the non-profit sector is estimated. As a rule, I will regard the Churches, the trade unions and the parties as belonging to the civil sector, yet here I will separate them from the genuinely civil organizations, such as the associations and foundations.

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It is not the subject of this paper to take sides about issues that are debated in the advanced market economies. It carries information that may involve a certain amount of generalization (even though this may seem controversial), and it sums up empirical findings about the non-profit sector in the making of a transitional economy.

In Hungary the emerging non-profit sector is still in its formative phase. *The voluntary sector is obtaining its special role in a historical process in which the fund-starved state is eager to shake off at least a part of the functions which it acquired in the era of centrally planned economy; the market organizations, which could provide similar services, are not in place yet.* In the present fluid situation citizens are seeking to dismantle state hegemony in the production of goods and the provision of services and are seeking to create the "service"—to which only lip service has been paid so far—of articulating and safeguarding the interests of (various groups of) the citizens.

I will treat as synonyms terms like non-profit, voluntary, non-governmental sector, social, civil, non-profit or voluntary organization.

The role of the non-profit sector in Hungary's transition

In my interpretation, the proliferation of voluntary organizations is a manifestation of privatization in a very broad sense of the term: a type of denationalization. Denationalization has been taking place in two fields of power; at one moment these overlap, at the next they engage in confrontation. The system of economic and social organizations goes through various stages in the interdependence, interpenetration, confrontation and occasionally the bargaining *vis à vis* central and local political forces and grass roots initiatives. In this paper I am focusing on what the citizens do rather than on the impact of macro-level politics. Therefore, I stress the importance of those experiences and skills found in today's denationalization that the citizens developed in the secondary economy (which came into being in response to the state's efforts to keep under control every economic and social process). The secondary economy is historically the source of the citizens' *voluntary activity, initiative, resourcefulness and innovative behaviour*. These skills are an important asset today, especially when voluntary organizations have to be built. There is another legacy of the secondary economy of the former regime: the tendency to *evade the law*, which is, in the classic interpretation, supposed to be alien to the *citoyen* mentality. Both aspects of the legacy of the secondary economy can be found in the emergence and operation of the third sector. Voluntary civic behaviour and activity, as well as the various law-evading techniques, have been shaping the civil sphere. (*Anheier and Seibel* 1993)

Foundations and associations appeal to all groups of society: there are member-serving organizations both among people of the upper and middle classes and among groups of people who are on the margin of society. True, the organizations of those on the margin—the unemployed, the poor, Gypsies, physically or mentally disabled persons—are typically initiated by socially sensitive members of the middle class. The membership (and especially the members of the board) of associations, circles, clubs and societies are recruited from strata in advantageous social positions. (*Vajda* 1995)

Below, I wish to illustrate the characteristics of the operation of voluntary organizations by describing the organizations of a country town; I will also consider the national statistics on the number and types of activities of associations and foundations in order to formulate some general conclusions. The government would gladly get rid of various functions related to culture, education, health, community development, employment, etc. It encourages, or even forces, the population to find market-type solutions for these functions. One of the responses of the citizens is to cover these functions by creating associations and foundations—i.e. they turn to the third sector.

Foundations and associations in the 1990s

The non-governmental organizations mediate between the citizens and the state. They play a concrete role in the formulation and enforcement of the citizens' interests *vis à vis* central and local public administration; in the optimum case this is in cooperation with central and local administration. (*Kuti* 1992; *Harsányi* 1992; 1993) *The non-profit sector attempts to satisfy the gaps by meeting the requirements of cultural, educational, social and welfare provision.*

Trade unions, parties and Churches are listed alongside associations in the table. Acknowledging their special functions, below I shall analyse these organizations separately. Apart from uncertainties over how to categorize some of these organizations, it can be safely stated that in Hungary thousands of associations and foundations have been formed with the purpose of pursuing cultural, educational, health- or welfare-related activities, community and economic development, civil right, and environment or interest representation.

Impressive as the growth in the number of civil organizations and the (re)birth of the voluntary sector is—it is not a success story. Even though grass roots initiatives are the motor of the operation of the civil organizations, they have very limited funds and are therefore heavily dependent on support from the central budget and local authorities and on their own income from business. (This holds true for countries richer than Hungary.) (*James* 1991)

Statistics are available about the resources that assure the operation of civil organizations.

Table 1

The breakdown of associations and foundations according to their activities (1992)

Activity	Association	Foundation
Culture, religion	6.0	20.1
Education, science	2.9	25.5
Health	1.0	7.0
Social care	3.1	15.6
Community and economic development	3.0	8.1
Environment	1.9	2.0
Emergency	6.1	0.2
Civil rights	3.4	2.6
Business associations, professional associations and trade unions	18.0	0.5
Political organizations	1.8	0.5
Sports	27.6	5.9
Recreation	21.4	2.9
International relations	1.6	2.5
Other activity	2.2	6.3
Multy-purpose grant-making organizations	–	0.3
Total	100.0	100.0
Number of organizations	20,804	9,703

Source: *Alapítványok és egyesületek* (Foundations and associations). 1994. Budapest: Központi Statisztikai Hivatal.

Table 2

The composition of the incomes of non-profit organizations that have incomes over HUF 500,000, 1992 (percent)

Source of income	Foundation	Association	Trade union, professional association
Support	46.1	26.6	7.2
Membership fee	–	20.0	25.1
Income from basic activity	36.6	11.5	29.7
Income from business	17.3	41.9	38.0
Total	100.0	100.0	100.0

Source: *Non-profit szervezetek Magyarországon 1992* (Non-profit organizations in Hungary). 1994. Budapest: Központi Statisztikai Hivatal.

The main supporters of the voluntary organizations are the central budget and the local authorities, which are followed by income from business, support from other non-profit organizations and then, in a smaller but still considerable

magnitude, donations from individuals. *The latter are received mainly by the foundations. (Nonprofit...* 1994) Regrettably, there are presently no data whatsoever to show the percentage of aid from private companies (as part of total corporate donations). There is a long way to go before Hungary will see the emergence of a broad and wealthy middle and upper classes that would be more generous supporters of the third sector. Yet the size of donations by individuals and companies for foundations indicates that society is ready to award with donations the services that are offered by foundations.

On the organizations of a country town

Statistical figures about non-profit organizations and their members can be enlightening with regard to the role and activities of the emerging voluntary sector. Whereas statistics offer a bird's eye view, a case study can come up with some fine details. We are now offering a case study of the (supposedly) typical organizations of a town in Hungary.

The town concerned has over 60,000 residents and is a centre of religious activity. It is the hub of a famed wine producing area. Its touristic appeal is partly due to its wines, baroque architecture and picturesque natural scenery.

Social organizations of the town of V.

We have turned to various sources to estimate the number and activities of the town's social organizations. The town's local authority only keeps a record of those organizations where the authority itself was among the founders. Thus the town's directory of organizations features more civil organizations. (*Magyar...* 1992; *Harsányi and Kirschner* 1992) To complement our data base, we turned to the national register of social organizations and collected details about those based in town V. The national register featured 89 foundations and 291 associations.

Finally, we have perused nearly five volumes of the local daily *Megyei Hírlap*. (From early January 1989 to late November 1993.) In that period the daily reported the existence of 51 foundations and 281 associations and trade unions. The number of organizations mentioned in *Megyei Hírlap* was lower than that registered officially.

When identifying the activities of the foundations and social organizations, I collected information retrieved from the official records and the press. Organizations that serve not only their members' interests come under the heading of "public benefit." Associations working in the following fields qualify for that category: environment, community development; cultural, social, health and welfare services.

Table 3

Breakdown of foundations and associations according to activity (percent)

	Foundation		Association	
	Megyei Hírlap	Public records	*Megyei Hírlap*	Public records
Political	–	–	6.0	–
Trade union	–	1.1	13.9	5.2
Professional interest representation	13.7	3.4	8.9	3.1
Business interest representation	2.0	5.6	13.2	10.3
Recreation	6.0	9.0	25.3	29.5
Public benefit	78.3	80.9	32.7	51.9
Total	100.0	100.0	100.0	100.0

In accordance with the national tendency, the dominant majority of foundations are for public benefit in town V., while the majority of associations serve their members. If we suppose that public exposure is a measure of an organization's strength, it can be said that among the foundations, those of the employers (i.e. professional interest representation) seemed to be strong. Among the associations it was the trade unions which received greater public exposure, while those for public benefit—the civil organizations *per se*—were mentioned in the daily paper on relatively fewer occasions. These newly emerging organizations—which are inexperienced, have poor infrastructures and are short of funds—are having "teething troubles". Below I will point out that among the associations there are also some string organizations which can influence local politics with more effect than the political parties.

The respective activities of the foundations and associations of the town V. as reflected by the Megyei Hírlap

Organizations that cherish local traditions play a special role among the associations and foundations of the town. Their aim in to strengthen local patriotism—which is strong in the town anyway—foster local traditions, encourage local tourism, and to restore the traditional outlook of the town by renovating historical buildings.

There are two organizations among them that deserve special mention. One of them is called the Association of Local Patriotism. Its founding members include 12 of the 32 members of the municipal assembly (local government) which was elected in 1990. These 12 persons have left their original party group and have set up, within the municipal assembly, their own group. At the time of our survey, at

the beginning of 1994, their group was the strongest such group in the municipal assembly and was independent of any parties. Over 200 persons joined the group as founding members. The association has various specialist committees which, under the leadership of experts, are working with the purpose of promoting the causes of the town. (This is how the association describes its own activity.)

The Friendly Society of Alumni was formed in 1988, before the sweeping political changes. Its purpose is to upgrade the schools of the town. According to the bylaws of the association, anyone over 40 who graduated from a secondary school, college or university in town V. may join the organization. In 1989 the Friendly Association attracted attention by organizing conspicuous public events. After winning the support of personalities who once attended a school in V. (and have since become influential in Hungary, somewhere else in Europe or overseas), the Friendly Association made little secret of acting as a pressure group promoting the interests of the town. This society operates a foundation, which grants modest financial assistance to the college/university study of students of low-income families.

Both associations advocate *conservative ideals and stress, among their purposes, the fostering of local traditions and Hungarian traditions in general.* Inasmuch as can be deducted from the newspaper articles about, and interviews with, the leaders of these organizations, neither of them have close links with any of the political parties. Gy. V., president of the Association of Local Patriotism, gave the following press statement:

"This is an association free of politics, and we wish to remain that way. People are fed up with political wrangling but are eager to act for the good of the town. The problem is they do not know how to do that." (*Megyei Hírlap*, 3–4 April 1993, p. 5.)

The members (and leaders) of these associations are respected and well-off residents. Some of them have parents and grandparents who also lived in that town, while others settled there decades ago. They hold senior posts in local companies, hospitals or educational institutions. Their careers were not associated with the local authorities of the pre-1990 regime, the Communist Party or the pre-1990 trade unions. These persons foster and respect local traditions, are well-connected locally and in Western Europe and use their connections for the benefit of their own interests, their relatives and for the town.

Among the organizations dedicated to the *embellishment of the town* and to *environmental protection*, we also found some for which ideology is not that important. Examples include: Organization of Urban Embellishment, Entrepreneurs for Environmental Protection, Entrepreneurs for the Town Foundation, the Circle of Environmentalists, etc. These organizations were formed to pursue clear-cut aims. Many of their members are well-of entrepreneurs, who use their professional competence for the protection of the man-made and the natural environment of the town. Another incentive for their activities is that they may deduct from their

tax base what they donate for the public good. A considerable number of organizations devoted to urban renovation started operation several years before. The supplement of a paper covering local organizations (*Harangi* 1985) includes a list of these organizations or their predecessors.

Let us now examine non-profit organizations (operating mostly as foundations) that are of a different character. Their operation is attached to *institutions of social care that are financed either from the central budget or the budget of local authorities*. These non-profit organizations are partly dependent on these public institutions but have independent activities as well. Most of these budget-financed institutions, and the foundations attached to them, are active in social welfare. Their leaders have close professional connections with liberal intellectual circles in Budapest. In a sharp contrast to the above-mentioned local patriots of a conservative creed, the leaders of these organizations display the following traits: they, or their family, have a sense of instability; this may be one explanation for their social sensibility; some of them used to work with or in the staffs of the pre-1990 trade unions or local councils and/or were associated with the pre-1990 Communist Party.

Party influence cannot be ruled in the case of each organization but none the organizations would confess that.

The accounts published in *Megyei Hírlap* indicate that those organizations are more effective that possess an established system of connections, are well-informed, and some of the leaders held a senior position before 1990. Those *interest representing associations that have undergone a transformation of functions*, were there before 1990—when they exercised state control over specific groups of people—and are more stable than the recently formed ones. Their field branches have been continuing their operations on their original premises. They have good infrastructures and experienced staff. Typical examples include *Iposz*, the business association of craftsmen, and *Kisosz*, that self-employed tradesmen.

Among the *business associations, professional associations and entrepreneurs' associations*, the ones that were formed in recent years also seem to be effective. The associations of entrepreneurs, businessmen and professional people are engaged, in addition to interest representation, in charitable activities.

The number of *trade unions* is impressive but, because their action is not coordinated, they are not effective in safeguarding employee interests. Their functions tend to be confined to routine social provision. In addition, their voices can be heard in the privatization process of public undertakings and many have declared that they wish to participate in the employee stock ownership programme. My impression is that they have no real influence on privatization, neither do they have genuine and active memberships. Different "leading" personalities or limited groups use the trade unions for their own purposes.

Typical areas of activity of the *associations of public benefit* include the protection of young people at risk, education (vocational education), culture, health

service (chiefly naturopathy), social provision and support, and safeguarding the interests of disabled people. Typically, they have been organized to fulfil functions that used to be discharged by state agencies. In other words, they *are part of the process which renders these services as partly independent from the state*. They can be flexible in what they offer chiefly by satisfying novel types of requirements.

This is where the strength of the associations of public benefit lies. These associations cannot rely on years of experience, an established infrastructure and experienced organizers. However, there is a keen demand, for instance, for school education that produces more results and satisfies new requirements, and for more sophisticated health provision. Demand is the motor for such activities being provided by the civil sector.

Organizations that used to operate before the Second World War, or during the multi-party system between 1945 and 1948, also seem to have been skilful in restarting their operations. Most of them are *church or religious organizations and monastic orders*.

Relatively speaking, a considerable number of *Western European, American and international societies* are also present in the town of V. Some of them have set up a local branch there. Numerous foreign associations first contacted a Hungarian organization at the initiative of the residents of V, or on their own initiative, and not with intergovernmental mediation. The foreign organizations usually assist their Hungarian counterparts with advice, and occasionally with money. The leaders of Hungarian civil organizations benefit from their earlier informal foreign contacts; and Hungarians who live abroad also grant assistance to civil organizations of the town.

We found hardly any *grant-making foundations*. The press gave ample coverage to the Youth Foundation, which was formed by the local municipality and which had close links with the association of local patriots. The Youth Foundation has little money at its disposal. Each year it grants a scholarship for some students to help them continue their studies. The local tobacco factory also has a grant-making foundation. In fact, it is the only organization of its kind that has sizeable capital. The tobacco factory had been bought by a multinational company and the privatized factory, in cooperation with the municipality, created a grant-making foundation. In addition, the tobacco company maintains a foundation to support retired persons who used to work there. In 1993 the tobacco factory's foundation granted millions of forints to civil organizations (associations and foundations) and one of the town's hospitals.

If the *Megyei Hírlap* had been our only source of information, we would have concluded that in town V. the civil organizations carry out fruitful activities. However, it is clear from the interviews we made with the leaders of some of these organizations that the picture is marred by division and a shortage of funds.

Budget-financed institutions, non-profit organizations and their leaders

It was on the basis of the newspaper reports that we selected some voluntary organizations and institutions of the municipality. We visited the leaders of these organizations and made interviews with them. Our criterion of selection was to find as many types of civil organization as possible and to select individuals in different positions.

On the basis of the interviews, it seams that *a few dozens of town leaders and persons belonging to opinion leading intellectual groups are* actively engaged in the majority of the town's associations and foundations. We heard from several persons interviewed that they are active in eight to ten organizations, either driven by a sense of "commitment", or because they are requested to participate and do not want to say no. S. J., deputy director of the county's institute for protecting children and young people at risk (GYIVI)—who is a prominent personality among intellectuals with left-wing political sympathies—named numerous organizations in which he is either an active member, or a member of the leadership. Upon graduating from college, S. J. studied sociology in Budapest and is on first-name terms with numerous Budapest intellectuals of social-liberal conviction. He is full of ambitious plans:

"I had wished to make a comparative survey about civil organizations at the turn of this century and today. Today, as in the past, such organizations are formed "around" specific personalities. I am involved in three or four foundations and help the work of another three or four. I meet almost the same faces in these organizations."

Gy. R. was elected to the municipal assembly with the support of the Alliance of Free Democrats (SZDSZ) and is a member of the SZDSZ group. He was then elected mayor. He joined the Association of Local Patriotism soon after it was formed, encouraged by Gy. V., who had run for mayor with the support of the Hungarian Democratic Forum (MDF). This is what Gy. R. told us:

"I have avoided joining too many foundations—still, I am involved in about eight, either personally or *ex officio* (i.e. in his capacity as mayor. Author's comment) Whoever I said 'no' to was hurt."

The town's elite and its organizations

Ideologically, the residents of the town who *are active in public life* in an official or informal manner are divided along the political science stereotype of *conservative-liberal watershed*, although these categories are even less handy in this town than in macro-level public life in Hungary. The conflicts of ideology and mentality that divide the town's opinion-leading intellectuals and noted persons

of power are reflected in the value preferences of individuals. They are, however, not clearly reflected in party preferences. Gy. R., who is supported by SZDSZ, belongs to the conservative community in the same way as Gy. V., who contested the mayor's office with the support of MDF. (In autumn 1994 the local patriot Gy. R. was reelected, again with the support of SZDSZ.) Unlike the respected representatives of the "conservative" line, the "liberals", who play an important role both in the municipal assembly and the local civil organizations, have closer links to parties: i.e. SZDSZ and MSZP, the Hungarian Socialist Party. However, it would be wrong to assert that their activities are motivated by party interests. For instance, as members of the municipal assembly, they stand for expanding the financial funds for social provisions, they set up civil organizations to help the work of centrally and locally funded welfare institutions, and they want to introduce new forms of social care. Those belonging to the conservative and those to the liberal circles do not have personal contacts with each other, they only communicate on official matters. As far as major decisions regarding the town are concerned, the conservative group has a stronger influence, a fact that has provoked the censure of those with a left-wing leaning.

This is what the interviewer heard from J. K., a staff member of the Centre for Social Services (a budget-financed institute), who serves on the committee of social affairs of the municipality and is active in some associations (e.g. that of social workers, and that representing the interests of physically disabled people):

"The municipal assembly of the town is dominated by the liberals. ...I am convinced that there were individual motivations behind the formulation of this group within the municipal assembly. [He is referring to the group of local patriots. Author's note] When that group was formed, individual, rather than public interests were articulated. Their motivation lies in the fact that the mayor is determined to have a swimming pool built despite all odds. It is evident that he enjoys that group's support for that idea."

S. J. made the following comment: "The mayor's name has been associated with water polo. In fact, the municipal assembly includes several persons who can be considered as a pressure group for swimming pool interests. They have managed to split the assembly along other than party lines... They can practically achieve anything they wish to... they base their influence on the swimming pool, tourism and wine. Social welfare hardly interests them."

This is what J. T., head of the cultural and sports office of the municipality, told us: "Those responsible for the educational affairs form a tough group. That group includes more individuals than both the committee and the office. Some of our critics have said publicly that the educational lobby has increasing influence..."

Here is an excerpt from the statement of Zs. F., director of the budget-financed institute in charge of helping families, who also serves on the social welfare committee of the municipal assembly (and who directs the work of several foundations that are active in social welfare):

"Traditionally, the town of V. has concentrated on wine production, water sports and tourism. Ironically, what Zoltán Szabó [1912–84] wrote about the town of V. in his sociographic monograph, *Tawdry poverty* in 1938 still holds true. He mentions a certain Mr. Bárány who left no stone unturned to have a swimming pool built so that his son could have a place to swim. As early as in Zoltán Szabó's time, the bait was the promotion of local tourism."[1]

A considerable part of the criticism levelled against the conservatives is true. Yet the emotions behind these claims do not seem to be fully justified. The conservative groups, the associations and foundations that they have organized, have formulated and, in part, realized programmes that are beneficial, if for anyone, for the middle class. No doubt, they lack social sensitivity, yet they do not intentionally prevent the socially sensitive groups from participating in the leadership of the town.

All in all, it would be a mistake to doubt that is has to be (one of) the purpose(s) of the leadership of a town to strengthen the local middle class because that is the very stratum of society from which it can expect the local revenues, taxes and donations.

The institutions that grant social services also have their representation in the municipality, and they have their own civil organizations. These organizations have been operating with varying degrees of success but at least not entirely without any effect—as their leaders have told us—to the benefit of the underprivileged. Among other things, they help the homeless and are active in protecting children and young people at risk. They work in the social policy institutions that are run by the municipality, and they set up foundations with the aim of winning some independence from the municipality. They rely on their connections when the task is to search out for support moneys.

M. N., who is both president of the foundation that is active in the field of the protection of children and young at risk, and director of the town's institute for the protection of children and young people (GYIVI), says that the country council, to which the town municipality is subordinated, is ignorant of the problems in the field of protecting children and young people at risk. The foundation has been formed so that when financial donations or support in kind arrive, the foun-

[1] In my reading Zoltán Szabó was of the view that the leaders of the town were slothful and divided by conflicts. No doubt, the pressure groups of his time also advocated the drive to let the town have more colleges, more swimming pools and better publicity for its wines. But it was the Church that called for more colleges, the town hall that called for more swimming pools, and demand for local wines was slack already at that time. Consequently, there were conflicts between the various aspirations. The burghers opposed the idea of having more colleges because, as they put it: "now that there are several halls of residence here, the colleges do not yield an income for us the way they did when boarders used to pay for lodgings and meals." By contrast, "the building of more swimming pools is opposed by the clergy on moral grounds." In Zoltán Szabó's opinion, the town's modernization plan was a ploy, rather than a serious scheme. (Szabó 1986, pp. 259–60.)

dation of GYIVI can use them independently. One of the institute's functions is to promote the adoption of orphans. For that reason, the institute is well-connected abroad. Thanks to their connections in Denmark, for instance, they could apply for support in that country and have received a microbus for transporting children. (That was where the original idea of setting up a foundation came from.) The owner of the microbus is the foundation and not the county council. The foundation's assets steeply grew when somebody donated it a sizeable sum; that person is the descendant of an old noble family. As a foster parent, that person reared subsequent generations of orphans. Several years earlier the same person donated a valuable plot of land to GYIVI. Neither GYIVI, nor any other of the budget-financed institutes could make any use of it. Thanks to M. N.'s efforts, the plot of land has been transferred to the foundation's ownership. Since then a children's resort home of ten rooms has been built on it relying chiefly on donations in kind. In the social welfare sphere it was this foundation which seemed to be the most successful among the ones our interviews covered. There are also others that use either the foundation, or the association form to raise the efficiency of social care.

People outside the town's elite

The professional people who abstain from the public life of the town apparently pay no attention to the debate between the conservatives and the liberals.

A cardiologist head physician, for instance, who is president of the Heart Foundation, told us the following:

"If you ask me whether I got the chance to join the elite, my answer is that the relationship is cordial but we are not friends. Those people are seen as real members of the elite in V., whose grand-grandfathers settled here and who are now active in the town's public life. All in all, I am satisfied because, although we have less money than what we would need, we have some quality pieces of medical equipment. We have, for instance a CT (a foundation was formed to buy the computer tomograph—author's note) and we plan to buy further pieces of equipment. If you walk along streets in V., you will see that in many places either new houses are being built or old ones renovated. I am confident that the swimming pool will be built after all. I wish it were built both as a resident of V. and as a doctor because it will help the prevention of diseases."

This lady is aware that, although she is a prestigious member of the medical profession, her chances are slim in the race for foundation support moneys because she is not active in public life and lacks the benefit of informal networking. The Heart Foundation, just as numerous other foundations, was formed *to attain a specific aim and not to assure the continuous operation of something*. In this concrete case, it was formed so that the hospital could buy equipment that is needed for

cardiological screening. The founder of the foundation is the municipality. The money needed to buy the equipment has not been accumulated yet.

"The tobacco factory has not contributed any money. Instead, it promised to support the municipality with 3 million forints... which in turn will be distributed by the municipality... I do not know whether or not the factory has actually transferred that money. What I do know is that we have not received a penny from that sum...However, the county council has donated us some money...A member of the health committee of the county council is a patient of mine, who realized the importance of this equipment. Thanks to that person's efforts, the committee has voted in favour of helping us...In such matters acquaintances mean a lot...I wish I had more connections in the municipality of the town."

It has been a tradition in V. that the main activity of the Churches and monastic orders is education. In addition, they are involved in social care, on a charitable basis. The process of returning buildings and schools to the Church is under way. Irrespective of political leanings, the members of the municipal assembly state that this process is relatively free of conflicts. However, the canon told us in the interview that, although there are no serious complications, the process is slow and meandering. In V. the Church has been chiefly involved in education. Several grammar schools have been returned to it. These schools are highly regarded in the town because they are tolerant from a religious point of view and the level of tuition is high. Church schools are in high esteem not only among the conservatives. S. J., for instance, a prominent representative of those with a left-wing leaning, has told us that he intends to send his child to a grammar school that has been returned to the Church, even though his child has not even been christened.

The Kolping association, a member of the Kolping family that maintains an international network, also belongs to the Church organizations. Recreation programmes are organized and foreign languages are taught in that association. The association considers itself a successor of the Catholic young men's club of the period before World War II. The association maintains several charitable organizations: it collects donations in kind and distributes them especially among the elderly. Also, it offers spiritual comfort for distressed people. Other orders active in the town include the Lazarists, the Order of the Hospital of St. John of Jerusalem, the *Englische Fräulein* and the Servites. Education is in the focus of their work, they coordinate the distribution of donations in kind among the poor. It goes without saying that religious education and preaching the Gospel are also among the things the Church organizations do, yet I am of the view that their religious activities are inseparable from education and charitable work.

The civil organizations described so far all belong to the middle class. We cannot find people of lower social status among the officeholders and members of the foundations and associations formed to do social work. In V. the unemployed do not have an association of their own, whereas in other parts of Hungary such organizations—led by unemployed people with higher than average education—

carry out relatively effective activities (*Betlen* 1993). We found only one civil organization in V. whose members do not belong to the middle class: the *Phralipe Gypsy organization*, whose leader we have interviewed. This organization is devoted to dealing with the problems Gypsies have all over Hungary. It runs retraining courses for the unemployed, helps in the recruitment of people for public works and assists in finding vacancies and lodgings for the needy. In addition to social care, it aims at reviving Gypsy culture.

Its members include Gypsies who are relatively better off than the majority of Gypsies. Phralipe closely cooperates with the family assistance centre, especially one of its staff members. In V. there are associations and foundations that also address the well-being of the socially disadvantaged people. However, they are not organized and operated by those directly concerned; instead, the organizational work is done by members of the middle class who do social work as a profession.

Secondary function of the foundations

There are non-profit organizations that have been formed *so that in financial decisions related to budget-financed organizations the approval of the owner can be bypassed or a new type of service can be introduced*. Mention has already been made of such foundations in the social welfare and health spheres. It is characteristic of the contradictory relationship of the third sector and the local authorities that, while the local authorities intend to keep under control the distribution of budgetary allocations (let me refer to the allegations about the swimming pool pressure group, the aggressive promotion of local tourism, the educational pressure group), it is itself the founder of the majority of those foundations which aim to transfer several functions onto the voluntary organizations.

A showcase example of the foundations that have been created to complement the work of budget-financed institutions is the foundation to promote halls of residence in V., which belongs to the educational sphere as far as its activity is concerned. The foundation's birth is related to the fact that the mayor once played water polo. There is a water polo club in the Netherlands whose leader's wife is Hungarian. She is an active member of the local Rotary club. In 1991 the club donated to V. a heavy lorry-full off fixtures and fittings meant for halls of residence. The foundation was formed to serve as an institution that could receive this particular donation in observance of the relevant rules, and yet still being free of customs duties. Since then the foundation has continued in operation with the purpose of supporting efforts to supply halls of residence with equipment. No doubt, there is a genuine need for such activity for the following reason: the halls of residence were in poor shape when in 1990 the present local authority inherited them from the local council of the previous regime; the halls of residence are also

affected by the efforts to return to the Churches real estate that they once owned. The foundation, which is entitled to handle funds as an independent legal entity, is devoted to purchasing equipment for the halls of residence. The foundation has the right to pass decisions directly in connection with the halls of residence—there is no need for the municipal assembly to approve them.

Another typical form of foundation is devoted to avoiding *tax (legally) and rendering services*. Most of this type of foundation operate in educational institutions so that the schoolchildren can get extra services, such as language teaching, sports, and holidays in the countryside. E. Cs. of the foundation "For our sunlit nursery school" told us in the interview:

"The nursery school teacher in charge of these additional programmes gives a briefing to the parents in September. The parents can visit demonstration sessions before Christmas and in June...This is a cost-efficient solution for the parents. They only pay 200 forints, whereas outside the nursery school they would have to pay 800 forints for a physical training lesson, 600 forints for music lessons and probably more for language lessons."

The parents contribute money to the foundation in exchange for the extra services. What they pay is less than what they would have to pay for the same services outside the nursery school. What is more, such contributions are tax deductible.

Foundations of various types have been formed to ensure, in this way or another, the best possible position from a financial point of view for those involved: the "donors", the people who get remuneration from the foundations for their services, and those who get support or services from the foundations. The complicated payment arrangements employed do not violate the law yet they withhold revenues from the central budget. These financial "tricks" are widespread and well-known but it goes without saying that those involved are reluctant to speak about them in public. All foundations—even those labelled as tax-evading ones—render services. Therefore, it would be a mistake to exclude them from the non-profit organizations of public benefit.

Apart from a few exceptions, the capital of most foundations does not amount to much. A foundation with a capital of a million forints is considered in V. as rich. In the opinion of the president of the Association for Local Patriotism, these foundations do not have real permanent spheres of operation, and they exist only in legal terms or do no more than eke out a meagre existence. Even if they have money to manage, this is derived from the central budget or the budget of the local authority, while private donations are negligible. Those operating the foundations also told us about their shortage of funds and the absence of donations from the population at large.[2] My view is that these initiatives should not be underrated to

[2] Cs. E., director and head doctor of the county hospital, who is also president of the board of trustees of the foundation for the elderly people's home, did not mince his words: "The foundation

the degree suggested by the respondents. After all, these foundations (and some of the newly founded associations) are in the stage of accumulating wealth, even if "wealth" is conceived in terms of knowledge, connections and experiences. Capital in these forms can be easily converted into funds later.

Summary

The purpose of this essay has been to describe typical features of the emergence of the voluntary sector in Hungary. We have relied on the extensive findings of statistical surveys covering the whole country as well as representative surveys. In addition, we carried out an intensive examination of the non-profit organizations of a town.

The Hungarian non-profit sector has witnessed a dynamic growth over the past five to six years. The rapid increase in the number of associations and foundations has been the result of the institutional articulation of civic needs and values. The transformation of the functions of trade unions has been a slow process; in the early 1990s their activities have been chiefly focused on satisfying their members' expectations concerning social welfare. In contrast, the professional associations are increasingly effective in representing employer interests. A relatively small but significant number of associations fulfil functions of public benefit—for instance, environment and community development and the support and protection of groups of people who are in a handicapped position and are dependent on social care.

These associations of public benefit, and the majority of foundations—whose number has also been growing—play an important role in taking over a part of the state's functions. In this sense they take part in the partial denationalization of educational, cultural, health and social welfare functions. Their role is important in evolving services that are flexible and better adjusted to the needs of the citizenry.

A close-up view of the associations and foundations produces a more colourful picture than the statistical records. It becomes clear that the social and welfare component in their activities is stronger. In a similar manner, it is misleading to discuss the activities of the Churches merely under the heading of religious life, for they fulfil various functions, ranging from education to social care. The fact that they have an established organizational infrastructure makes it easier for them to carry out non-religious activities as well.

The majority of voluntary organizations maintains close contacts with the budget-financed institutions and local authorities. Their ties are a love-hate rela-

has been set up by the municipality...The 500,000 forints initially granted has been bearing interest, but no new donations have been made ever since." J. T., whom we have already quoted, told us: "My experience is that [the donors] are passive, with the sole exception of the case of the swimming pool."

tionship: the civil organizations seek greater independence from the governmental agencies, while they badly need their help. The reverse also applies: the governmental agencies are relieved if the civil organizations take over a part of their burdensome functions, whereas the strengthening of civil society often causes problems.

In the past five to six years the non-profit sector in Hungary has taken steps which may have the net result of turning it into an equal partner of central and local government and the business organizations. Its network—which criss-crosses the whole of society—is for the time being weak and underdeveloped. Yet already it reaches a large number of people (even though they only represent a minority of the population). The non-profit sector can rely on domestic traditions both in terms of organization and voluntary civic initiatives. Furthermore, it has partners in the same circle as its rivals. It is in this environment that the voluntary sector has to take over a part of the state's responsibilities and develop its services in new areas at a time when the country's transition to market economy is on the agenda.

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BOOK REVIEWS

MAJOR, I.: *Privatization in Eastern Europe. A critical approach.* Studies of Communism in Transition. London: Edward Elgar. 1993. 194 p.

Iván Major's book was published in 1993. However, the pace of the political transformation and privatization has been so fast that, reading it in 1995, the reader cannot help thinking that many aspects of the book have become obsolete. Some of the things that seemed to be crucial issues then are no longer problems today. Conversely, some new problems which could not have been expected back in 1992 have appeared suddenly and unexpectedly.

The book is part of Edward Elgar's series "Studies of Communism in Transition". This fact—i.e. that it is part of a series—has left an unmistakable imprint on the character, style and approach of the book. For instance, the study has a noticeably descriptive approach. The purpose of the series is to provide orientation for Western graduates, who have an average familiarity with Eastern Europe, about the political and economic transition in the former socialist countries. I am stating this without any prejudice, and I am not suggesting that Major's conclusions are unscientific. The point I wish to make is that the book misses the routine requisites of economics (theoretical hypothesis, mathematical model and the substantiation of propositions with statistical and econometric methods).

By addressing the entire Eastern European region and privatization in each of its countries, Major has embarked on a tremendously complex project. Given the huge differences between the individual countries, it is a task that is almost impossible to solve. As the author attempts to treat all these countries as belonging to the same entity (e.g. in the choice of subjects, in analysing cause and effect, and in the use of statistical figures), he always has to bear in mind the least developed country in the region. Due to the marked differences between the countries concerned, there is the danger that the conclusions will be too general and oversimplified. Living in the centre of Europe, we are aware that it is a mistake to treat the former socialist countries as a single bloc. It is highly regrettable that the West does not seem to know it, and does not even appear to be interested in it. The average Westerner is only curious about the shared problems and overall situation of the Central and Eastern European region and not about the respective cases of the individual countries.

The book consists of seven chapters. The first chapter outlines the methodological difficulties encountered in carrying out research on privatization. The second chapter describes the circumstances that have been inherited from the era of command economy, and the relationship of the economic reforms and ownership relations. The third chapter reviews the conditions under which the transition to the market economy started, and the fourth analyses the motivations underpinning privatization. The most important, central core of the book is the fifth chapter. This carries a critical description of the working philosophies and facts of privatization in Eastern Europe. The sixth chapter examines the interconnections of privatization and the transformation of the structure of economy. The seventh chapter carries closing conclusions.

Structurally speaking, the book is unbalanced, which poses problems with regard to form and content. The second chapter, which describes ownership relations in the former socialist countries, is very long. Its length is not accidental. It is on the basis of the defects of the ownership system of the former socialist countries that Iván Major attempts to illustrate the inevitability of privatization following political transition. However, his arguments are not sufficiently convincing because his analysis of the ownership relations of the former socialist system is not satisfactory. In the command economy (or in its milder version, the centrally planned economy) the economic content of ownership (which was in effect politically determined) and of ownership relations was not of central importance. As a consequence, those in possession of (political) power could always enforce their will. Hence it fol-

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lows that the conception of "*nomenklatura* ownership", introduced and defined by the author, is not appropriately substantiated. I maintain this statement even though in several p aces in the book there are vivid descriptions of *nomenklatura* ownership and related phenomena.

The discussion of the issue of *nomenklatura* ownership is some kind of a diversion because the book fails to offer a systematic analysis of the most essential questions of the changes of ownership:

1. Why is a reform of ownership necessary (in order to assure the primacy of private ownership)?

2. What should the new structure of ownership be like?

3. In what way can privatization be instrumental in the formation of the former?

It goes without saying that these questions are touched upon in several places, but only partial answers are offered.

The lengthy fifth chapter is devoted to describing the practice of privatization. The reader is acquainted with the various plans for privatization and the way they have been implemented, the privatization techniques the various governments have applied, and the initial results of the respective privatization programmes. It is not surprising that this chapter is that long because this is the most essential part of the book; what is more, these questions could have been addressed in two or three chapters. In fact, if the author had divided this subject into several chapters, it would have been easier to read and comprehend.

The economic and political transition and privatization are indeed closely linked. However, the proximity is not as close as Iván Major suggests. In the author's interpretation, transition and privatization in fact merge: it is alleged that the essence of transition is in effect privatization, whereas it is only possible to think of privatization in the context of political and economic transition.

It is due to the way the author interprets the interplay of transition and privatization that I do not agree with some of his conclusions.

1. Iván Major states that the emergence of the new ownership structure is due principally to privatization, yet this is not borne out by the facts: today in Hungary the private sector accounts for 50 percent of the economy (70 percent if the unregistered economy is also reckoned with). Within that, only a minor part (some 30 percent of new private ownership) has emerged during the course of privatization (with the rest resulting from the mushrooming of new private ventures). It is justified, therefore, to rephrase the often repeated question: what is the real mission of the transition? In Hungary, the popular metaphor about the "aquarium" just does not apply. In this country, it is nonsense—even theoretically—to speak of the requirement of reconstructing the fish in the aquarium from the fish soup because the situation was so unclear when the whole process started. Due to Eastern European idiosyncrasies with regard to belated development, genuine (Western-type) market economy and ownership relations had never been present in this part of the world. Yet even if such conditions had existed, privatization would not be the right means for restoring them because, over the past forty years, the related economic and social conditions were quite distorted. Based on new foundations, a rapid and concentrated organic development should start in such a way that it enjoys the efficient support of the state in terms of infrastructural development, incentives for new ventures, and the modernization of technology. This is the only path available because, in itself, the privatization of public assets cannot solve the present structural crisis. (Iván Major also stresses the need to address the structural crisis, but he speaks of this question in another context.)

2. Major states that without comprehensive privatization, the *nomenklatura* bourgeoisie will retain its dominant position. In his view, this social stratum will obstruct the progress of transition. This is why it is illusory to expect a dramatic breakthrough in the increase of new private ownership. I think the author is, on the whole, right in this conclusion; nevertheless, I have some reservations. Members of the *nomenklatura* effected their "purchases" in the course of spontaneous privatiza-

tion prior to, or immediately after, the transition. Now, in 1995, nothing can be done about that. Further waves of privatization would only serve their interests, and the interests of foreigners. This is because these are the groups which have the money to make such purchases, and only they can operate major firms (they possess the required information, expertise and connections). In the absence of privatization under preferential conditions, the new ventures can only generate competition for the *nomenklatura* bourgeoisie if they get support from the state. At the moment, privatization preferences are given to the cash-paying investors and stringent financial restrictions are also applied—these facts are good news for the *nomenklatura* bourgeoisie. In fact, it proves that in the current "new-old" political situation this stratum is well disposed to assert its interests.

3. In Iván Major's view, the role of savings by the population is not really important in privatization because, in comparison with the value of the assets offered for sale, they are of negligible size. It has, therefore, been inevitable that foreign investors and the preferential privatization forms (E-credit, the compensation coupons) have come to the forefront. The experiences of the first years of transition show that the savings of the population were used chiefly to finance the deficit of the central budget, instead of acting as purchasing power for the public assets offered for sale. I agree with this opinion, but let me add two brief remarks. It was in 1989–1990 that the savings of the population seemed to be insufficient in size, from the viewpoint of privatization. By 1992–1993, they had grown to a considerable size and represented a serious purchasing power. However, the savings did not find their way to the privatization markets and could not, therefore, increase the demand for privatization. The reason for this was that the people who possessed savings were looking for short-term investments with a guaranteed rate of return. This requirement was better met by investing in treasury bills than by purchasing public assets. Let me add that, as long as preferential arrangements were available for privatization, and high interest rates made it difficult to raise credit for attractive business ventures, the savings served as a basic source of financing.

4. Iván Major is right to point out that, generally speaking, foreign capital plays an important role in privatization. This is less and less so in Hungary. (The greenfield projects have become much more important.) Still, the role of foreign capital in privatization is controversial. The foreign investors' principal aim is to buy markets; they do not want to modernize the equipment of their firms, but they do want to reduce production and the size of their staff; in short, they have no intention of expanding the export of Hungarian firms in their possession. Yet, in contrast to these negative features, it is the foreign investors who have saved numerous small and major companies from bankruptcy in Hungary. They are practically the only players in the Hungarian market who make investments; and it is through them that Hungary has a chance of linking up with the world economy.

Even bearing these considerations in mind, I do not accept that the author can demonstrate the progress of privatization merely by supplying statistics about the size of foreign investments and changes in the number of international joint ventures. It is a regrettable weakness of the book that it does not carry figures about company transformations (corporatization) and about the so-called "mass privatization". Neither do I find satisfactory, in quantity, the figures about the so-called "small privatization". In fact, the general conclusion can be made that the book is weak as far as statistical figures (on privatization and other matters) are concerned. I am aware that the old system of collecting statistics collapsed soon after the transition, and the new system is slow and often erratic, and consequently it is difficult to find the required data. Even so, this cannot be an excuse for the author.

The approach Iván Major has applied to his analysis of transition and privatization is that of the liberal reform-oriented economists. He seeks an answer to the question which focusses upon the degree to which the post-transition economies have lived up to his liberal criteria in terms of plans, principles and practice. To somewhat simplify the problem, we could say that the book is an at-

tempt by one of the authors of the study entitled *Change and reform* (1987), to give an account of what has happened in the economic sphere in Hungary and in the rest of the region.

Because Major views the subject of his analysis through liberal glasses, it is not surprising that he finds the intellectual forerunners and archetypes of the reform of ownership among the reformers of socialism (e.g. Márton Tardos and Tibor Liska). I find this conclusion entirely erroneous. In actual fact, the question of property—or to be more exact, private property—was taboo for these reformers of socialism. Their principal concern was how to create, side-by-side with a market of goods, a capital market, while maintaining the dominance of public ownership. They partly accepted the critique of socialism by von Mises: for instance, they agreed that any rational management of assets presupposes a realistic assessment of resources and that this necessitates a capital market. However, unlike von Mises, the reformers of socialism thought that it would be possible to create a capital market without a massive private sector. The essence of reform economics under socialism was the planning of the capital market without large-scale private ownership. It did not envisage a large-scale transformation in the ownership structure.

The speed of transition and privatization is a central issue for liberal economics. Given their association with reform socialism, it is not surprising that the liberal economists call for a rapid and radical transition (cf. shock therapy) because they are afraid of a regression to the pre-transition situation and of the rapid adjustment to the new conditions of the old power structure. Such fears were indeed justified when the economic reforms of socialism were on the agenda. However, the transition in the respective countries was preceded by the collapse of the former political regime and of the Soviet Union. The conditions, therefore, are radically different. By contrast, the four decades of socialism have bequeathed such grave problems that there is no path of fast and radical reform which can clear away. What is needed here is a long and gradual process of construction.

Liberal economists, who are enthralled by speedy solutions, repeatedly complain that privatization is not fast enough. Iván Major is not an exception: he says that privatization in the former socialist countries is proceeding much slower than is actually possible and than is vitally necessary for the transition to be successful. The inherent message of this argument is that the change of ownership—that is, privatization—can almost automatically solve all the problems of transition because even the worse private proprietor is better than the most circumspect public owner. This statement is essentially true but such simplification is fraught with dangers. If privatization occurs without the process being appropriately controlled by legal regulations, or if state companies which are in a monopoly position are privatized without this process being controlled by effective rules of competition, the damage thus caused will certainly outweigh the benefit. Due to the fact that such mistakes have been committed in recent years, it can be concluded that precipitate haste must be avoided. It is imperative to realize privatization on the basis of thoroughly elaborated plans and proper coordination with other economic factors.

What the liberal economists think of the role of privatization is in full harmony with what they think of the efforts aimed at economic stabilization. They argue that the only important objective is to bring about an external and internal financial equilibrium because, if a favourable macroeconomic situation can be achieved, the spontaneous forces of the market will come into operation and launch the recovery. However, experience has shown that the forces of the market do not automatically come into operation, especially if the appropriate environment they need (infrastructure, financial institutions, required legislation) is missing. It has been found that the financial crisis and the problems of the rest of the economy can only be handled together. Only if they are treated as a package is it possible to bring about a long-term solution. Financial equilibrium can only be brought about without causing any major social upheavals—if economic growth is stimulated. The problem of privatization demands that the structural issues, the balance between supply and demand, and the incentives for enterprise should be treated simultaneously. If all these mat-

ters are not handled simultaneously, privatization is bound to result in new firms soon going bankrupt, and a decline in production. Another unwelcome development may be that monopoly positions are recreated—this time the monopolies being in private ownership. Furthermore, such anomalies have to be tolerated without the hope of any short-term remedy.

This review certainly appears to be quite harsh in its criticism. However, I have tried to be objective in putting the book before the strict criteria which any scientific work deserves. Thus it is not my intention here to encourage people not to read this book. In order to achieve balance I must emphasize that Iván Major's book is a highly interesting and valuable piece of writing. Its special merit is clarity and originality. Those who have read other works by the author are not surprised to hear this. They know that whatever Iván Major writes offers some intellectual challenge. My review is critical because of the very fact that I accepted this intellectual challenge, and I have responded to it in the way I am sure Iván Major would have wanted. Whether or not my review is fair will be decided by those who read this book.

T. MELLÁR

CSABA, L. (ed.): *Privatization, liberalization and destruction. Recreating the market in Central and Eastern Europe.* Dartmouth: Aldershot. 1994. IX+303 p.

In spite of the relatively long time which has elapsed since the "market revolutions" of 1989 in Central and Eastern Europe, there continues to be much discussion about the process of systemic transformation. There are at least three reasons for this continuing discussion: (a) transition is the economic event that resembles most closely an experiment on how a market economy develops or is created; in all sciences, the analysis of the results of an experiment necessarily go on for a long time; (b) transition is far from being over; therefore, it is necessary to continue to study it both in order to get new information, data and insights, as well as for normative purposes; (c) we are still far from having understood what transition is actually about—i.e. what are its really indispensible elements? What are their mutual relations and interdependencies? What is the role of path-dependency, the opportunities for institutional engineering, and the role of spontaneous processes?

The fact that individual countries are following specific transitional paths renders the comprehension and interpretation of the processes all the more difficult, and the elaboration of a general theoretical interpretation of transition thus presents itself as an extremely difficult task. Indeed, various scholars challenge those who believe it is possible to produce such an interpretation.

In view of the state of affairs just sketched, one should ask: what are the necessary (although maybe non-sufficient) requisites that could help in producing a new book on transition; in other words, how might it find a proper place, more or less relevant, within an already huge literature? What are the criteria that should induce the specialist, the interested and the curious into thinking that reading a specific book is useful? The following appear to me to be the most relevant: (a) does the book offer a new interpretation on the event, or include it successfully and organically in a more general perspective (e.g. does it show that the study of transition should be carefully considered by institutional analysis)?; (b) does it supply new information or data? (c) does it present, in one volume, analyses that are usually dispersed in various places (for instance, in different journals or reports); (d) has it educational purposes?; (e) particularly relevant for a collective work, does the book properly coordinate the different contributions or contrast and compare different points of view?

The book edited by *Csaba* undoubtedly enters a difficult sector of the publishing market. A very large number of more or less valuable books have been published in recent years and it is very difficult, for this very reason, to find "a place in the sun" for a newcomer. Csaba's book has the advantage (and disadvantage) of having started from the materials presented at the Second General Confer-

ence of the European Association for Comparative Economic Studies (EACES) held in Groningen in September 1992. However, the editor was careful enough to choose a limited number of the original papers, convince the authors to properly revise—sometimes rewrite—their original contributions, and include some chapters prepared by authors who did not attend the conference.

How does this book perform when judged by the above five criteria? First: does the book offer a new interpretation of transition? This can hardly be the case with a collective book, the purpose of which is inevitably different. This book is no exception in this sense. However, it tries to offer an interesting, although contradictory answer to a fundamental question: are we presented with elements which suggest that it may be possible to work out a general theoretical interpretation of transition? In his interesting concluding chapter (*Commonalities and differences transformation*), the editor maintains that this is impossible, because "divergence is one of the lasting factors of the transformation strategies" (p. 290). Indeed, the previous chapters of the book offer ample evidence of this divergence. However, this fact cannot be taken as proof that is impossible to formulate a general theoretical interpretation. In fact, the latter does not mean that different factors and processes must be standardised to produce a uniform model, but that some general rules, factors and interrelations should be looked for that determine certain outcomes. Those rules, factors and interrelations, however, do not lead to identical outcomes if the environment, institutions, historical legacy and policing are different. Although this topic requires a much deeper and wider debate, the book does offer some interesting suggestions for such a general interpretation. Morris *Bornstein*'s excellent chapter on "Privatization in Central and Eastern Europe: Techniques, policy options and economic consequences" offers more than one idea in this sense. The same can be said about chapters by Marek *Dąbrowski* ("The role of the government in postcommunist economies"), Paul J. J. *Welfens* ("Privatization and foreign direct investment in the East European transformation: Theory, options and strategies"), Wladimir *Andreff* ("Economic disintegration and privatisation in Central and Eastern Europe"), and Béla *Kádár* ("Economies in transition: Problems, patterns and policies"). Obviously, one should not consider any general interpretation as a blueprint for normative action which can be used at any time, but as an important framework for positive analysis. According to the first criterion, the book has something interesting to offer, although maybe the specificity of this is somewhat different from the explicit intent of the editor.

To assess the relevance of the book in accordance with the second criterion (new information and data), we should first take into account the length of time required to publish a book; to this must be added the time taken by the reviewer (and time taken by the journal in which the review is to be published). So, the answer has to be split into two: yes, the book offered some new information and data *when* it was prepared (i.e. early 1993). Various chapters comprise an up-dated analysis and evaluation of options, policies and outcomes in various countries. The two chapters on Russia by Silvana *Malle* ("Privatization in Russia: A comparative study in institutional change") and Pekka *Sutela* ("Russian foreign trade between liberalization and state control") are very good examples in this respect. The second part of the answer concerns the present value of the book considered from this angle. For obvious reasons, the "yes" here is more uncertain, but it still holds: although information and data are not brand new, the book offers a set of presentations still valid today as far as their analytical value is concerned. In particular, Silvana Malle's chapter impressed me because of its relevance for today's situation. A similar assessment applies to other chapters (like Miroslav *Hrncír*'s "Financial intermediation in ex-Czechoslovakia: An assessment", or Sutela's and Dąbrowski's respective chapters).

The answer to the third question (the time-saving value of the book) is quite easy because it is a clear "yes". This book offers quite a good set of articles on a wide spectrum of "transitional" questions: from aggregated regional overviews (with papers by Kádár, Dąbrowski, and Welfens), to the impacts of post-Soviet disintegration (papers by Malle, Andreff, and Sutela); from the experi-

ences of individual countries (papers by Malle, Andreff, and Sutela); from the experiences of individual countries (papers by Joze *Mencinger* on "Privatization dilemmas in Slovenia", Daniel Daianu *Hrncír*, on "The changing mix of disequilibria during transition: a Romanian perspective", and Tatiana *Houbenova-Dellisivkova* on "Liberalization and transformation in Bulgaria"), to comparative perspectives (papers by Klaus Schrader Bornstein on "In search of the market: A comparison of post-Soviet reform policies", and Csaba). From this point of view I miss, however, one topic: the distributive consequences of transition. Although it is touched upon in various chapters, it really deserved a more organic examination.

Considering the fourth criterion (educational function), the book definitively has no such intent. However, various chapters may be usefully utilized for educational purposes. Moreover, Bornstein's chapter is a masterpiece in this sense, and Dąbrowski's is also outstanding.

Finally, the inner structure of the book has to be assessed. This is always an extremely difficult undertaking for a book whose origin is, after all, a conference. Here, some improvement would have been possible. For instance, why put a section on post-Soviet disintegration before the one on individual countries? Apparently, it suggests that the latter is influenced by the former, rather than *vice versa*. At least time-sequencing suggests that disintegration (1991) followed the start of transition in 1989. Also, Malle's paper on Russian privatization would fit into the section on country experiences better than in the one on disintegration. Finally, different authors have different (although not strongly diverging) positions and some coordination and comparison is needed. This is done in the conclusion, but it would have been more useful if it had been placed in the introduction. Even so, these are really very minor points that do not touch the merits of the book.

All in all, the book appears to have responded fairly well to the test and therefore remains recommended reading, particularly for those interested in transition specifically, and more generally in institutional change.

B. DALLAGO

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