

# SOME METHODOLOGICAL QUESTIONS OF THE PREPARATION OF FORECASTS

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## SUMMARY

*The direct reason of the development and the increase of the demand for prediction is to look for in the acceleration of social-economic development. At the end of the 19<sup>th</sup> century, and at the beginning of the 20<sup>th</sup> century have appeared those processes in the United States of America which changed basically the former, relatively calm market situation.*

*The primary condition of making the future processes probable and possible is the connecting mode of the past-present-future, the existence or lack of balance, the continuous or balk nature of processes.*

*If the given phenomena has precedents and those are living further in the past in any form, the mathematical-statistical so called hard methods get wide possibilities. But in those cases, when in lack of precedents a totally new developing period begins, the intuitive, professional so called soft methods come to the fore.*

*The lecture analyses the theoretical and methodical questions connected to the above with the purpose to improve the quality and goodness of the practical applications of predictions.*

## 1. EMERGENCE OF THE PRACTICAL NEEDS FOR FORECASTS

A demand for forecasting (foreseeing) business processes appeared at the end of the 19<sup>th</sup> century as a result of an accelerated scientific and economic development. It is no accident that the birthplace of this phenomenon is the United States, where the results of the ever strengthening, and later exponentially rising, acceleration processes manifested themselves in the most evident and dominant way. A proof of this, for instance, is given in the book by Garfield V. Cox, professor at the University of Chicago, in 1929 (1), which says:

*"The interest of American businessmen and economists in the problems of business forecasts has intensified by leaps and bounds in the past 15 years."*

*"More than half a dozen organisations of nation-wide recognition have specialised in preparing forecasts and in examining and analysing business cycles."*

*"A number of financial and business enterprises (banks, newspapers, etc.) have specialised in examining and publishing prosperity cycles."*

*"There has been a sudden rise in the number of larger firms, which start to employ economists and statisticians for the examination and forecasting of business processes."*

The abrupt strengthening of the future-oriented attitude of American businessmen shows that a long, relatively peaceful, development period is over. From the point of view of our examination, it was characterized by the following factors:

➤ **the market was sharply divided** into clear sections; the manufacturers and merchants laid down the written and unwritten rules of living side by side and of the sovereignty of domains;

➤ **the tendencies of technical development were well predictable**; the pace of development was slow; there were only occasional and individual breaking points and qualitative leaps. The life cycle of products was long; there was no surprise made by the appearance of a new substitute product;

➤ **the factors influencing the demands of the market, the actions of the actors in the market competition were clear-cut; the relations between cause and effect were easily recognisable; the action strategies of competitors were foreseeable**;

➤ drawing the consequences from the above mentioned, it is obvious that **the conditions for forecasting were favourable**; for businessmen (managers) with suitable business-professional practice and good flair for economy the business future was safely predictable; good forecasts based on the opinion of specialists and qualitative judgement could be made.

During the long period prior to the end of the 19<sup>th</sup> century, no **subjective** demand for effective methods of forecasting was formulated; successful management and

business activity did not call for the conscientious scientific investigation into the future.

At the same time, the **objective** conditions were also missing, because it was not until the beginning of the 20<sup>th</sup> century that a scientific methodological apparatus, i.e. mathematical statistics based on probability theory which could handle stochastic processes, appeared.

It stands to reason, that the scientific methods of forecasting **deterministic** processes date back to ancient times, closely related to the development of natural sciences (mathematics, physics, astrology). The evolution of these processes is foreseeable with complete certainty, with no unexpected elements. (The sun rises in the East, and sets in the West; the length of the covered distance depends on speed and time; the different stars and zodiacs always appear at the same time and in the same place, thus giving a firm basis for orientation and creating the prerequisites for navigation. A lot more examples could be listed in the above mentioned fields.)

Scientific forecasting based on natural sciences boasts a long history; methodological bases were created in a relatively early phase of development.

The scientific methodological apparatus capable of handling deterministic processes does not meet the requirements set by probability theory processes, though this demand, only in some elements, of course, emerged quite early. E.g. **Aristotle (384–322 B.C.)** was aware of processes of stochastic character and spoke about worlds "above the Moon" and "under the Moon". In the former case, there is a completely regulated and foreseeable system: the orbital movements of planets were defined by foreseeable and pre-calculable rules. Yet, in the latter case, there is uncertainty and incalculableness: the fine, sunny weather unexpectedly changes for rainy and windy. The possible changes of weather can only be described by **prognoses**, which, ab ovo, carry some kind of uncertainty. Weather prognoses made Aristotle formulate a fundamental principle, which, when interpreting forecasts, should be noted even today.

A definite need for business forecasts can be detected in the case of **Solon (640/30–559 B.C.)**, who threw light upon the relationship between scientific observation and business success, and, on the basis of the examination of prosperity cycles, sold the orange groves cheaply bought up in times of poor harvest at a good price in times of rich harvest.

These are just occasional examples; it was not until the end of the 19<sup>th</sup> century that practical and methodological needs emerged and the idyllic period described above was stirred by new, disturbing events, e.g.:

➤ Unexpectedly, **new actors appeared in the market**, the rivalling producers and vendors showed no respect for the former market borders.

➤ Suddenly, **new, more up-to-date and cheaper products** gained ground; the more expensive, obsolete products became impossible to sell; masses of producers and merchants went bankrupt.

➤ The **scientific-technical development** went off at a gallop never seen before. Revolutionary changes took place; the life-cycle of products drastically shortened, research accelerated.

CONSEQUENTLY:

- the tranquillity of the market was over once and for all; the number of actors gradually grew, business processes, the relations between cause and effect became more confused;
- the needs for foreseeing the probable business future and expected events spread like wild fire; their manifestation and well-founded character both methodologically and scientifically became more competent;
- in addition to the investigation into and forecasting the processes of macro-economy (prosperity cycles), more and more importance was assigned to the micro-sphere and the needs for forecasts related to direct business achievements and profit.

From the point of view of the methodology of business (economic) forecasts, Oscar Morgenstern's book published in 1928 (2) is a milestone. It describes and sets the basic categories and interpretation philosophy of economic forecasting still in force in our days.

The development which started in the field of mathematical statistics in the first third of the 20<sup>th</sup> century intensified in the following decades, reaching the present level by the appearance of computers. Among the basic methodological works, I would mention the specialist book (3) written by the triad of authors Makridakis-Wheelwright-McGee as the most prominent.

Eric Jantsh, commissioned by OECD, was the first to summarize and classify forecasting methods (4).

Achievements of the scientific research with methodological purpose at international level are demonstrated by the publications; the data of the following breakdown are provided by the U.S. Library of Congress:

#### Publications on Future Forecasting

Year	Book (piece)	Article (piece)
1969	79	no data
1970	95	no data
1971	109	21
1972	139	119
1973	181	198
1974	215	223
1975	246	619
1976	323	647
1977	292	631
1978	317	989
1979	305	993
1980	319	1.016
1981	334	1.006
1982	348	924
1983	388	1.026
1984	357	1.183
1985	349	no data
1986	370	no data

It is worth giving a brief overview of the situation in Hungary, as there was a considerable break, deviation and backlog in this respect:

### 1. PHASE 1 (1945 – END OF THE 1960s)

This phase is characterised by complete indifference to business forecasts both in objective and subjective terms. (This was also deepened by political principles and ideology: the controlled economy of socialism definitely ruled out all other sciences concerned with the future, and having roots in the bourgeois society.)

The economy was controlled by issuing orders to carry out the centralised plan; the major factor for the units of micro-economy was not the market, but to fulfil (or even overfulfil) the plans, which, consequently, determined the different forms of recognition and paying premium, etc.

Business forecasting would have automatically been impossible and unreal in this situation, as it would have thrown a shadow on, and interfered in, the activities of controlled economy, i.e. the guiding star of the economic management of companies. (For the sake of the historical truth it should be noted that even in other types of economy, business forecasting remained in the background during the time of shortage economy.)

### 2. PHASE 2 (END OF THE 1960s – END OF THE 1980s)

The beginning of this phase is usually marked by a particular year, 1968, in Hungary. It is related to the introduction of a new mechanism of controlling the economy. (As it is known, it was an attempt fundamentally doomed to failure to adapt the basis and some elements of market economy to socialist conditions.)

This phase is characterised by economic development and an ever-strengthening market economy, which more and more often, and in more and more aspects, demanded place and role; exclusion and disregard led to growing tension and more problems. The system of plan orders was replaced by the concept and methodology of plan-building, thus companies were given the chance to make their annual plans on their own, to estimate market tendencies, i.e. to prepare plans based on business forecasts.

Unfortunately, this promising attempt failed very soon as a result of the secondary distribution of incomes: companies which were successful in the market and produced surplus above the average were deprived of their profit in favour of unsuccessful companies. The expansion of business forecasts in practical terms remained an illusion.

### 3. PHASE 3 (END OF 1980s ONWARDS)

This phase is evidently related to the social and economic changes of the system in East European countries. It is plain to see that the objective possibility for the wide-scale expansion of business forecasting has been created, the social and economic conditions are given. The market conditions taking shape, the peculiarities of the transitional period (i.e. there is no pure market economy, there is still a maturing-purifying process going on) are an obstacle to the wide-scale expansion in several aspects. (Suffice it to say that in the first half of the 1990s the flow of productive capital into the country was not significant, whereas servicing, counselling and trading companies played a dominant role. Moreover, the so-called stray capital also gained ground in the early period.)

It is well-known that even in market economies it is

mainly the manufacturing and trading companies with vast investment capital and long-term schedules that regularly make and use business forecasts and assign a dominant role to the analysis of the future.

It seems natural that the practical background of the interest in methodological questions was insufficient in Hungary in the past decades. Till the end of the 1980s it was the research units and departments at universities that served as workshops for the methodological improvement of forecast in Hungary. The most significant methodological specialist book of this period was published in 1978 (5).

From the beginning of the 1990s, the change of the economic system, the transition from socialist planned economy to market economy principally created good conditions for the emergence of practical interest in forecasts and for methodological development. However, a big obstacle for this theoretical possibility to come true is the controversial situation deriving from the transitory state of the economy, and also the disturbing factors in the emergence and prevalence of the laws of the market. A special situation was brought about the fact that in the first half of the 1990s, in commerce and service, the country was overflowed by trading capital, the majority of which was meant to get hold of the profit of just a few prosperity areas, but there were no ideas on the long run. Thus, future-orientation reached a rather low level. The appearance of productive capital caused a significant change in this situation, however, future research activities were limited by the big multinational companies to their own parent companies exclusively, which, naturally, did not boost any upturn in Hungary.

We are the witnesses of favourable changes in the first year of the 21<sup>st</sup> century: with the value of the Hungarian intellectual capital being recognized, there is a gradual shift of certain management, planning and marketing activities to domestic territory, so there is a growing demand for future research, forecasting and planning.

After the short historical overview, let's go on with methodological questions.

## 2. SELECTION CRITERIA OF FORECASTING METHODS

### 2.1. STAFF REQUIREMENTS OF SELECTING THE METHOD

When choosing the right method for the examination and forecasting of the given set of problems,

- the professional knowledge and
- the methodological skills

of the given staff member (or team) play a key role, both in positive and negative sense.

It is essential to make a distinction whether the staff participating in the selection process basically belong to

- the end-user circle, or
- the technical staff elaborating the method.

At the end of the 1970s, in close relation to the development of computer science, a method-oriented development process started; as a consequence, the complexity of forecasting methods kept growing. In a decade's time, with a change for the opposite, even the interpretation of outputs called for advanced methodological knowledge and skills.

At the end of the 1980s, "the easier – the better" philosophy led to a halt to the wanton development of forecasting methods, i.e. development for their own sake. With reference to the witty example described in J. Scott Armstrong's book (5), the case is similar to that of the rain-dancer, so traditional in African tribes, who tries to conciliate the rain god with his dance in the time of drought. The rain-dancer can be so much spell-bound by the joys of dancing that, in the end, he forgets about the original purpose of the dance and just dances to please himself. It is also one of the encroachments of the dancer that, at the end of the dance, when drought persists, the good dancer tries to convince his audience that a nice dance is much more important than rain.

The climax of all this is the point when the science of rain-making changes into the science of rain-making dance.

Modern rain-makers and forecasters (prognosis-makers) reached this climax at the end of the 1980s, when a number of forecasters explicitly admitted dealing with certain forms of the Box-Jenkins model as something absolutely unusable as far as practice is concerned, but very interesting and entertaining when coming to theoretical and methodological aspects.

In the addition to the above mentioned, when choosing the right method, we have to take into consideration the following main factors causing distortions or dangers:

**a. professional partiality**, which is rooted in the "professional blindness" of the given staff. Let's take an example to clearly demonstrate the problem: a complicated case is presented to a homogeneous expert team, but there is no agreement among the different experts, financial, engineering and IT, etc., on what should be considered to be the most important;

**b. different methodological training background**, which can lead to a special situation: different methods for the forecasting of a certain phenomenon or process are defined by a statistician (e.g. time sequence analysis), an econometrician (e.g. econometric models), and a psychologist (e.g. expert methods);

**c. one-sided methodological orientation** can be a fault: a certain method is forced and wrongly applied, i.e. an application sphere is looked for to match the method. It can be illustrated by the analogy known as the law of the hammer: if a child is given a hammer, he/she will probably find different objects to be hammered all over the house (table, chair, corners) in a few minutes;

**d. lack of innovativeness**, a real and timely problem: for solving and forecasting new problems of different qualitative character, the same old solutions and methods are applied.

The above mentioned facts speak for themselves: when selecting and applying the forecasting methods, it is of utmost importance to provide the right staff. Hereinafter,

let's suppose that there are no distorting factors in this respect, we manage to make the desired decision and can turn all our attention to the objective criteria for the selection of the applicable methods. Two interrelated topics should be touched upon here:

- linkage of *past-present-future*
- *present-future* equilibrium .

## 2.2. LINKAGE OF PAST-PRESENT-FUTURE

The emergence and examination of this problem is related to the presupposition that the closer the future is to the present, the smoother the transition is from the present to the future, the easier and simpler it is to make forecasts.

Our approach, starting from the basic case, can be demonstrated by a simple figure showing the arrangement of past-present-future points:

<i>past</i>	<i>present</i>	<i>future</i>
		<i>continuing process</i>
		<i>starting process</i>

If the past tendencies of change of a given phenomenon live and make a forward roll into the future, we call it a continuing process. On the contrary, when we have to estimate the future evolvement of a phenomenon which has no antecedents in the present, it is called a starting process. It can be put down in a function as follows:

$$Y_{t+z} = f(\alpha y_t; x_{t+z}; u),$$

where

$\alpha$  = transformational coefficient, which expresses the linking manner of the past and the present

$$0 \leq \alpha \leq 1$$

Y = value of the examined phenomenon

t = point of time in the present

z = forecasted length of time

X = new factor, which has no sense in the present, but will have in the future

u = random variable factor.

If  $\alpha \approx 0$ , then new elements, imperceptible in the present and the past, will not occur in the future; the future value of the given process can be deduced statistically from the antecedents. More precisely:

$$Y_{t+z} = f(\alpha Y_t; u),$$

If  $\alpha \approx 1$ , then we see a new phenomenon with no antecedents, the future evolvement of which cannot be deduced from past antecedents:

$$Y_{t+\alpha} = f(X_{t+\alpha}; u),$$

It is plain to see that the statistical chances of making forecasts are favourable in the former case, and unfavourable in the latter.

The same problem, though from a different point of view, is presented by examining the equilibrium state.

### 2.3. EQUILIBRIUM STATE BETWEEN THE PRESENT AND THE FUTURE

In this respect, within the methodological apparatus of forecasting, we can examine how stable the equilibrium between the present and the future is. If equilibrium prevails, the possibility of using the methods of classical mathematical statistics is wide-ranging.

The chart below proves the above mentioned:

Based on the separate sections, a table showing an interpretation of the equilibrium can be drawn up.

Period of observation	Forecasted period	Equilibrium state
A – B	B – C	Equilibrium
B – D	D – E	Partial conflict
C – E	E – F	Total conflict

Equilibrium means an unhindered process starting from the past through the present into the future. It presupposes the constancy of the given process. (Evidently, this presupposition is only true in principle as far as economic and social processes are concerned; the “constancy of the world” is a fiction from theoretical and practical points of view.)

The practical emergence of the partial conflict can be considered a typical case; it should be taken into account in short-term and long-term forecasts.

Total conflict presupposes nearly the complete lack of the past, or a considerable lack of information related to the past, and is built on the no-antecedents character of the future.

It is clear from the above mentioned that the equilibrium is based on the uniformity and constancy of the qualitative and quantitative parameters of the linkage between the present and the future.

(If, for example, the past is characterized by the  $Y = 620 + 15t$  linear trend function, the same parameters of the same function type will be valid for the future too.)

In the case of partial conflict, the quantitative link is broken, but the qualitative one still sustains. (The linearity characterizing the past is true for the future too, however, the parameters of the function will be modified numerically, e.g.  $Y = 1270 + 180t$ ).

In the case of total conflict, both the quantitative and qualitative links are broken, so a completely new development course will emerge. (Linearity is no longer true in the future; a new type of function, namely, the exponential function will be dominant.)

Forecasting methods to be applied can be classified into 3 main groups according to the above mentioned interpretations of the present and the future:

- a. Equilibrium state**, or in a similar sense, **continuing processes**

The following scheme can be drawn :

#### Subjective methods

No repeatable exact quantitative formula

Source of the output is the expert's brain.

From a statistical point of view, it is an important characteristic that we have information referring to the past at our disposal, we have a statistical database which makes it possible for us to explore and forecast the inherent tendencies and interrelations. This situation offers the possibility of applying the so-called **hard forecasting methods**. The application of the **naïve, mechanical** forecasting methods can be considered typical. The naïvety of applying this method means presupposing constancy, while the mechanical character is expressed by projecting and rolling the parameters of the past into the future without any change. The extrapolation of the main trend of **time series** and that of the **correlation** links in the past, and also that of the parameters of **regressive functions** describing these links.

- b. Total conflict**, or in accordance, **starting process**

There is no quantitative information at our disposal, no statistical database. (e.g. the production of a new product is launched, but it is impossible to deduce the turnover in the coming months or years from the past; it stands to reason that no statistical data are available.) In this respect, the application of the so-called **soft methods** are preferred; the application of heuristic and intuitive methods and those ones which are based on expert assessments can serve a good purpose.

**c. The existence of partial conflict** is a continuation of the processes of the past and the present into the future in a modified way; the so-called **modified, emphatic forecasting methods** will play a key role.

Emphatic forecasting is based on the principle that the pieces of information available are of different importance in terms of the future, i.e. they have **different future content**. In general, it can be stated that the closer the information is to the future, the higher the value of forecasting is; or, the farther it is from the future, the smaller its value is. The method of **exponential balancing** worked out especially for this purpose in 1970 is distinguished among all other methods applicable for the same purpose.

Based on the above mentioned, the conceptual and professional decisions to select forecasting methods can be made, though this task seems to be getting more and more complicated with the growing number of methods. The systematisation and classification methods from different points of view help us in orientation. The book by E. Jantsh mentioned before can be considered a basic work. A classification using the results of the 1970s and 1980s can be found in the already quoted books by Makridakis and Armstrong, while in the Hungarian specialist literature a classification by the triad of authors Besenyei-Gidai-Nováky (6) is worth mentioning. In spite of individual deviations, there are common features which are characteristic of nearly all types of the classification of methods.

#### Objective methods

Well-defined methods, repeatable quantitative procedures at any time and in any circumstances

Source of the output is the computer.

Collective expert's assessment	Naïve, mechanical	Emphasized methods
<b>Oral (brainstorming)</b>	extrapolation of time series	harmonious averaging
classical		
anonymous		
didactic		
destructive-constructive	extrapolation of regressive parameters	exponential balancing
Philipps 66		
creative		
synectics		
<b>Written:</b>		
Delphi, SEER, Cross-impact		
After a complete assessment of methods and the examination of their characteristics, practical application can take place.		

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### Resümee

*Man kann die Ursache der Stärkung und Entwicklung der Anforderung für die Forblicke in die Beschleunigung der gesellschaftlichen- wirtschaftlichen Entwicklung suchen. Am Ende des XIX, am Anfang des XX Jahrhundert erschienen in die USA Vorgänge, die die früheren, relativ ruhigen Zustände grundlegend veränderten.*

*Die Grundlage des Wahrscheinlichmachens beziehungsweise der Möglichkeit der zukünftigen Prozesse ist die Eingriffsart der Vergangenheit – Gegenwart – Zukunft, das Dasein oder der Mangel des Gleichgewichtes, der fortlaufend oder Ausgangscharakter der Prozesse.*

*Wenn die Erscheinung hat einen Vorausgegangenen, welche weiterlebt, dann bekommen die mathematische- statistische, sogenannte harte Methoden weite Möglichkeit. Aber wenn eine ganz neue Entwicklungsphase beginnt, ohne Präzedens, treten die intuitiven, sogenannten weichen Methoden in den Vordergrund.*

*Die Vorlesung prüft die theoretischen und methodischen Fragen mit der Absicht, dass sie die Qualität der praktischen Anstellung des Vorblickes verbessern.*

### Összefoglaló

*Az előrejelzések iránti igény kialakulásának és erősödésének közvetlen oka a társadalmi-gazdasági fejlődés felgyorsulásában keresendő. A XIX. század végén, a XX. század elején az Amerikai Egyesült Államokban jelentek meg azok a folyamatok amelyek a korábbi, viszonylag nyugodt piaci helyzetet alapvetően megváltoztatták.*

*A jövőbeli folyamatok valószínűsítésének illetve lehetőségének alapfeltétele a múlt-jelen-jövő kapcsolódási módja, az egyensúly megléte vagy hiánya, a folyamatok folytatódó vagy kiindulási jellege.*

*Amennyiben az adott jelenség előzménnyel rendelkezik, azok valamilyen formában tovább élnek a múltban, akkor tág lehetőséget kapnak a matematikai-statisztikai, ú. n. kemény módszerek. Azokban az esetekben viszont, amikor teljesen új fejlődési szakasz indul, előzmények hiányában az intuitív, szakértői ú. n. puha módszerek kerülnek előtérbe.*

*Az előadás a fentiekhez kapcsolódó elméleti és módszertani kérdéseket vizsgálja azzal a céllal, hogy az előrejelzések gyakorlati alkalmazásának minőségét, jóságát javítsa.*

### OROSZ ÖSSZEFOGLALÓ

# ENVIRONMENTAL AND ORGANIZATIONAL FACTORS OF MERGERS AND ACQUISITIONS

## Acculturation as a Cultural Change Process

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### SUMMARY

*First a cultural change model was demonstrated, which tried to focus on both internal and external factors, which could have influence on cultural changes in organizations. There was no intention at all to provide formula for cultural change rather to introduce the elements, which can play important role in the change process.*

*Further on the notion of mergers and acquisitions were introduced and a distinction was made. Different dimensions of the acculturation process were shown which are believed to be crucial to the success of any M&A process.*

*A strategic approach was put forward to emphasize the different organizational cultural perspectives, which are key factors to achieve cultural synergy between the two (or more) organizational cultures.*

Many scholars have dealt with the change of organizational culture. Almost all agreed at least on one condition in the change process, namely the first step. The current culture has to be analyzed in order to change. Less agreement can be found on the factors, which might influence the change process. However these factors are just as important as the diagnosing process itself.

The model of cultural change is based primarily on a research, which has been carried out in Hungary. [1] However the influencing factors it defines are more universal.

The phenomenon of acculturation is introduced as well. The merge or acquisition process is a specific form of

cultural change. Therefore, first the cultural change model is dealt with and further on the environmental and organizational aspects of the acculturation process is introduced.

## THE MODEL OF CULTURAL CHANGE

The factors influencing cultural change are shown in the following figure. It is not the intention of this study to differentiate between the intensity of these factors in the change process.

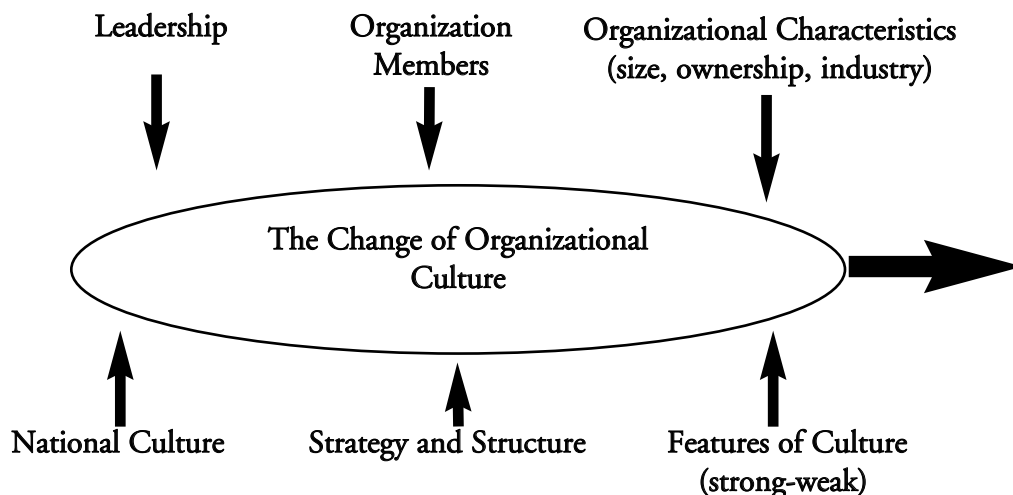


Figure 1.

## THE INFLUENCING FACTORS OF CULTURAL CHANGE

### LEADERSHIP

The role of the leader has a determinant influence in creating and changing corporate culture. This is achieved by defining behavioral norms and decision-making methods and through decisions influencing the value system.

Studies examining the role of the leader conclude the significant impact of the leader in shaping corporate culture. Schein and also Nahavandi and Malekzadeh noticed a cultural creator role of the leader, when founding an organization. [2][3]

Schein criteria, which measure, whether the leader really had a definite impact on the culture, are the following:

1. His/her visions were shared unanimously.
2. His/her impact had stayed vital after the organization's size had increased.

In the concept which I will use further on, the role of the leader is determinant in the creation of culture. Cultural establishments, laid down by the leader, very often outlast the person. However, success stories are needed to validate the culture. These success stories are built in the value system of the organization, to have something to lean on in time of crisis and problems.

A long lasting culture strongly determines what kind of leaders will be accepted in the future. A strong culture rejects leaders and organization members who do not fit the culture. However, if the culture should come to a crisis in its own self-development, a cultural leader is needed who is able to change the basics of cultural features and elements of the value system. This situation calls for a transformational leader. For cultural changes of this kind a charismatic person is needed, who is able to recruit followers by representing the values of the visionary culture, with help of his/her personal characteristics and leadership abilities.

Possible means for changing organizational culture are the following, (not distinguishing the mechanisms of founding and changing):

#### 1. Role models

Founders and leaders are behavioral idols in the eyes of the members of the organization. They serve as a role model for them. The declared culture is approved by their actions and behavior on a daily basis and thus becoming beliefs shared by everybody.

#### 2. Decisions directly influencing the value system

Here I refer to those decisions, which can serve as guidelines for the members of the organization, such as the *reward system and personnel recruitment*. Both devices are important in case of founding and changing the culture of the organization. These devices have a less direct influence than the one mentioned above, though they have the same

level of impact. On the other hand, whereas the leader as a role model can only influence the culture passively, with the use of these devices the leader is able to actively guide the norms and shared values into the direction (s)he desires. The role of personal characteristics is also essential here, which is even unintentionally enforced by him/her in personnel recruitment.

#### 3. The methods of decision-making

The way decisions are made by the leadership has a long lasting effect on the operation of the organization. This applies for any stage of cultural development. The ways of decision-making could be defined as expectations, but can be generally expected methods to follow as well. Their importance could be traced when methods outlast the leader and within changing environmental conditions can serve as support or as impeding factors in decision making.

Included here are decisions regarding the change of strategy and structure, which similarly influence the shaping of culture. Because of the interdependence of strategy, structure and culture, the influence on culture is present here as well, however less obviously than above.

### ORGANIZATIONAL CHARACTERISTICS

The ownership structure, size of the organization and the given branch of industry all play a major role in the transition of the organizational culture. Shared values of the organization are often undermined by external economic and social influences.

When the results of the above mentioned study were evaluated, the companies were grouped according to the three aspects included in the hypothesis:

- Organizational size (number of employees)
- Ownership and
- Branch of industry (production or service oriented)

### ORGANIZATION MEMBERS

The organization members of any corporation are the ones who really suffer from changes and also they are the ones who put the ideas into action. In the short run they are unchangeable factors of the change process. In the longer run there is possibility for the change their attitudes and way of thinking – as central elements of any cultural change – but in a short term it is wiser to analyze the members' willingness for change. (Those ones without any willingness to change should be replaced in the longer run of course.) The employees as the human resources of the organization very much determinate the direction of change with their skills, abilities and motivation potentials.

The proper shaping and stabilizing of the shared values in an organization must play a key role in any kind of program aimed at changing cultural values. *The company has to provide the stable organizational values as a reference point, which serves as a guideline for the employees in uncertain situations and in problem solving.*



## STRATEGY AND STRUCTURE

The long known interdependence of strategy-structure-culture makes the strategy of any organization a determinant factor in a cultural change of any kind. The cultural change process is very often developed as a side factor to the overall strategic change program. Either ways, it is certain that, just as in case of structure, culture cannot be managed separately from the strategy of any time. It is unrealistic to expect organization members to follow new mission and goal alongside with the old values and beliefs. When dreaming the "strategic dream" the cultural blanket should be really considered. The organization should fit the culturally defined blanket unless the dream will become a strategic nightmare. The best way to manage the two factors simultaneously and not in a sequential way. Strategy must be consistent to culture and vice versa.

The relation between structures and cultures are also long known. It is not the objective of this study to deal with the cultures created by the different structural forms and also with cultures that rejects certain structures. The change of organizational structure immediately initiates changes in culture. New departments are born, old ones are dying, and thus new grouping of people is constructed. Within the new structure organization members have to find new ways of communication and communicate and interact with different people. That necessarily leads to changes in culture.

## THE FEATURES OF CULTURE

The apparent contradiction between strong cultures and the change of organizational culture can be solved. It is possible for a strong culture to be formed that is friendly to change, and whose fundamental value is the ability to change.

- Importantly the distinction between strong and weak culture is not a qualitative one. It depends highly on organizations and the environment.

The approaches mentioned above measure strength according to one dimension. The question can be easily translated to a more complex environment. Organizational culture must be examined in its business and social embeddedness. This refines the issue and further shapes the question.

The stage of the change process in which the organization is and what methods have been used to support the change process also matter. Besides the causes of organizational history, market position in the given business and the development tendencies of the country have a strong influence on the organization.

What is important for the leadership is that *the presence of strong culture does not mean its unchangeability.*

- *If the central values – except those to be radically changed – are properly managed, they can even serve as supporters for change. A smart leader has the opportunity to use these basic values and beliefs as a commonly shared and accepted starting point, and build a program of incremental change on it.*

- *Many companies have the advantage of possessing a culture in which of change and the ability to change are central values.*

Most of the time this is the result of their corporate history, since companies that were never market leader were forced to adopt follower strategies. This market behavior planted the openness and ability to change into their culture. And even nowadays when many of them are market leaders, one of their competitive advantages is this ability which enables them to react more quickly to market changes.

- *The task of the leadership is to stand clearly for the continuity of the values not hindering change, thus encouraging change in those resistant to change.*

Emphasizing the positive values of the past makes changes easier in other fields as well. Thus the culture does not lose its strength and the ability to change can be built in. To achieve this ideal situation, a sequence of leadership interventions and fine-tuning are necessary.

- *Strong culture therefore is not necessarily the obstacle for changes, even when it contains many and intensely shared assumptions and values.*

If the leader succeeds in building sensitivity and ability to change into the central elements of the value system, the culture can be transformed into one friendly to change. Change friendly organizations with strong cultures are better off than the less homogenous ones.

## NATIONAL CULTURAL BACKGROUND

The result of organizational development programs is derived from two sources. Besides the defined organizational objectives, the influence of national cultural background is also important. These two can have opposite influences on the organization.

A twofold impact is seen in the implementation of organizational change and development programs. The well-defined objectives and activity plans of top management work from top to bottom. National culture works the opposite direction, from bottom up. This national cultural background is one of the obstacles to organizational changes in Hungary.

## THE NOTION OF ACCULTURATION AND ITS ENVIRONMENTAL FACTORS

The notion of acculturation has been long used by anthropology, psychology and cross-cultural management. Acculturation is the process "by which two or more cultures come in contact and resolve the conflict that arises as a result of this contact." [3]

Every organization goes through the process of acculturation, which merges with another one. Four factors are influencing the acculturation process:

- Culture
- Strategy
- Structure
- Leadership

Morosini [4] widens the framework of the acculturation process and its operational conditions. It is not only a management task, but the roots of national culture play an equally important role in the M&A process. The social environment in which the organization operates has a determinative influence on the methods-in-use. Therefore, beside the obvious internal and external factors, social embeddedness of the organization must be considered to thoroughly understand its market behavior and the role of cultural values in the process.

The organizations social components include such aspects as>

- How company executes complex coordination functions involving both internal and external resources?
- How it develops critical networks and learns within its community?
- How its people communicate and collectively foster a social sense of identity? [4]

The importance of these skills increases, when resources must be coordinated in M&As within diverse national cultural framework. This knowledge is almost impossible to copy by competitors, it can only be gained through experience. Its uniqueness is derived from the co-ordination mechanisms, which operate in diverse cultural barriers, and are only valid within a holistic perspective. This includes the knowledge itself and is surrounded by cultural symbols, metaphors and norms. All this is captured by the notion of the Greek expression called *gnosis*. In case of companies, this *gnosis* provides the pragmatic skills and knowledge, which every firm has to possess to stand the fierce competition and the cultural environment, in which the firm experienced under which conditions the knowledge works. This *gnosis* cannot be benchmarked it must be learned the hard way. (It is not coincidental that companies with decades of international operational experiences seem to face less cross-cultural problems than their Japanese and Korean competitors.)

The internal and external condition of acculturation is summarized on Figure 2.

## QUESTIONS REGARDING CULTURAL ASPECTS OF M&AS

### MERGERS AND/OR ACQUISITIONS?

Though mergers and acquisitions are dealt simultaneously by scholars, no one argues that it is indifferent from a cultural perspective that a firm is acquired from a power position or firms of relatively equal market share or capital background are merging.

Vaara for example excludes acquisitions from the scope of the research. He defines merger as “a combination of organizations of fairly similar size, which creates and organization where neither party can clearly be seen as the acquirer.” [5] However business practice very often provides examples where a formerly announced merger turns out to be an acquisition... (E.g. the worldwide celebrated marriage of Daimler-Benz and Chrysler)

The clear distinction of mergers and acquisitions is required by legal aspects as well. They are not quite identical phenomena, since they result from two legally different transactions. A merger is a statutory combination of two (or more) companies, either by the transfer of all assets to one surviving company or by joining together of the two firms into a single new enterprise. Therefore, mergers are-at least in principle-cooperative agreements between equal partners, especially, of course, if an entirely new organization is formed.

In contrast acquisition takes place, when one company buys enough shares to gain control of another. It maybe defined as friendly, hostile, according to the way it is perceived by the shareholders and the management of the company being acquired. The formal distribution of power is clearer than in the merger case. [6]

In spite of all the financial, strategic, legal and cultural differences between mergers and acquisitions, literature on the topic most of the time uses the term M&A without making a clear distinction.

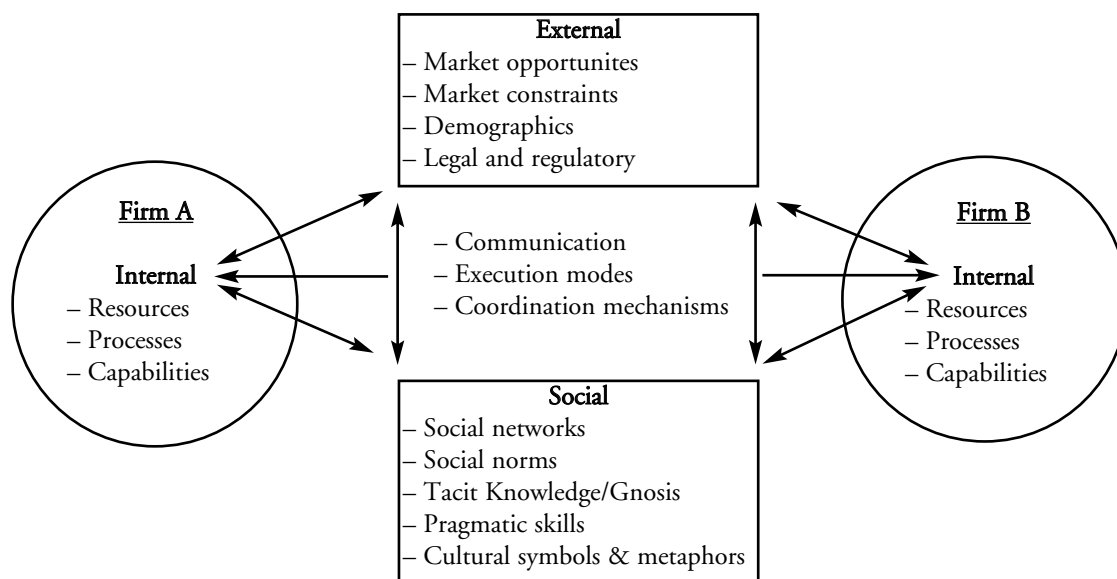


Figure 2. Conditioning factors in an M&A Morosini, 1998, p.27

## DOUBLE ACCULTURATION

Based on experimental research many scholars argued that cross-border dimensions of M&As are further management challenge. [4][6][7]

It is interesting to note however that British and American scholars pay less attention to problems of cross-border co-operations. Many of them simply ignore these conflicts and problems or consider it overemphasized. In their point of view these transactions are still conflicts and collaborations of organizational cultures. Nahavandi and Malekzadeh acknowledge the existence of the two levels (i.e. the national cultural and the organizational cultural) and terms the process as "double acculturation." However, in their framework M&As are more considered problems of leadership and organizational culture than clash of national cultural backgrounds. [3]

This cultural blindness of the scholars from UK and USA is due to historical and geographical reasons. [8]

An interesting phenomena occurs, when examining the results of cross-border corporate M&As. International transactions of this kind tend to be more successful synergy wise. Partners involved in such process are more aware of

the possible challenges and conflicts than in domestic M&As due to their cultural openness and sensibility. Merging of two organizational cultures of similar kind in a domestic relation tend to be less successful, than the well prepared cross-border transactions. [9][10]

### *The Organizational Cultural Perspectives*

When analyzing merging organizational cultures a significant difference can be traced. Three perspectives were defined by Martin, namely integration, differentiation and fragmentation. [11] Characteristics of the three perspective are shown on table 1.

In analyzing M&A processes representatives of the in integration perspective focus on the differences of the organizational cultures. Therefore the acculturation process is seen as the integration of two cultures. The more intact cultures are the harder is to change those. [12]

In spite of this, when dealing with acculturation the differentiation and the fragmentation perspective focus on the creation of a new organizational culture. These approaches are more strategic oriented and provide more possibility for synergistic solutions.

## Defining Characteristics Of The Three Perspectives

Table 1.

Perspective	Integration	Differentiation	Fragmentation
<i>Orientation to consensus</i>	Organization-wide consensus	Subcultural consensus	Multiplicity of views (no consensus)
<i>Relation among manifestations</i>	Consistency	Inconsistency	Complexity (not clearly consistent or inconsistent)
<i>Orientation to ambiguity</i>	Exclude it	Channel it outside subcultures	Focus on it
<i>Metaphors</i>	Clearing in jungle, monolith, hologram	Islands of clarity in sea of ambiguity	Web, jungle

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### Resümee

*Der Artikel forscht den akkulturellen Prozess in dem Hinsicht der Veränderung der Organisation Kultur. Erste mal wurde ein auf empirischen Forschung beruhene Modell für die Veränderung der Kultur demonstriert. Alle Faktoren des Modells wirken auf die Veränderung der Organisation Kultur, obwohl nicht gleichzeitig und nicht in gleichem Masse. Die Wirkungs Faktoren sind die Leitung, die Mitgliedschaft, die Charakteristik der Organisation, die Nationalkultur, die Strategie und die Struktur und die Parameter der Organisation Kultur. Der Autor demonstriert den Begriff des akkulturellen Prozesses als ein typische veränderungs Prozess, sowie kulturische Fragen, die bei der Verschmelzung und bei dem Aufkaufen (M&A) entstehen können. Die Wirkung der Nationalkultur in dem akkulturellen Prozess ist bedeutend. Schliesslich erscheint sich die Bestrebung auf die kulturelle Synergie als eine strategische Frage.*

### Összefoglaló

*A cikk az akkulturáció folyamatát a szervezeti kultúra változása szemszögéből vizsgálja. Először egy empirikus kutatáson alapuló kultúráváltási modellt mutat be. A modell tényezői mind hatnak a szervezet kultúrájának változására, bár nem egyszerre és nem egyforma mértékben. A ható tényezők a vezetés, a szervezeti tagság, a szervezeti karakterisztika, a nemzeti kultúra, stratégia és struktúra és a szervezeti kultúra jellemzői.*

*Az egyik jellegzetes kultúráváltási folyamatként a szerző bemutatja az akkulturáció fogalmát, valamint az összeolvadásokban és felvásárlásoknál (M&A) felmerülő kulturális kérdéseket. A nemzeti kultúra hatása az akkulturációs folyamatra jelentős. Végül megjelenik a kulturális szinergiára törekvés, mint stratégiai kérdés.*

orosz

# FUNDAMENTAL DIFFERENCES OF THE DISCOUNT RATE’S CONSTRUCTION

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## SUMMARY

*The lecture points out the contradiction, which hides behind the yield requirements interpreted by the ‘shareholder aspect’ and the opportunity cost resting on microeconomic bases. The economic literature was consistent for a long time in the question that the time-value of invested money is independent from the capital-structure. The investment- efficiency calculations are not influenced by the decision concerned with the capital-structure.*

*As the ‘shareholder aspect’ came to the fore, we can meet more often efficiency-calculations, where different yield requirements concerned with the equity capital and credits are charged, for the equity capital profitability requirements containing also the risk-premium requirements (as a rate independent of the capital-structure), for the credits only the returns of interest. Considering, that the prices of products realising on the competitive market do not depend on the capital-structure, the yield-requirement drafted on the principle of opportunity cost must be also independent of that.*

*A further feature of the differentiated yield-requirement is that the bigger the proportion of the credit is by its application, the larger is the Net Present Value calculated for the same action (assuming an economical alternative otherwise). Considering, that here the average yield-requirement is lower than the calculate rate of interest, in case of an unprofitable action can also arise an NPV greater than zero according to the microeconomic approach.*

The uncoordinated development of the functional segments in the corporate management plays a major role in the process that the business economics literature became controversial in many questions. Such as, the problem of required capital yield interpretations and that of charging of yield requirement. The lecture – within its limited boundaries – picks only one from this set of problems: the interpretation and charging of different yield requirement of debt during the accounting for managerial decisions.

## 1. THE “SHAREHOLDER APPROACH” GAINING GROUND

The primary question of accounting for managerial decisions is that whether the given topic meets the requirement of returns. Then comes a task of creating a rank of priority where the first, second, third, etc. places should be determined. Also, in relation to the capital investment the “time value of money” has to be recovered. So in case of accounting for investment decisions it is necessary to clarify preliminarily the statements concerning with showing the time value of money in numbers.

The business economics literature had been unanimous for a long time about the question that the time value of

money load into investments was independent of the capital structure. The accounting for investment decisions were not influenced by the possibilities of selection related to the capital structure. The degree and ratio of debt did not play a direct role in the formation of capital yield requirements.

A financial theorem has become stressed stating that the cost of equity is the rate of return that stockholders require on the common stock, and the cost of debt is the interest rate investors require on credit issues. First of all with gaining ground of the “shareholder approach” and by the fact, the literature of financial management becomes more and more significant this shareholder approach gains ground in the business economics literature as well.

In the practice oriented foreign and domestic resource studies you can find a strong tendency according to which only the interest should be charged to debt, because of the fact the creditor expects only this much. Nowadays this conception is often applied to the accounting for investment decisions too.

There are various actual calculation methods, yet many of them have a confusing background. The two characteristic proceedings of the consequent treatment of different capital yield requirements are the following:

- a, the automatic yield requirements differentiation,
- b, the charging of yield requirement counted as the average rate of the two yield requirement.

a, According to a frequent logical formulation of the accounting for investment decisions soaked with the “shareholder approach” the sum of debt should be presented among the revenues (according to the real date of the borrowing) and the due interest on debt as well as the sum of the installments should be treated among the expenditures. This automatically means that only the cost of interest is charged as a yield requirement of debt capital (over the return of nominal value). This is the case of automatic differentiation of capital yield requirements.

b, In the case of the other consequent calculation method, the traditionally treated total sum of investment is represented as the starting sum of capital investment and the interest is taken into account among the yields, as the part of revenues to. However the weighted average cost of capital is taken account as the capital yield requirement. (The “costs” are: yield requirement of equity and interest of debt.)

Concerning the original accounting for investment decisions, cash flow yield consisting of pre-tax earnings was typically applied during the analysis. This way the problem of time verticality became penetrable, in other words you could easily - without contradictions – switch between the categories of critical lifetime, critical output value, critical sum of investment, critical cost of material etc. And this assured the possibility of rethinking of complex relations as well.

The solutions springing on the ground of the “shareholder approach” leave only a narrow segment for reconsideration. In those calculations, where the shareholder defines his collectable incomes on after-tax revenue, the yield requirements are determined on tax revenue as well (though quantification is not always done so), which assumes that the life expectancy and the sum of depreciation are fixed. This method is presented rather like a plan-calculation and can answer liquidity questions, yet it can generally not replace the thoughtful and creative methods of accounting for managerial decisions. (As far as my knowledge is concerned the literature does not deal with the usefulness of the change of methods and not even touches this question either. However, in practice those uniplanar, theoretically not well based calculations are pushing into the background the widely applicable efficiency analyses.)

## 2. THE CAPITAL YIELD REQUIREMENT SHOULD NOT DEPEND ON THE CAPITAL STRUCTURE

### 2.1. THE PRINCIPLE OF OPPORTUNITY COST IN THE MANAGEMENT

In case of the scanty resources with alternative possibilities for consumption, the decision relating to the fulfillment of certain possibilities means that at the same time other economic activities cannot be executed at all, or to only a small degree, as far as the possibilities are concerned. So,

because of the scarcity of the resources the fulfillment of some activities means a withdrawal from other activities. This means that you have to give up the yields of the economic activities that were not carried out. The theory calls the globally interpreted yield effect of the alternatively executable topics opportunity cost, that is a withdrawal from the not executable actions and their yields by choosing another given version. By its utilization in other fields, the reachable yield may cover various economic content, therefore the opportunity cost has many concretizations. The latter comes evidently from the definition of Samuelson and Nordhaus too: “The opportunity cost of a decision consists of the things that are given up by taking that particular decision rather than taking an alternative decision.”<sup>1</sup> – coming upon a decision the people give up many things – by looking at its characteristics – which at the same time would come into play in other decisions.

One of the interests of the opportunity cost is the possibility of concretization based on various economic content. During the calculation of return requirement the type of the entrepreneurship decides about which concretizational content opportunity cost can be usefully applied. An entrepreneurship faces only that version which can be interpreted for the given circle of entrepreneurship. An other interest is seen if this is interpreted according to a given economic content a decision has as many opportunity cost as many yield possibilities of the real topics one loses in order to carry out one.

In respect to the fact that the knowledge of a single lost possibility cannot provide the criterion of a good decision, yet the exploration of the whole possible versions’ yield effect could even take for years. In practice, in order to determine the threshold value that brings yield after a good decision one takes the average value of the opportunity cost.

### 2.2. THE COMPONENTS OF CAPITAL YIELD REQUIREMENT

By utilizing the opportunity cost defined as the yield of capital forms the minimum criteria of return requirement. In addition to the costs derived from expenditures the capital’s average opportunity profit has to be refunded in the sales revenue of the to-be-carried out version.

The calculated rate of capital yield requirement describing the expected operating profit rate economically consists of two main parts: the price of capital utilization and the risk premium requirement. (By the old Hungarian term risk premium is named entrepreneurial profit.)

$$i = i_h + i_v$$

where:  $i$  = calculated rate of capital yield requirement (“discount rate”)

$i_h$  = estimated price for use of capital

(per one unit of capital)

$i_v$  = rate of risk premium requirement

<sup>1</sup> P. A. Samuelson – W. D. Nordhaus: *Economics*. McGRAW-HILL Book Company, New York, Twelfth Edition, 1985, p. 469.

For the sake of simplification the price of capital utilization is calculated on the basis of the risk-free rate realized on public securities. In practice however, the price for use of capital differs from the risk-free rate. The creditor and the consumer of debt – because of the creditors are secondary risk holders – share the risk premium requirement. This sharing does not affect the height of the calculated rate of capital yield requirement, but enriches its inner structure as opposed to the simple structure mentioned above. If we estimate – for the sake of simplification – the price for use of our capital and that of the debt with the effective interest rate (in case of more interest rates, we take their average) the risk premium requirement will differ somewhat from the theoretically pure content. Yet, this does not touch the capital yield requirement calculations since this simplification does not affect the aggregate sum of operating profit requirement. (The risk premium requirement rate is counted by the subtracting the price for use of capital from the calculated rate of capital yield requirement.)

Lack of this simplification we would have to build up the calculated rate of capital yield requirement from three parts: the risk-free rate; risk premium charged by the creditor; and the risk premium requirement above the mentioned two parts.

By the application of adjusted calculations it is straightforward to see that the risk premium requirement concerning the debt is somewhat smaller than its owners' equity. As a secondary risk holder, the creditor also holds some risk; that is why it imposes a higher charge for use of money than the risk free rate. However, this does not affect the sum of capital yield requirement and that of the operating profit requirement. It only touches the structure of the risk premium requirement and the estimated price for use of capital in the operating profit requirement, which in fact has no practical importance. (The accurate calculations would be distracted if the costs of debts are not homogenous. Even if we used their average our calculations still would not be totally accurate due to the significant differences between the expenses of administration.)

The purposefully applicable calculated rate of capital yield requirement can be classified according to the investment categories with different corporate risks.

### 2.3. THE CAPITAL STRUCTURE AND YIELD REQUIREMENT STRUCTURE

The capital yield return requirement equivalent to the average level of opportunity cost is to be interpreted independently of the form of capital ownership. The price of a competitive market product should not depend on the structure of capital ownership.

In case of the owners' equity the calculated rate of capital yield requirements are totally concretized as profit requirement. The debt's charge for use takes the form of cost, yet the amount by which the charge for use of capital is smaller than the calculated rate of capital yield requirements consists of risk premium requirement

concerning the debt. In other words, in case of different financing versions of a given activity, only the practical forms of appearance of the part of the calculated rate of capital yield requirements defined as the charge for use of capital will change, while the referring sum will remain the same. The rate of average opportunity cost is primary, its structure however, holds secondary information. Assumable, the classic accounting for investment decisions derive from this basic relationship where there is no differentiation taken into account between owners' equity and debt. The efficiency of topics is not influenced by the possibilities of capital structure.

It is a frequently raised idea that the change of the financing structure touches the risk questions as well. This is, of course, true, yet, in this case it is not the product market risk of a given activity that changes but that of the financier. It manifests primarily in the share of requirement of risk premium rate. Since this action does not affect the product market risk of the given economic activity, its calculated rate of capital yield requirements will not change either.

This relationship has a great importance to the methodology of decision preparing calculations. By the fact that labely or not labely done charging of capital yield according to the calculated rate of capital yield requirements lead to the same numerical result. The return requirement and its fulfillment could even be correctly studied without the knowledge of the capital structure and, more precisely, that of the financing background.

The exploration of the questions of financing may be narrowed down to the circle of those decision versions, which provisionary meet the return requirements set up by the basic value of a good operation. On this basis, then, one can get more easily to the development of the most favorable financing version that offers the greatest yield. Of course, the relevant financing plans are formed according to the financing background. (The counter value of use of debt is paid to the creditor. However, the resource of fulfillment should be presented among the revenues of the capital user. Since the pace of remittance does not equal to the pace of the return, the financial plan should contain the liquidity calculations.)

Among the inner components of the calculated rate of capital yield requirement only that one's appearance is variable which means the price of capital consumption. This takes the form of profit return requirement or cost return expectation as a function of capital ownership.

Though the change in capital structure influences the total corporate cost, it does not affect the sum of return requirement – interpreted as revenue – representing the threshold value of the good management. Since the charge of debt takes the form of cost (other conditions unchanged) the higher the ratio of debt, the higher the total cost of the same activities. However, this only touches the inner structure of the return requirement in a way that it shows that for the same sum of capital and of the same amount of charge of capital use how much takes the form of cost return requirement and how much becomes the profit return requirement.

### 3. THE SUM OF RISK PREMIUM EXPECTATION SHOULD NOT CHANGE

The equity is the entrepreneur's financial investment (along with its increased value over time) and at the same time the primary source of cover for the absolute loss. (The degree of a business' risk assumption may exceed the value of equity.) The debt is a kind of financial source – permanently or temporarily used by the business unit – that bears risk only at the time of enterprise liquidation. (Some of the risks may appear in relation with the bankruptcy agreement. At this time the goal is to go for a smaller disadvantage to avoid greater loss.)

In those economic actions, which are financed by credit the risk is taken by the user to the debit of equity, so the counter value of the assumption of risk should be realized on his side. If it does not, that is the return requirement defined by the principle of opportunity cost is not realized, the principle of “financing an activity from credit” is uneconomical.

However, making use of credit one can reach the same amount of revenue with less equity. If the interest on credit is smaller than the rate of capital yield, the profitability of the equity through credit could be greater. However, this has a price since the equity takes the primary risk. If the credit plays a part in the system, the equity then is responsible for a higher risk. The counter value of this higher risk is a greater profit yield on equity.

If the strategists identify themselves with the principle of decrease return requirement concerning debt the efficiency of financial policy falls because uneconomical versions also could get preferred. By applying this principle, if the debt ratio increases the average capital yield requirement would decrease. The higher the debt ratio the smaller the defected norm, which could be fulfilled or over-fulfilled with less effort.

In the cases of present value calculation where the yield requirement for the part financed by credit equals the actual interest rate we might witness a unique connection that is, if other conditions remain unchanged we get a higher and higher present value for the same variant of activity. The generated present value surplus through credit increases if the sum of credit is raised.

In the eyes of the management the smaller average capital yield requirement provides, in general, a significantly comfortable position.

### 4. THE SURPLUS OF NPV BY DEBT

The NPV was a frequently used accounting method for managerial decisions in the past, too. It means: the discounted sum of capital yield above the return of nominal value and the yield-requirement. If its value is 0, the investment brings as much yield as is the yield-requirements. Since the yield requirements get covered the investment with 0 PV is still economical.

It could easily be seen by lowering the operating profit requirement on debt we get a higher present value in case of that version where financing was done by debt. If only the interest rate is charged as yield requirement concerning the debt, the average yield requirement on the investment will be smaller than in case of version financed by owners' capital. This explains that – according to the shareholder approach – the higher the debt ratio the higher the investment's net present value (otherwise economical).

### 5. SHAPING THE “SHAREHOLDER APPROACH”

When the shareholder formulates his requirements for profitability assumed by the literature (complying with the information basis suitable for the practice of stock market) he does not accounting for the company's getting into debt as a basic information. Subsequently, he does not take the greater assumption of risk into account, which is generated by the credit. Though – under the same conditions – the shareholder of a more indebted company takes a higher risk.

In my point of view, it would be wise to study how generally accepted the referred “shareholder approach” is as well as what factors drove it to be as such. Wouldn't it be useful to treat the company's getting into debt among the relevant information of stock market, or to treat it according to its role? It is probable that the reality is a bit different from the drill suggested by the literature. The experience of modern developed markets indicates that a significant sum of credit influences by itself the current price of shares.



***Szemléleti kettősség a tőkehozam elvárás felszámításában  
(ismertetés)***

*Az előadás arra az ellentmondásra hívja fel a figyelmet, mely a mikroökonómiai alapokon nyugvó opportunity cost és a „részvényesi szemlélet” szerint értelmezett hozamkövetelmények mögött meghúzódik. A gazdálkodástani irodalom hosszú időn keresztül egységes volt abban a kérdésben, hogy az egyes beruházásokba befektetett pénz időértéke független a tőkestruktúrától. A beruházás-gazdaságossági számításokat nem befolyásolta a tőkestruktúrára vonatkozó döntés.*

orosz

*A részvényesi szemlélet előtérbe kerülésével egyre gyakrabban találkozhatunk olyan gazdaságossági számításokkal, ahol a saját tőkére és a hitelre vonatkozóan eltérő hozamkövetelményeket számítanak fel. A saját tőkére a rizikóprémium elvárást is tartalmazó jövedelmezőségi elvárást (a tőkestruktúrától független rátaként), a hitelre csupán a kamat megtérülését. Tekintettel arra, hogy a termékek verseny piacon realizálható ára nem függ a tőkestruktúrától, az opportunity cost elvén megfogalmazható hozamelvárásnak is függetlennek kell lennie attól.*

*A differenciált hozamelvárás további sajátossága, hogy alkalmazása révén az ugyanazon akcióra számított nettó jelenérték annál nagyobb lesz, minél nagyobb a hitel részaránya (egyéb-ként gazdaságos változatot feltételezve). Tekintettel arra, hogy itt az átlagos tőkehozam-elvárás alacsonyabb a kalkulatív kamatlábnál, a mikrogazdasági közelítés szerint gazdaságtalan akció esetén is adódhat nullánál nagyobb nettó jelenérték.*

német

# NEW ECONOMY – NEW ANSWERS IN ECONOMICS

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## SUMMARY

*The ‘new economy’ thanks to the favourable coincidence of many factors took place in the USA first, and by the throughout the world accelerating globalizational processes it grew world wide in more respects.*

*The ‘new economy’ is such a complex economic system built on new technological bases, which can be characterised by an individual organisational structure and an operation on a global scale. Although the new system is very dynamic, the direct results of its operation are quite doubtful and its social effects are extremely exclusive. For example: the demands for labour forces are globalizing, but an intensive global demand appears only for special labour groups (professional elite). The national states are obliged to undertake the mission of global extension of the ‘new economy’.*

*The keyfactors of the operation of the ‘new economy’ based on the answers given to the challenges of the changed social-economic environment are the followings:*

- > information having high production costs and business value;*
- > the world wide webs giving the source of different information - that is the new infrastructure;*
- > continuous learning;*
- > increasing economic role of the state.*

*For the questions raised by these keyfactors today’s economics have not given radically new theoretical answers yet.*

The driving force behind the development of scientific theories is generally either the wish to resolve inconsistencies or the pressing impact of external circumstances undergoing changes. In the present case we wish to address the basic socio-economic changes which have evolved in the past 25 years and have forced economics to provide new answers.

The concept ‘new economy’ has become commonly known recently, although opinions as to its contents differ widely. We wish to join those who say that the ‘new economy’ (M. Castells, 2000)

- solidified primarily in the United States in the 1990s, on the basis of the widespread economic diffusion of the technological revolution starting in the early 1970s. Innovation appeared first of all in information technologies and in the financial sector, resulting in a dramatic growth in the productivity and competitiveness of the participants of the economy.

- The ‘new economy’ became established for the first time in the United States because it was there that the combination of technical/technological, economic, institutional and cultural factors developed which was required for the novelties to spread widely in the economy. Thus it was there that the great information technology breakthroughs took place in the production, distribution and management activities of a great number of companies. The USA held large domestic markets and dominant

positions in the global network of commodities and capital. The USA attracted capital and outstanding talents most intensively all over the world. The USA government was the first to deregulate economic activities, to break up monopolistic markets and liberalise the economy in general, which in turn facilitated a high level mobility of capital and a rapid dissipation of innovation processes. All these changes were added onto the favourable cultural features, entrepreneurship, active individualism, flexible economic behaviour and ethnical diversity.

We wish to emphasise that the ‘new economy’, while it solidified in the USA, became globalised in a number of respects world-wide between 1975 and 2000. Therefore it can be stated that it is an economic system based on new technology, which can be described by its own organisational structures (networks) and operation on a global scale. On the basis of the information and communication technologies, the productivity and competitiveness of the participants of the economy depend primarily on their capacity of how efficiently they can produce, process and apply various kinds of information. Both the main production, consumption and trade processes and their main components (capital, labour, raw materials, management, market, information and technology) are organised on a global scale according to the

diverse connections between the participants of the economy.

To sum it up, the 'new economy' as a historically new economic system is nothing else than a combination of the information technology revolution with the new knowledge basis of the economy in its basic economic activities in the framework of global network structures.

When the global feature of the 'new economy' is highlighted, we do not wish to fuse global economy with the concept of world economy. It is well-known that the world economy, i.e. the world-wide accumulation of capital, has existed since the 16<sup>th</sup> century, but it acquired a global character only at the end of 20<sup>th</sup> century. The current global character of the world economy is expressed by three basic factors:

- the particular infrastructure of the world economy, which has been created by the new information and communication technologies,
- the wide deregulation and liberalisation measures of the nation states,
- and finally the operation of efficient international financial institutions.

However, the global character of the 'new economy' does not mean that every move in today's economy is of a global character. Indeed, production and employment with a local or regional character and a large number of companies continue to be present everywhere and are there to stay. Essentially it only means that in the age of the 'new economy' the prosperity of a country depends on the performance of the globalised core of its national economy (financial sector, foreign trade, transnational production, modern technology and individual labour groups). Moreover, the strategic elements of the performance of the individual national economies have become mutually interdependent on a global scale. On the other hand, the same strategic elements possess technical, economic and institutional capacities that enable the participants of the economy to operate continuously in real time on a global scale.

It is a well-known fact that the financial sector operates continuously around the clock globally at present. This has been made possible by a combination of the following factors:

- new information and communication technology (high performance computers, interactive systems and telecommunications networks),
- the deregulation of financial markets,
- the introduction of highly mobile complex financial products (derivatives),
- increased financial speculation operations,
- companies applying global norms of accounting (qualifying foreign direct investment) (Standard and Poor, Moody's).

In the 1990s the process of globalisation accelerated not only in the financial sector but in production, trade and company management activities as well. This was mainly due to a dramatic increase in foreign direct investment (FDI), to multinational companies as decisive production factors coming to prevail and to the widespread establishment of international production networks.

These changes exerted a fundamental influence on the labour situation. It is well-known that in general the production increasing role of all technical/technological innovation depends basically on the quality of available labour and on the operation of the relevant institutions. This is the same in the 'new economy' as well. Moreover, the role of the quality of labour increases as a result of the new technologies being organised around knowledge-based information. Here we are talking about the acquisition of abilities to process symbols that are closely connected to qualifications and the social and cultural environment. The demand for new labour is, however, globalised selectively. Namely, intensive global demand arises only for labour groups that possess high value-added force. These groups include excellent financial experts, top managers, scientists and engineers with specialist expertise and qualifications, computer hardware and software developers, specialist advisers with substantial international experience. These labour groups as representatives of a global professional elite are able to generate extra income because they have become the crucial factor in the performance of global economic, telecommunications and political networks.

It is the global demand for such elite groups and the extra income they can generate that makes them mobile on a global scale. However, they only constitute a small fraction of the global labour supply. The absolute majority continues to remain local. At the same time, a virtually global layer appears here as well and it is interconnected through the global flows of production, money transfer, information and cultural values. In this way international networks of family, friendly, colleague and acquaintance connections arise while the individuals remain in the same place. Finally, the new information and communication technologies enable millions of people living and working in the 'space between countries' to appear as representatives of the digital culture.

As suggested earlier, the state was also necessary for creating the 'new economy'. The nation states' role was to direct the globalisation of the 'new economy'. They performed this role primarily through the deregulation of various economic activities, the liberalisation of foreign trade and investment and the widespread privatisation of previously state-owned companies. In the early 1980s some governments (those of the USA and Great Britain) promoted the new development through utterly conservative, free-market ideologies. They were concurrently nationalists and globalists, particularly in opening the financial markets.

The international institutions of globalisation (IMF, WB, WTO) grew stronger and stronger in the 1990s. They intended to impose their uniform programs composed on the basis of well-known theorems of neo-classical economics (a combination of increasing prosperity, prevailing democracy and decreasing poverty) upon possibly all the national economies of the world.

The essential involvement of the national governments and the above international institutions in the processes under examination highlights the fact that the 'new economy' of a global scale was created in a political way. More exactly, the new economic system was created not only by the markets in the classical way, but by the

interactions between markets, governments and international financial institutions while the latter acted in the name of market interests.

Accordingly, we can state that the driving force of the development of the 'new economy' is given by the new information and communication technologies and its structure is formed by the global production, trade and capital networks. The new system is very dynamic, but the direct results of its operation are highly uncertain and its social impacts are extremely exclusive. Positions acquired in the 'new economy' are constantly under attack, therefore maintaining competitiveness represents a constant challenge while the success of individual efforts is invariably uncertain.

Now the only question left is how economics reacted to the challenges of the changed socio-economic environment.

Naturally, we would think that the answers given by economics would be radically new.

Actually, this is not so. The first comprehensive work on the topic (Shapiro-Varian, 2000) starts from the basic assumption that essentially there was only a technological change, but the laws of economy themselves did not change. And those had already been described in details by mainstream modern economics.

The conservative answer holds that the new socio-economic conditions are essentially represented by the new technical foundations, the global networks intrinsically belonging to information and communication technologies, the changed market conditions and the new economic tasks of the state. And the operation of the new economy is based on three key factors: information (software), infrastructure (hardware) and human capital representing learning. The state plays a new role in creating the operational conditions.

**(1) Information** is the product of the economy based on new technical foundations. Information is anything that can be digitalised, i.e. can be encoded in successive information units (bits). The business value of information depends on the subjective evaluation of the prospective user. For the producer, information is a product described by its particular cost structure and competition.

The first production of information is expensive (high fixed costs), but its reproduction is very inexpensive (low marginal costs). As the basis of pricing is not the costs, but the subjective value-judgement of the prospective consumer, differentiated pricing has free scope as regards individuals, information types and consumer groups.

The high production costs of information are returned not on the basis of the maximum protection of intellectual property rights, but of maximising the value of intellectual property. Information is an 'experience commodity', which the consumer has first to acquire in order to fully appreciate its total value in use. Therefore the buyer is to be convinced to buy the information for the first time when he/she is not aware of its total usability.

**(2) The new infrastructure**, i.e. the world-wide networks serve as the sources of the different kinds of information. Its essential feature is that its individual elements can only be accessed and function as a system. This infrastructure means

a globally standardised context for the participants of the global economy who are either competitors or co-operating partners. Creating the world-wide networks involves substantial costs at individual, company and social level as well. It is also very expensive to shift from one particular network system to another. These high costs are compensated for by the effects of networks as externalities, which, after a long period of investment, reaching the critical mass of networks, result in an explosive growth in use relying on the positive feedback mechanism.

The information accessible in the global networks becomes mass products only gradually. Therefore initially, products tailored to meet individual consumer demands, and which have maximum use value, play a major role. The sellers are interested in setting prices that ensure that as large a part of the maximum individual use value as possible is financially acquired. The advantage of the first market appearance is present in benefiting from the well-known price differentiation over a relatively long lead-time. It has in its centre the various user units, the different varieties of the given information products or well-defined consumer groups. However, in price differentiation consideration is to be given simultaneously to the price sensitivity of the potential consumers, the externalities depending on the number of consumers, the extent of costs involved in getting used to a new product and the aspects of the rational division of various access sources.

Information accessible on-line and traditional information accessible off line compete with each other for the consumers. They represent two concept channels whose relation to each other may be exclusive, complementary or neutral in character. The outcome of the competition is determined by the ratios between the costs of producing the information in question and the benefits of convenience of use of the information.

The new digital technology changes the costs for the producers of the information content and the information providers. First of all copying and distribution costs show a dramatic decrease. New methods of the efficient management of intellectual property rights come to the foreground. Accordingly, the owner of new information will distribute patterns representing certain elements of the complete content free-of-charge widely, and then sell the complete content of the new information possibly at the maximum price. As for patterns, they are variety-forming strategies that ensure the commercial utilisation of the complete content through the simplified version accessible free-of-charge. But mention can also be made of the practice when the owner of the information is generous in surrendering the intellectual property rights to those for whom the information represents maximum value and are therefore willing to pay a high price for the different elements of the necessary information infrastructure.

A very peculiar element in the production, trade and consumption of information accessible through global networks is represented by lock-in. It is well-known that the replacement of any technology or product bought and used previously incurs substantial sunk costs. Experience shows that this is particularly true for information products. Therefore, in order to avoid the losses incurred by

replacement and shift, both the consumer and the supplier are bound to a particular information technology system.

The following kinds of lock-in are known according to the sunk costs of the various information products:

- Hardware
- Software
- Information and databases
- Search typical of mass markets
- Specialised suppliers
- And finally, loyalty programs (awarding long-time consumers).

The different kinds of lock-in represent basically non-remunerative costs both for consumers and suppliers. Therefore, when choosing an information product, one has to consider the prospective advantages of choosing a particular brand and the possible losses and costs incurred by replacing the brand later. This means that the essence of lock-in is evident in the fact that all our opportunities of choice in the future are limited by our investments today. To put it in a different way, the monetary extent of a lock-in today depends on the possible replacement costs in the future.

As has been mentioned earlier the **positive feedback mechanism** prevailing in the networking effects is a basic feature of the operation of typical 'new economy' networks. Moreover, the driving force of the dynamic operation of the new economy system is no longer the economy of scale characteristic of mass production, but the utilisation of the positive feedback mechanism.

Externalities whose development is regulated by the utilisation of the positive feedback mechanism appear both in the hardware and in the virtual (software) networks. Namely, the value of joining a given network depends on how many others have previously joined the same network. A larger network has value-increasing advantages over a smaller network whose exponential growth is determined by the number of consumers joining the network. Thus a self-generating process is started in the growth both of the number of people joining the network and of the network size.

While the positive feedback mechanism results in dynamic growth, it usually creates a monopoly position for some and leads to failure for others. In this way the dynamic operation of the network differentiates between the participants of the economy intensively, strengthening the position of those already in a strong position, and weakening the already weak, and finally excluding them. It is to be mentioned that the positive feedback mechanism appears in the 'new economy' also on the demand, i.e. consumer, side.

Works on the history of economy show that the global networks typical of the operation of the 'new mechanism' exert on the micro- and macro-economy influences whose internal dynamism is governed by the positive feedback mechanism. Accordingly, growth follows over time an easy-to-predict S-pattern, i.e. a period of slow initial growth is followed by an explosive exponential growth, which ends up in a state of saturation. The positive feedback mechanism

prefers large networks. On the other hand, consumer expectations regarding the future play a basic role in creating the critical mass (network size) required for the development of self-generating network externalities. They are, however, subjective and uncertain, and thus difficult to predict.

The great uncertainty characteristic of the 'new economy' is particularly conspicuous in the financial sector, which applies information and communication technologies on a large scale. Experience shows that the criteria of the market evaluation of economic activities have changed. Although the criterion of the traditional profit prospects has not disappeared from the scene, it is no longer the only aspect of evaluation. Recently new evaluation criteria of companies have gained in significance: goodwill, image, 'expected financial value'. The underlying concepts are no longer the fundamental real economy indices of the company but the trust placed in it and the expectations concerning its future. These are all subjective and difficult-to-measure criteria.

Companies that are able to combine traditional (profit, reputation) and new criteria (image, goodwill, financial value) are given the highest market evaluation.

At the same time the performance of companies, the development of supply and demand, the various interrelations between macroeconomic indices and different information sources are harder and harder to predict. The final market evaluation develops essentially according to random combinations of a multitude of different factors. Today the basis of economic calculations and investment decisions is no longer traditional profit expectations, but the increase in the 'expected financial value' of the company.

This is all about a new logic, which holds that creating economic value need not necessarily be embodied in material production. The most important thing is to acquire 'surplus expressed in money terms' by means of investment. Creating surplus, however, depends on the context. In today's context, in the 'new economy', creating value primarily results from the financial markets.

This means that in the framework of the 'new economy' information technology is directly present in the process of creating value based on our belief in the value we are going to create. Creating value is not, however, an individual, isolated activity, but the result of a system-type operation in networks.

(3) The constant learning represented by the **human capital** in the 'new economy' belongs to the core of any economic activity, since interactive learning in the networks, i.e. knowledge, is the sole long-term primary resource.

Éva Kocsis and Katalin Szabó (2000) therefore emphasise the fact that as compared to the school of thought of traditional economics, modern economic theory has to include the characteristics of this resource in its scope of study.

It has been found that learning is an evolution phenomenon, a dynamic process that can be interpreted only in time and cannot be described in terms of mechanical analogies.

Learning, being informed and the individual and group characteristics of decisions show a great variety and their long-term underlying regularities and patterns can only be explored depending on the prevailing socio-cultural context. These individual and group characteristics finally determine the added value creating capacity of labour. Therefore economic theory has to provide an answer to the relations between the value creating capacity and wages of labour under the new competition conditions.

(4) The answers given by the conservative economic theory emphasise the **role of the state** that is desired in the **'new economy'**, first of all the importance of the appropriate state competition policy. The latter is based on three basic principles:

- Competition itself as a process is to be protected by the state;
- A monopoly position in a given period does not necessarily mean unfair competition;  
Everyday business practice cannot regularly clash with the legal regulation by the state.

In addition to determining the competition policy of the state, **direct governmental intervention** has a relatively wide scope. Within that, government measures that are justified in case of a collapse of the competition process and concern the management of the issues of prices, quality, the associations of various networks and getting into the market are to be treated as necessary evil. The role of the government in contributing to the networks reaching their critical mass for the positive feedback mechanism to start is to be considered as something entirely different. And finally, there is no doubt that government measures ensuring the introduction of services with a global character are generally beneficial. These can considerably contribute to widespread access to and the efficient operation of various networks.

To sum it up, modern economics has not yet provided radically new theoretical answers that give a realistic description of the socio-economic environment and the 'new economy' in the early 21<sup>st</sup> century. Therefore there are definite doubts concerning the explanatory and predictive force of the conservative answers. We still have to wait for the really new answers.

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## Összefoglaló

Az „új gazdaság” számos tényező kedvező együtt hatásának köszönhetően először az USA-ban jött létre, a világszerte gyorsuló globalizációs folyamat révén pedig több vonatkozásban világméretűvé is vált.

Az „új gazdaság” olyan új műszaki alapokra építő komplex gazdasági rendszer, amelyet sajátos szervezeti struktúra és globális méretekben való működés jellemez. Bár az új rendszer igen dinamikus, működésének közvetlen eredményei meglehetősen bizonytalanok és társadalmi hatásai szélsőségesen kizárólagosak. Pl. Globalizálódnak a munkaerő iránti igények, de intenzív globális kereslet csak bizonyos munkaerőcsoportok (szakmai elit) iránt mutatkozik. A nemzeti államok kénytelenek az „új gazdaság” globális kiterjesztésének feladatát is átvállalni.

A megváltozott társadalmi-gazdasági környezet kihívásaira adott válasz szerint az 'új gazdaság' működésének kulctényezői a következők:

- > a magas előállítási költségű, üzleti értékkel bíró **információ;**
- > a különböző információk forrásául szolgáló világhálózatok, azaz az új **infrastruktúra;**
- > az **állandó tanulás;**
- > az **állam** növekvő **gazdasági szerepe.**

Ezen kulctényezők által felvetett kérdésekre a mai közgazdaságtan egyelőre nem adott radikálisan új elméleti válaszokat.

## Zusammenfassung

'Die neue Wirtschaft' ist durch die günstige Zusammenwirkung zahlreicher Faktoren zuerst in den USA entstanden, dann durch den weltweit beschleunigten Globalisierungsprozess in mehrfacher Hinsicht zu weltweiter Geltung gekommen.

'Die neue Wirtschaft' ist ein auf neue Technik aufbauendes komplexes Wirtschaftssystem, das von einer eigenartigen Organisationsstruktur und einer Funktionsweise in globalem Maßstab charakterisiert wird. Obwohl das neue System sehr dynamisch ist, sind seine direkten Ergebnisse ziemlich ungewiß und seine sozialen Auswirkungen extrem ausschließlich. Z.B. wird der Bedarf an Arbeitskräften globalisiert, es werden nur aber bestimmte Berufsgruppen (Facheliten) gefragt. Die Nationalstaaten sind gezwungen, auch die Aufgabe der globalen Erweiterung 'der neuen Wirtschaft' zu übernehmen.

In der veränderten sozial-wirtschaftlichen Umgebung sind die Schlüsselfaktoren 'der neuen Wirtschaft' wie folgt:

- > die kostenintensive und geschäftsrelevante Information;
- > die als Informationsquelle dienenden Weltnetze, dh. die neue Infrastruktur;
- > die Notwendigkeit des anhaltenden Lernens;
- > die wachsende wirtschaftliche Rolle des Staates.

Auf die durch diese Schlüsselfaktoren aufgeworfenen Fragen hat die jetzige Ökonomie vorläufig keine radikal neuen theoretischen Antworten gegeben.

## OROSZ

# ARBITRAGE THEOREM AND ITS APPLICATIONS

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*SUMMARY*

*In my article I describe the concept of financial rate of return and the value of return in a very simple model first. Then as generalisation of the model we take an experiment, which has  $n$  possible outcomes. We have the same  $m$  kind betting possibilities for each outcome. The financial rate of return is known for each outcome and betting possibility. We define the concept of arbitrage (the possibility of sure winning), and we are looking for the answer how to characterise the arbitrage exemption. What is the guarantee, that any betting terms cannot be given for which the winning is sure for each outcome? For this question the answer is given in the arbitrage theorem, which is one of the alternatives of the well-known Farkas theory. In the second part of the article I demonstrate some applications of the theorem. I apply it for a classical betting problem first, then for an option pricing in more details. The applications for the one-period binomial and trinomial, and the more-period binomial option pricing will also be made known.*

## 1. INTRODUCTION

Consider the following simple model. A bookmaker takes a bet and gets a certain amount. Let  $x$  be the bet and the win  $z$ . The ratio  $r=z/x$  is called return rate and denoted by  $r$ . If the bet is  $x$ , then the return value is  $z = rx$ . The return rate is the return value of the unit bet. The bet, the return rate and the return value can be an arbitrary real number. If e.g. the bet is 3, and the return rate is 2, then bookmaker wins 6, (if  $x = 3, r = 2$ , then  $z=6$ ). If e.g.  $x = 5$  and  $r = -3$ , then  $z = -15$ , then bookmaker loses 15.

Now we generalize our simple model. In the new model let  $m$  be the number of the wagers. Let  $r_1, r_2, \dots, r_m$  be the return rate of wagers. If  $x_1, x_2, \dots, x_m$  are the bets on wagers, then the return value of the wagers is

$$z = \sum_{i=1}^m x_i r_i .$$

If the value of  $z$  is positive, then the bookmaker wins, if  $z$  is negative, then the bookmaker loses.

In a further generalization of the model, consider an experiment where the number of possible outcomes is  $n$ . We use the same wagers ( $W$ ) for all outcomes ( $O$ ). We assume that the return rates for all outcomes are known. The bets can then be denoted by vector  $\mathbf{x}$ , the return rates can be denoted by matrix  $\mathbf{R}$ , where the entry  $r_{ij}$  stands for.

$\mathbf{x}$

$\mathbf{R}$

The following scheme shows our data

		$O_1 \dots$	$O_j \dots$	$O_n$
$x_1$	$W_1$	$r_{11} \dots$	$r_{1j} \dots$	$r_{1n}$
:				
$x_i$	$W_i$	$r_{i1} \dots$	$r_{ij} \dots$	$r_{in}$
:				
$x_m$	$W_m$	$r_{m1} \dots$	$r_{mj} \dots$	$r_{mn}$

If the outcome of experiment is  $O_j$ , then the return value for some betting vector  $\mathbf{x}$  is

$$z_j = \sum_{i=1}^m x_i r_{ij} .$$

If there is such a betting vector  $\mathbf{x}$  that

$$z_j > 0, (j= 1, \dots, n)$$

this means that we have a sure win for each outcome of the experiment. This is called arbitrage or arbitrage opportunity (arbitrage = sure win opportunity).



## 2. ARBITRAGE THEOREM

The arbitrage can also be written in matrix form, that is if there is such a betting vector  $\mathbf{x}$  that

$$\mathbf{XR} > \mathbf{0},$$

then arbitrage occurs.

In the following we give a characterization of the so-called arbitrage-free. What is the guarantee that doesn't exist such a betting vector  $\mathbf{x}$  which leads to sure win opportunity? The Farkas theorem gives the answer to this question.

### Farkas theorem:

The system

$$\mathbf{XR} > \mathbf{0},$$

has no solution if and only if the system

$$\begin{aligned} \mathbf{Rp} &= \mathbf{0} \\ \mathbf{p} &\geq \mathbf{0} \\ \mathbf{p} &\neq \mathbf{0} \end{aligned}$$

has solution.

This theorem is known as Gordan theorem too, but this is an other form of the original Farkas theorem.

In the original Farkas theorem the two systems are  $\mathbf{Ax}=\mathbf{b}$ ,  $\mathbf{x}\geq\mathbf{0}$  and  $\mathbf{yA}\leq\mathbf{0}$ ,  $\mathbf{yb}>\mathbf{0}$ . J. Farkas published this famous theorem in 1902 and he applied it for the axiomatization of the analytical mechanics. The Farkas type theorems play an important role in the field of optimization. This is one of the most quoted theorem in the topic of optimization.

If we consider vector  $\mathbf{p}=(p_1, p_2, \dots, p_n)$  in the second system as a probability (random) vector of the outcomes  $\{O_1, O_2, \dots, O_n\}$  then vector  $\mathbf{Rp}$  can be interpreted according to the following: The  $i$ -th element of vector  $\mathbf{Rp}$

$$\sum_{j=1}^n r_{ij}p_j$$

is the expected value of the returns value of the  $i$ -th wager. According to the Farkas theorem arbitrage doesn't occur if and only if the expected value of the return values is zero for all wagers. To summarize we point out that the arbitrage can be formulated in the following way.

### Arbitrage theorem:

Exactly one of the following statements is true:

- a) there exists a probability vector  $\mathbf{p}=(p_1, p_2, \dots, p_n)$  for which

$$\sum_{j=1}^n r_{ij}p_j = 0$$

for all  $i=1, 2, \dots, m$ ,

- b) there exists a betting vector  $\mathbf{x}=(x_1, x_2, \dots, x_m)$  for which

$$\sum_{i=1}^m x_i r_{ij} > 0$$

for all  $j=1, 2, \dots, n$ .

Proof of the theorem:

The arbitrage theorem can be proved in several ways. Here we prove it by means of the duality of linear programming. Consider the standard primal and dual linear programming problems:

Primal	Dual
$\mathbf{Az} = \mathbf{b}$	$\mathbf{yA} \leq \mathbf{c}$
$\mathbf{z} \geq \mathbf{0}$	$\mathbf{yb} \rightarrow \max!$
$\mathbf{cz} \rightarrow \min!$	

According to the duality theorem of the linear programming if the primal and the dual problems have feasible solutions then both problems have optimal solutions and the minimal value of the primal objective function is equal to the maximal value of the dual objective function.

Consider the following linear programming problem.

$$\begin{aligned} \sum_{i=1}^m x_i r_{ij} &\geq x_{m+1} \\ x_{m+1} &\rightarrow \max \end{aligned} \quad (1)$$

According to the condition of the problem we would like to reach at least an amount  $x_{m+1}$  for all outcomes and beside we want that this amount should be maximal. This problem can be transformed to the standard dual linear programming problem and we can write the primal problem as follows:

$$\begin{aligned} \sum_{j=1}^n p_j &= 1, \\ p_j &\geq 0, \quad j = 1, 2, \dots, n \\ 0 &\rightarrow \min \end{aligned} \quad (2)$$

Note that the condition of problem (2) is the same as in the arbitrage theorem. It can be easily observed that the problem (1) has feasible solution (e.g.  $\mathbf{x}=\mathbf{0}$  and  $x_{m+1}=0$ ). We distinguish two cases according that the problem (2) has or hasn't got any solution.

If the problem (2) has feasible solution (there exists a probability vector) then according to the duality theorem both problems have optimal solutions, the optimal value is zero. So  $x_{m+1}=0$  means that there is no sure win opportunity.

If the problem (2) has no feasible solution (there doesn't exist a probability vector) then according to the duality theorem there isn't any optimal solution and the objective function of problem (1) is not bounded from above. It means that  $x_{m+1}$  can be positive. In this case there is sure win for all outcomes, so there is arbitrage. The arbitrage theorem has been proved.

The arbitrage theorem has a weak form, which gives a connection for the sure not-lose opportunity instead of the sure win.

**Weak arbitrage theorem:**

Exactly one of the following statements is true:

- a) there exists a probability vector  $\mathbf{p}=(p_1, p_2, \dots, p_n)$ , all of whose components are positive for which

$$\sum_{j=1}^n r_{ij} p_j = 0$$

for all  $i = 1, 2, \dots, m$ ,

- b) there exists a betting vector  $\mathbf{x}=(x_1, x_2, \dots, x_m)$  for which

$$\sum_{i=1}^m x_i r_{ij} \geq 0$$

for all  $j = 1, 2, \dots, n$ , but for at least one index the strict inequality holds.

### 3. APPLICATIONS

#### 3.1. CLASSICAL ODDS

Consider an experiment with  $n$  possible outcomes on which we can bet. The odds can be given with the scheme e.g. "3 to 1", this means that the bet is 1, the return value is 3 if the outcome of the experiment is favourable for us in the other case the bet is lost. Let our bet for the  $i$ -th outcome of the experiment " $o_i$  to 1". In this problem the matrix  $\mathbf{R}$  is quadratic, which has the following entries:

$$r_{ij} = 0, \quad i = 1, 2, \dots, n, \\ r_{ij} = -1, \quad i \neq j.$$

According to the arbitrage theorem we have possibility for the sure win if and only if there exists a probability vector  $\mathbf{p}=(p_1, p_2, \dots, p_n)$  for which

$$0 = \sum_{j=1}^n r_{ij} p_j = o_i p_i + (-1)(1 - p_i), (i = 1, 2, \dots, n),$$

from which we obtain that

$$p_i = \frac{1}{1 + o_i}, (i = 1, 2, \dots, n),$$

Since  $p_i$  is probability, the  $p_i$  must sum to 1. If

$$\sum_{i=1}^n \frac{1}{1 + o_i} \neq 1,$$

then we can give such a bet for which we have sure win opportunity independently of the outcome of the experiment. It can be easily shown that the bets

$$x_i = \frac{1}{1 + o_i} \cdot \frac{1}{1 - \sum_{k=1}^n \frac{1}{1 + o_k}}, i = 1, 2, \dots, n$$

yield sure win and the gain is 1 for all outcomes. If e.g. there are three outcomes and for these the odds are "1 to 1", "2 to 1", "3 to 1", then we have sure win, because

$$\frac{1}{2} + \frac{1}{3} + \frac{1}{4} = \frac{13}{12} \neq 1.$$

If e.g. the bets are -1, -0.7, -0.5, then our gains are 0.2, 0.1, 0.2. If the bets are -6, -4, -3, then the gain is 1 for all outcomes.

#### 3.2. OPTION PRICING

Consider a European call option, we want to determine its price  $C$ . The call option is a right (not the obligation) to buy a stock for a given price (exercise or strike price) at a given future time (expiration date). In this section we use the following notations:

- $S$  : initial (present) price of the stock,
- $K$  : exercise price of the call option,
- $T$  : expiration time (year),
- $r$  : nominal risk-free interest rate per year (compounded continuously),
- $S_T$  : stock price at the expiration time.

First we compute the value of the call option at the expiration time. If the stock price ( $S_T$ ) at the expiration time exceeds the exercise price ( $K$ ) of the call option, then the owner of the option will exercise the option and buy the stock for price  $K$ . The value of the call option is  $S_T - K$ . If the stock price ( $S_T$ ) at the expiration time doesn't exceed the exercise price ( $K$ ) of the call option then the owner of the option wouldn't exercise the option. The option is worthless, so its value is zero. We can handle both cases together with the help of maximum function or notation of positive cutting. The value of the call option at the expiration time is

$$\max(S_T - K, 0),$$

or with notation of the so-called positive cutting:

$$(S_T - K)^+.$$

##### 3.2.1. SINGLE PERIOD BINOMIAL MODEL

Suppose that the initial stock price is  $S$ . At the end of the period the stock price will either be  $Su$  or  $Sd$ . We assume that

$$d < 1 + e^{rT} < u$$

The stock price at the expiration time is

$$S_T = \begin{cases} Su \\ Sd \end{cases}.$$

Here we use the previous terminology (experiment, outcome, etc.). In this problem the experiment has two outcomes, which are stock prices at the expiration time. Now consider a portfolio, which consists of a stock and a call option. So we have two wagers: buying (or selling) the

stock respectively buying (or selling) the call option. What is the matrix  $\mathbf{R}$  in our new model? The entry  $r_{ij}$  ( $i, j=1, 2$ ) means the present return value in the case of buying of a stock and buying of an option. As known, present value = value times  $e^{-rT}$ .

- $r_{11}$ : at the expiration time the value of the stock is  $Su$ , the return value is its present value reduced by the cost of buying stock.
- $r_{12}$ : at the expiration time the value of the stock is  $Sd$ , the return value is its present value reduced by the cost of buying stock.
- $r_{21}$ : at the expiration time the value of the call option is  $(Su-K)^+$ , the return value is its present value reduced by the cost of buying option.
- $r_{22}$ : at the expiration time the value of the call option is  $(Sd-K)^+$ , the return value is its present value reduced by the cost of buying option.

The return matrix  $\mathbf{R}$  can be written in the following way

	Increasing stock price	Decreasing stock price
Stock	$Sue^{-rT}-S$	$Sde^{-rT}-S$
Call option	$(Su-K)^+-C$	$(Sd-K)^+-C$

We want to determine the price of call option ( $C$ ) in such a way that there is not sure win. There is no such a portfolio for which there is sure win independently from the stock price. The answer for this is given by the arbitrage theorem. Let  $p$  be the probability that the stock price increases. Let  $(1-p)$  be the probability that the stock price decreases. According to the arbitrage theorem there is no arbitrage opportunity is not if there is a probability  $p$  that the expected return of the stock and the call option is zero, that is

$$p(Sue^{-rT}-S)+(1-p)(Sde^{-rT}-S)=0,$$

$$p[(Su-K)^+-C] + (1-p)[(Sd-K)^+-C]=0$$

After solving this system of equations the option price becomes

$$C=e^{-rT}[p(Su-K)^++(1-p)(Sd-K)^+],$$

where the probability, that the stock price increases, is

$$p = \frac{e^{rT} - d}{u - d}.$$

To summarize we note that the price of the call option is the present value of the expected value of the option values at the expiration time.

If e.g. the initial stock price  $S=200$ , the factors  $u=1.1$ ,  $d=0.9$ , the exercise price of the call option  $K=210$ , the expiration time  $T=0.5$  year, the risk-free interest rate 12 %, so  $r=0.12$ , then  $p=0.8092$  and  $C=7.621$ . The price of the call option is 7.621.

### 3.2.2. SINGLE PERIOD TRINOMIAL MODEL

Consider a European call option. Let  $S$  be the initial price of stock. Suppose that the stock price will have three possible prices at the end of the period. Let  $u, v, d$  be the factors so the stock price will be  $Su, Sv$  respectively  $Sd$ . The price of the call option ( $C$ ) can be determined in the following way.

In the trinomial model also consider a portfolio with stock and call option. The matrix  $\mathbf{R}$  is the following:

	$Su$	$Sv$	$Sd$
Stock	$Sue^{-rT}-S$	$Sve^{-rT}-S$	$Sde^{-rT}-S$
Call option	$(Su-K)^+-C$	$(Sv-K)^+-C$	$(Sd-K)^+-C$

Let be the probabilities of the stock prices  $Su, Sv, Sd$ . According to the arbitrage theorem we obtain the following system of equations

$$p_1(Sue^{-rT}-S)+p_2(Sve^{-rT}-S)+p_3(Sde^{-rT}-S)=0$$

$$p_1[(Su-K)^+-C]+p_2[(Sv-K)^+-C]+p_3[(Sd-K)^+-C]=0$$

From the second equation

$$C=p_1(Su-K)^++p_2(Sv-K)^++p_3(Sd-K)^+,$$

from the first equation

$$p_1u^++p_2v^++p_3d^+=e^{-rT}.$$

Considering that  $p_1+p_2+p_3=1$ , we obtain for the option price that

$$C=p_1((Su-K)^+-Sd)+p_2((Sv-K)^+-Sd)+p_3(Sd-K)^+,$$

$$p_1(u-d)+p_2(v-d)=e^{-rT}-d,$$

where  $p_1, p_2 \geq 0$ ,  $p_1, p_2 \leq 1$ . In the trinomial model the arbitrage-free option price is not unique.

If e.g. the initial stock price  $S=100$ , the three possible stock price at the expiration time  $Su=120, Sv=102, Sd=90$ , the exercise price of the call option  $K=105$ , the expiration time  $T=1$  year, the risk-free interest rate 12 % ( $r=0.12$ ), then

$$4.763 \leq C \leq 10.085.$$

If the price of the call option falls into the above interval then there is no arbitrage opportunity.

### 3.2.3. MULTIPERIOD BINOMIAL MODEL

Finally consider an option-pricing problem in which there are  $n$  periods. We divide the period time ( $T$ )  $n$  parts of the same size. Let  $r$  be the interest rate per year and the interest rate is the same in all periods, let  $K$  be the exercise price of the call option, let  $S_0$  be the initial stock price. Let  $S_i$  be the stock price at the end of the  $i$ -th period ( $i=1,2,\dots,n$ ). Suppose that the stock price either increases or decreases in all periods. The increasing and decreasing factors are  $u$  respectively  $d$ , where

$$d < 1 + e^{\frac{r}{n}} < u$$

Let  $X_i$  be a Bernoulli random variable, which characterizes the changing of the stock price at the end of the  $i$ -th period considering the stock price at the end of the  $(i-1)$ -th period:

$$X_i = \begin{cases} 1, & \text{if } S_i = uS_{i-1} \\ 0, & \text{if } S_i = dS_{i-1} \end{cases}$$

In our model the outcome of the experiment is the values of the random vector  $(X_1, X_2, \dots, X_n)$ . According to the arbitrage theorem there is not sure win if for these outcomes there exists such a probability that the expected value is zero. So there must be a set of probabilities

$$P(X_1=x_1, X_2=x_2, \dots, X_n=x_n), \quad x_i=0,1, \quad i=1,2,\dots,n.$$

that makes all bets fair. Now consider the following type of bet. First choose a period e.g.  $i$ -th period ( $i=1,2,\dots,n$ ) and to this period we choose an arbitrary vector which assumes 0 or 1 elements. This vector shows how to change the stock price until the  $i$ -th period. If  $X_j=x_j$  for all  $j=1,2,\dots,i-1$ , then we choose the following strategy: We buy one unit stock and sell it back the next period. When we buy the stock in the  $(i-1)$ -th period, then its cost is  $S_{i-1}$ , when we sell it in the  $i$ -th period, then we get either amount  $uS_{i-1}$  or  $dS_{i-1}$ . The present value in the  $(i-1)$ -th period of these amounts can be obtained if we multiply it by  $e^{-rT/n}$ . The return value in the  $(i-1)$ -th period can be the following two values:

$$e^{-\frac{r}{n}T} uS_{i-1} - S_{i-1} \quad \text{or} \quad e^{-\frac{r}{n}T} dS_{i-1} - S_{i-1}$$

Let  $q$  be the probability that the stock is purchased, so

$$q = P(X_1=x_1, X_2=x_2, \dots, X_{i-1}=x_{i-1}).$$

Let  $p$  be the probability (conditional probability) that the price of a purchased stock increases in the next period, that is

$$p = P(X_i=1 | X_1=x_1, X_2=x_2, \dots, X_{i-1}=x_{i-1}).$$

The probability  $(1-p)$  means that the price of a purchased stock decreases in the next period. The expected return value at the  $(i-1)$ -th period can be computed in the following way

$$pq \left( e^{-\frac{r}{n}T} uS_{i-1} - S_{i-1} \right) + q(1-p) \left( e^{-\frac{r}{n}T} dS_{i-1} - S_{i-1} \right).$$

According to the arbitrage the above bet is arbitrage-free if this expected value is zero, that is

$$pq \left( e^{-\frac{r}{n}T} uS_{i-1} - S_{i-1} \right) + q(1-p) \left( e^{-\frac{r}{n}T} dS_{i-1} - S_{i-1} \right) = 0.$$

After reducing the equation we obtain that

$$pue^{-\frac{r}{n}T} + (1-p)de^{-\frac{r}{n}T} = 1,$$

from this, the probability  $p$  is

$$p = \frac{e^{\frac{r}{n}T} - d}{u - d},$$

We obtained that the only probability vector that results arbitrage-free for this bet is the following

$$P(X_i = 1 | X_1 = x_1, X_2 = x_2, \dots, X_{i-1} = x_{i-1}) = \frac{e^{\frac{r}{n}T} - d}{u - d}.$$

Since the vector is arbitrary this implies that the probability, that the stock price increases, is the same in all period and equal to the above conditional probability, that is

$$P(X_i = 1) = p = \frac{e^{\frac{r}{n}T} - d}{u - d}, \quad i = 1, 2, \dots, n.$$

The above implies that the random variables  $X_1, X_2, \dots, X_n$  are independent, all having the same distribution. The expected values  $E(X_i)$  and the variances  $Var(X_i)$  ( $i=1, \dots, n$ ) are the following

$$E(X_i) = p, \\ Var(X_i) = p(1-p).$$

Let  $Y$  be a new random variable defined by

$$Y = \sum_{i=1}^n X_i,$$

that is the sum of random variable  $X_i$ . The random variable  $Y$  shows the number of the increasing of the stock price in the  $n$  period. The random variable  $(n-Y)$  shows the number of the decreasing of the stock price in the  $n$  period. This random variable has binomial distribution with the following expected value and variance

$$E(Y) = np, \\ Var(Y) = np(1-p).$$

At the end of the total period the stock price  $S_n$  is also a random variable, which can be expressed with random variable  $Y$  in the following way

$$S_n = S_0 u^Y d^{n-Y},$$

The value of the call option at the expiration time is  $(S_n - K)^+$ , its present value at the beginning of the period is

$$e^{-rT}(S_n - K)^+$$

and its expected value will be the price of the call option  $C$ . Summarizing, the following option price results arbitrage-free

$$C = e^{-rT}E((S_0 u^Y d^{n-Y})^+).$$

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### Összefoglalás

Cikkemben először egy nagyon egyszerű modellben ismertetem a megtérülési ráta és a megtérülési érték fogalmakat. Majd a modell általánosításaként tekintünk egy olyan kísérletet, amelynek  $n$  lehetséges kimenetele van. Mindegyik kimenetre ugyanaz az  $m$  féle fogadási lehetőségünk legyen. Ismert minden kimenetre és fogadási lehetőségre a megtérülési ráta. Definiáljuk az arbitrázs (biztos nyereség lehetősége) fogalmát, és arra keressük a választ, hogy az arbitrázsmentességet hogyan lehet karakterizálni. Mi garantálja azt, hogy nem lehet olyan fogadási tételt megadni, amelynél minden kimenetre biztos a nyereség? Erre a választ az arbitrázs tételben adjuk meg, ami az ismert Farkas tétel egy változata. A cikk második részében a tétel néhány alkalmazását mutatom be. Elsőként egy klasszikus fogadási problémára, majd részletesebben az opcióárazásra alkalmazom a tételt. Ismertetésre kerül az egyperiódusos binomiális és trinomiális ill. a többperiódusos binomiális opcióárazásra történő alkalmazás.

die Antwort für diese Fragen. Dieser Satz ist ein Version des Farkas Satzes. Im zweiten Teil des Artikels demonstrieren wir einige Anwendungen des Arbitrage Satzes. Erstens anwenden wir diesen Satz für eine classische Wette, dann für die Optionspreisung.

orosz

### Zusammenfassung

In meinem Artikel zuerst bespreche ich die Umschlagsrate und den Umschlagswert in einem einfachen Modell. Dann als Generalisierung des modells betrachten wir ein Experiment mit  $n$  Ausgaben. Alle Ausgaben haben den gleichen Wetten. Die Umschlagsraten sind bekannt für alle Ausgaben und Wetten. Wir definieren die Arbitrage, und wir suchen die Antwort für die Fragen: Was charakterisiert die Arbitrage-frei? What is die Garantie dazu, dass wir keinen Beten geben können, dass das Gewinnen für alle Ausgaben sicher ist? Die Arbitrage Satz gibt

# THE ATTEMPT TO REVITALIZE KEYNES’S THEORY

ORTUTAY ZSUZSA

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## SUMMARY

*The article gives a summary of the renewal attempts of the only, through decades dominant general economic theory, the Keynesian economics. Because of the lack of microeconomic bases and the changes happened on the commodity-, labour-, and money markets of the modern economies, the Keynesian theory cannot give any more explanations and directions for such macroeconomic phenomena as the unemployment and the cyclic fluctuation of the economy, which the sensitivity of those living in market economies has significantly grown to.*

*A very important recognition of the economic tendency called ‘new Keynesian’ is that the lack of perfect competition can be blamed for the existence of economic cycles. The market imperfectness, which -from the number of competitors to the imperfectness of the flow of information- can show many different faces, appears also in creation of microeconomic bases, where the new Keynesian school can show important successes. From the article we can learn about the areas most often examined by the new Keynesians: the most important models of real- and nominal inelasticity of prices and wages as well as the models of implicit contracts existing in the form of long-term wage agreements, the menu costs, the rapid market externals, and the models of effective wages. By surveying the models it can be established that the crowd of wide-ranging models elaborated by the new Keynesian researchers does not make up a consistent theory. For the economists following in Keynes’s footsteps and searching the explanations of the phenomena of economies operating with imperfect markets, the biggest challenge is the rethinking of the theory uniting the microeconomic models.*

The most significant book of the modern economics was John Maynard Keynes’s *General Theory*<sup>1</sup>. The revolutionary feature of Keynes’s message was the denial of the existence of an invisible hand, which in some way would keep the output and employment on a socially optimal level. As the classical models that were built on the Ricardian traditions were unable to give an explanation and subscribe an effective medicine to the worldwide unemployment and recession which reached its peak in the early 1930ies pushing all existing market economies of the world into complete disaster. Supported by the evidences of the relatively fast recovery, Keynes’s theory became dominant and stayed so for decades following the second world war. It is still acknowledged that the after-war prosperity of the modern economies were the result of the Keynesian stabilization policy.

It was only in the early 1970ies when various phenomena in the world economies challenged the effectiveness of the Keynesian economic policy. After the oil price booms, the irreversible acceleration of inflation and unemployment together with the low growth rate signed the end of an era. This study aims to give a summary of the different attempts that all tried to renew Keynes’s thoughts.

As we will see in a chronological order, the defendant of the Keynesian tradition are very different in the way of approaching the problems of the economy and are indeed different in what they consider to be the central problem.

## POST KEYNESIAN ANSWERS AND THE DISEQUILIBRIA MODELS

The first theoretically well-based challenge for the Keynesian economic theory was made by the last great of the classic economists: Pigou. In his model, Pigou describes the effect in which the decrease of prices increases the wealth and so increases consumption as well. Therefore in an equilibrium economy, the decrease of prices would not only push the LM curve down, but would also push the IS curve down until full employment is achieved. The Keynesians, with Tobin’s major contribution got convinced, that the effect described by Pigou is so time consuming, that it is not suitable to restore full employment in reality. (Tobin 1980a). However Pigou’s critics induced the first re-interpretation of Keynes’s *General Theory*, the neoclassic synthesis.

The neoclassic synthesis regarded the *General Theory* only as a “special case” of a more general and classic theory.

<sup>1</sup> *The General Theory of Employment, Interest and Money*

But before the second order role, given by the neoclassic synthesis had been accepted, those writings were born which – following Keynes's footsteps – denied the possible existence of the market clearing equilibrium. That was the time also when the adjectives of "orthodox" and "post" started to appear in front of the Keynesian.

Rober Clower and Axel Leijonhufvud started to work on a general renewal of the Keynesian economic theory by keeping the four most important thesis of the orthodox Keynesian school:

1. The instability is a general feature of the economy which constantly needs to face unexpected shocks.
2. Leaving the economy on its own, it would require a very long time to achieve near-equilibrium of employment.
3. The level of output and employment is ultimately determined by the aggregate demand and the government has the tool of effectively influence the level of demand.
4. Fiscal policy is preferred to monetary policy as a stabilization tool.

Clower and Leijonhufvud works are called "disequilibria models" because they regard the unemployment and effective demand problems as disequilibria problem, which are due to information and coordination problems. They accepted other premises of the orthodox Keynesians as well, such as the atomistic competition. The disequilibria models put a great emphasis on the denial of the Walrasian ideas and counterattacking of the neoclassic synthesis. Clower and Leijonhufvud did not focus on the foundations of the classic economics which resulted in the Keynesian revolt and revolution and "only" reinterpreted Keynes's General Theory.

I believe that here is still one aspect in which the builders of the disequilibria models made a major contribution and showed the way to the late followers of Keynes. Not the explanation of the Pigou-effect or the denial of the Walrasian auction markets or a new and forceful explanation to Keynes's IS-LM model, but the fact that they were the first to recognize the lack of microeconomic foundations in the orthodox Keynesian theory. They also made a serious step toward the finding of the missing micro-macro connections between price information, expectations and quantity clearing.

The search for solid microeconomic grounds, and in general the microeconomic approach to the explanation of the macroeconomic variables was the central motive in the 1970ies in the works of Phelps (1970), Grossman (1976), and Malinvoid (1977) and resulted in the 1980ies dozens of different price and wage stickiness models elaborated by economists who are generally labeled as new Keynesians.

## The New Keynesian School

The strongest challenge to the orthodox Keynesian theory was not made by the orthodox monetarism. The criticism set by the monetarists could be answered by the modification of the Phillips curve and IS-LM model. The inflationary expectations or the supply shocks could be built

into the Keynesian framework. No radical or fundamental changes were needed in order to face the challenge by the monetarism.

The criticism of the new classic economics was a much more forceful one. Under the leadership of Lucas, they stated that a fundamental problem of the Keynesian theory that microeconomic foundations are missing which could give credible explanation to the non/clearing of the markets. They also claimed that expectations and maximizing behavior cannot fit together.

The new classic theory was so convincing and successful, that by the 1980ies, it was almost an offense to any economist to be called Keynesian. It was at the end of the 1980ies and early 1990ies when a new research program of the followers of Keynes reestablished the credibility of the Keynesian economic policy doctrines. There are two important questions that needs to be answered. What is the common in the wide variety of models, all of which are called new Keynesians and in which points they are different from the orthodox Keynesian theory? These basic questions that shall serve as starting point for a summarising article are indeed very difficult to answer.

A central idea of the classic economics each of the old, neo- and new was the continuous clearing of the markets. If the classical market clearing exists, the lack of effective demand can never create a problem for the economy. The "orthodox" Keynesian economics on the other hand denied the market clearing mechanism; the central feature of a Keynesian economy is that prices can never adjust quickly enough to make an equilibrium between supply and demand. As a consequence both supply and demand shocks influence the real processes of the economy, the level of unemployment and output. This central theme is carried on by the new Keynesians.

Mankiw and Romer (1991) suggests, that in order to decide about a given model whether that is new Keynesian or it rather belongs to any other theory or school of the modern economic thinking (from the monetarism, through the real business cycles to the Austrian school or any other) we need to be able to answer two questions:

1. Does the model contradict the classic dichotomy, or to put it in a different way, is it true that money is not neutral?
2. Are market imperfections (such as imperfect competition, imperfect information rigid prices and/or wages) crucial for understanding macroeconomic fluctuations.

According to Mankiw and Romer only new Keynesians give a definitive yes to both questions. These two questions are also suitable to differentiate the new Keynesians from the orthodox Keynesian theory: money was not neutral in Keynes General Theory as the changes in money supply and money demand influence the output and employment. There are also imperfections at least in the labour market where wages are rigid to decrease. But the central role was not given to these imperfections and this change in focus is an obvious and important difference between the "old" and new Keynesians.

Let me summarize in the following, the distinctive features – apart from the positive answer to the above two questions – of new Keynesian school.

1. The price setting mechanism. In sharp contrast with the new classic perfect competition and price taking companies, the Keynesian markets are dominated by price determining monopolies (or oligopolies and monopolistic competitors). Although the models of imperfect competition were already elaborated before the birth of the General Theory, Keynes did not implant its findings. Only the new Keynesian researchers of the last two decade started to combine the models of imperfect competition and non-clearing markets.
2. As a consequence of the world of imperfect competition and markets, heterogeneous labour supply, asymmetric information, macro-level coordination failures and externalities are characterizing the economy.
3. Focus on the supply side. In addition to the objectives of elaborating the missing microeconomic foundations, another common theme of the new Keynesian researchers is to elaborate the supply side of the Keynesian theory. In connection with this, it must be mentioned that the different economic policy instruments are regarded very differently within the new Keynesian school.
4. Expectations. Most new Keynesians accept the new classic revolution theory on the expectations, which are formed on a rational basis. There are articles (Blinder and Phelps) where we can find some critical remarks on the rational expectations, but the adaptive expectations can never be traced.
5. Lack of empirical tests. A common problem with the new Keynesians – especially in the 1980ies – that it did not search for empirical evidences. The new generation of the theoretic researchers aimed to answer the theoretical attack that was made against the micro foundations of the Keynesian theory. They are generally confident on that a modified Keynesian model (with an expectations-expanded Phillips curve, and one that is suitable to adopt supply side shocks would successfully face any empirical testing. But the tests had second importance after the theoretical research.<sup>2</sup>

I would not dare to say that the above list is complete, but I tried to focus on those points, which are unquestionably common in the new Keynesian researches. One of the difficulties, as I mentioned earlier, comes from the diversity of the research directions. It seems that almost every author tries to rebuild a small section of Keynes's world on its own. There is not a single general new Keynesian theory. The different researchers outline not only different solutions but also different problems. That is why I rather use the "new Keynesian school" expression instead of the theory, which does not exist or the model of which too many exists.

<sup>2</sup> *It is sometimes surprising how widespread the opinion among economic historians that the Keynesian revolution was born as an answer to the Walrasian model. I believe that this is a misleading track and fully agree that "..."* (Snowdon et al. 1994)

There is not an overall new Keynesian modelling approach either. Different researchers focus on different market imperfections: Stiglitz and Weis examined the asymmetric information on credit markets and concludes credit rationing; Lindbeck and Snower analysed the imperfect feature of labour markets and created the insider-outsider model; Hart on the base of the price setting feature of the monopolistic competition creates the model of menu costs and these just to mention only a few, the most well-known examples of the individual research directions.

The major weakness of the new Keynesian school is that it did not construct a theory into the framework of which these models could have been fit. And this was not a failure; this was a lack of attempt! A convenient explanation of not searching for a "new" general theory might be to say, that the theory itself was formed by Keynes. The task his followers was to work on the background models which verify the findings of his theory. It is therefore an enormous project to review all new Keynesian models, and to search for such connections, that could be called a theory. I rather selected a narrower field within the research popular topic, the different wage and price rigidity models, and show that they are not "islands" in the sea of economic research but strongly connected with the necessary theoretical links.

## MODELS OF NOMINAL RIGIDITIES

The first wave of the new Keynesian economists examined the labour market phenomena and tried to give an explanation for the stickiness of wages. They believed that the key to the constant unemployment in the market economies was hidden somewhere in the specialities of the labour market. But labour market was only the starting point. Already in its writing form 1990, Gordon pointed out that to the cyclical change in output level not the wage but price stickiness is necessary.

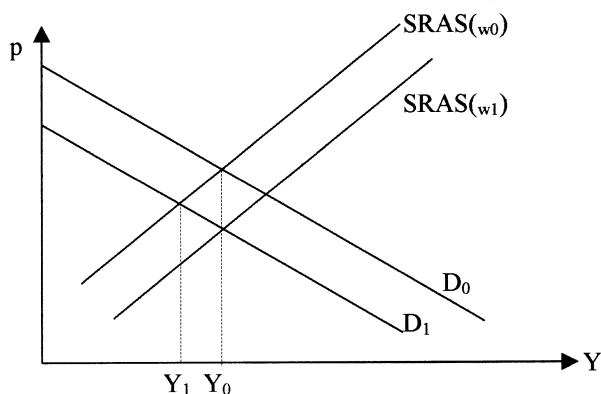
## NOMINAL WAGE RIGIDITIES

Fischer (1977) and Taylor (1980) found the explanation for the wage stickiness in the existence long-run wage contracts. According to both of them, the wages in a market economy are not settled on a spot market, but are set for a predetermined period in the form of explicit or implicit contracts. These long-term contracts keep wages unchanged for long enough to make the monetary policy an efficient tool of intervention. The efficiency of the monetary policy of course depends on how often the wage contracts are renegotiated. But in any case, the monetary authorities can change money supply more frequently than the wage contracts could be renegotiated, therefore at least on the short-run, monetary policy can effectively influence the level of output.

The reasoning given by Fischer can be followed through Picture 1. At the starting point the economy is in point A. Due to an unexpected demand shock, the aggregate demand shifts from  $AD_0$  to  $AD_1$ . If prices are flexible but wages are fixed in  $W_0$ , the economy moves to point B and output



decreases from  $Y_n$  to  $Y_1$ . If nominal wages were able to change and decrease to  $W_1$ , the short-term supply curve would also shift to  $SRAS(w_1)$ , pushing the economy to point C and restoring the natural output level. Long-term wage contracts however do not allow this mechanism to work; monetary authorities have the opportunity to expand money supply and shift aggregate demand back to  $AD_0$ , and restoring equilibrium in point A.



Picture 1  
The Effect of Nominal Wage Rigidity on Output

The innovation of this model was in its time, that it could show how in the world of rational expectation the monetary policy can be an efficient tool. In this model, there is no need for unexpected monetary “surprises”. The foreseen and expected monetary actions can be efficient simply because it can be applied more frequently than the wage contract can be reformed. In Fischer’s model, money is not neutral; through the fixed nominal wages, the change in money stock affects the level of output and employment.

An evident question can be, that why long-term wage contracts exist if they increase the macroeconomic instability. The answer to this questions was given by Phelps (1991). First, wage negotiations are time consuming both for employers and employees; comparative data are needed form both the internal and external wage environment; projections need to be made for efficiency, inflation, profit, prices etc. The cost of collecting and processing all the information can be saved by decreasing the frequency of the negotiations. The second reason, according to Phelps, for not decreasing nominal wages even when the decrease in aggregate demand would require to do so, is that employers do not want to create tension in their organisation, do not want to risk the increase of migration which would give raise to further costs. There are further exciting articles that investigate and gave plausible answer to the question of why it is rational to enter into long-term wage contracts, if this causes disturbances on the macoreconomic level. (Hall and Taylor (1993) or Ball and Cecchetti (1998)).

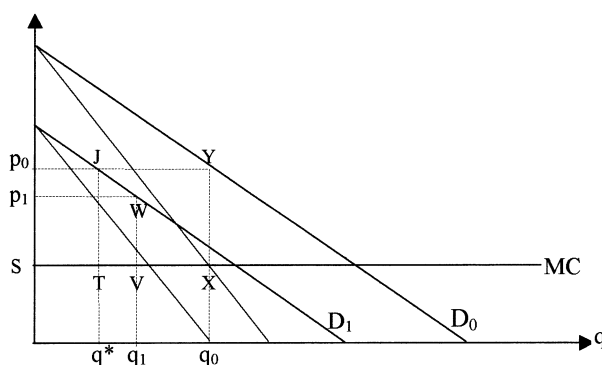
## NOMINAL PRICE RIGIDITIES

Not long after the first publication, the nominal wage models were criticized from different aspects. The most significant of these criticisms was the anti-cyclic behaviour of real wages which would be the consequence of the Fischer-model. As we have seen the monetary expansion would fix the employment level back to the equilibria through the increase of real wages. Stylised facts however show, that real wages, moderately but still change pro cyclic.

Influenced by this criticism, some researcher, who generally accepted the Keynesian view that the business cycles are induced by the fluctuations of the aggregate demand, turned towards the nominal rigidities of the product markets.

Price adjustment on the product markets is an automatic, simple and costless process under perfect competition. On the market price, all company can sell as much of its products as it wishes, but cannot sell a single piece above the market price. No company attempts to achieve price which is higher than the market price. It would not make too much sense to decrease prices either, because in the atomistic competition the producers face a completely elastic demand curve. In the price taking economy the price changing mechanism is not an issue and the decisionmaking concerning the price setting and taking has no relevance.

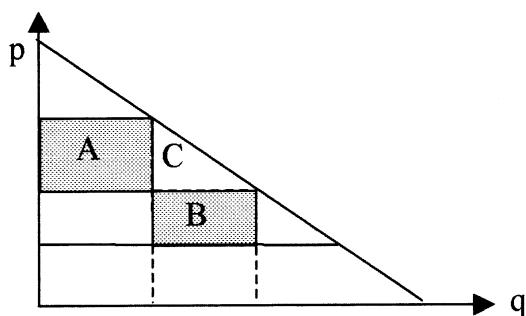
Under monopolistic competition the situation is very different. A thoughtful examination is necessary concerning the profit consequences of a price/changing decision. The price increase does not imply that the quantity to sell will decrease to zero. And on the other hand, the decrease of price will result in higher quantities sold, but lower sales revenue per unit. In such situations the decisionmaking becomes an important issue. The investigation of the price changing mechanism in monopolistic competition lead to the menu cost model. The basic models were introduced by Akerlof and Yellen (1987a) and Romer (1985) and can shortly be summarized as follows.



Picture 2  
Price Decision Making of a Monopolistic Company

$D_0$  indicates the aggregate demand curve that is seen by a monopolistic company. AT the starting point, determined by the intersection of the  $MR_0$  marginal revenue curve and  $MC_0$  marginal cost curve, the company produces quantity  $Q_0$  and offers the products for sale at price  $p_0$ . In this situation, the company gains a profit which is equal to the area of the  $XYP_0S$  rectangle. Supposing that the marginal cost curve is constant, a decrease of the aggregate demand (downward shift of the aggregate demand curve to  $AD_1$ ), the monopolistic company has to alternatives to choose from:

1. It adjust the price of the product accordingly to the intersection of the new  $MR_1$  and  $MC$  (signed by point  $V$  in the picture) and produces  $Q_1$  which is sold for  $p_1$ . In this case the profit gained will be equal to the area of the  $VWP_1S$  rectangle.
2. The company will not adjust the prices of its product, and will charge  $P_0$  for its products. AT price  $P_0$ , according to the new demand curve  $Q^*$  quantity can be sold. In this case the profit gained by the company will be equal to the area of the  $TJP_0S$  rectangle.



Picture 3  
*Menu Cost at a Monopolistic Company*

The price setting company needs to make a decision whether to decrease the price of its product or not. The answer could be simply given by the comparison of the two profits, but the change in price has cost consequences, which also needs to be considered when the decision is made. In picture 3, which is a simplified version of Picture 2. On Picture 3, the shaded areas of A, B, and C refer to the different profit levels that are the consequences of the different decisions concerning price adjustment.

As a consequence of accepting the price cut, the company profit would decrease by the area of A-B. Indicating the menu costs by  $z$ , it is evident that if  $B-A < z$ , there is no motivation for the company to adjust its prices. In this case however, the social consequence of the lower-than-optimal output level is the deadweight loss of  $B+C$ . If  $B+C > z > B-A$  there is still no motivation for the company to cut the price, although this would be the socially desirable action. (The more flat the MC curve is, the less menu cost is enough to for the company not to change the price.)

The microeconomic funding provided by Mankiw, Akerlof and Yellen was further elaborated by Blanchard and Kiyotaki (1987) in order to present that the macroeconomic consequence of the price rigidities can be very different. The

menu cost, which is negligible on the micro level, can lead to aggregate demand externalities. The effect, which arises from the below-than-optimal individual production level gets enlarged through the macroeconomic interactions. The nominal price rigidity which is the consequence of the existence of menu costs creates fluctuation in the aggregate output and wealth of the society.

## MODELS OF REAL RIGIDITIES

The different models of nominal rigidities, of which two was described above, could not convince the followers of the classic traditions, but even some new Keynesians. They provide necessary but not sufficient explanation for the existence of business cycles. Several articles were published, including Ball and Romer (1990) and Mankiw and Romer (1991), which reflect, that nominal rigidity alone is not forceful enough to induce the macroeconomic output fluctuation. It is the rigidity of the real variables, which enlarges the real effect of the change of money stock.

## MODELS OF REAL PRICE RIGIDITIES

I chose three models of real price rigidities, which described below to give an idea to the readers about this field of the new Keynesian research program. I elected these three, not because they are the most important or best elaborated in details but for two reasons: they give a fair picture of the diversity of the approaches and they also present that some of these models are in logical connection with each other (like the first one is a straightforward evolution from the menu cost model) and some are starting from almost "zero grounds".

A possible explanation for the reason of the rigidity of real prices is given by the nature marginal costs and demand elasticities: the marginal cost which is inelastic to output changes and a demand whose price elasticity changes in a procyclic way. Let's consider again the menu cost model presented in Pictures 2 and 3. Let us suppose that money supply decreases. The existence of menu costs create an obstacle for the companies to react quickly for the supply shrink, therefore on the same price level the production decreases. All companies in the monopolistic competition see that the demand curve shifts to the towards left. As all companies in the monopolistic environment produce lower quantities, the demand for labour decreases. If labour supply is inelastic, the decrease in labour demand leads to a significant decrease of real wages, which then decreases marginal costs. If MC curve had a positive slope, this would result in the leftward shift of the MC curve and then the willingness and motivation for cutting prices would overrule the menu cost concerns. If MC is flat however, this will not be the case. If we add to the flat MC curve that demand is such that the decrease in demand leads to the increase of price elasticity of demand (on Pictures 2 and 3 this refers to

a demand curve which has a higher slope) the profit that can be gained by cutting prices will shrink: the monopolistic company has no motivation to change its prices.

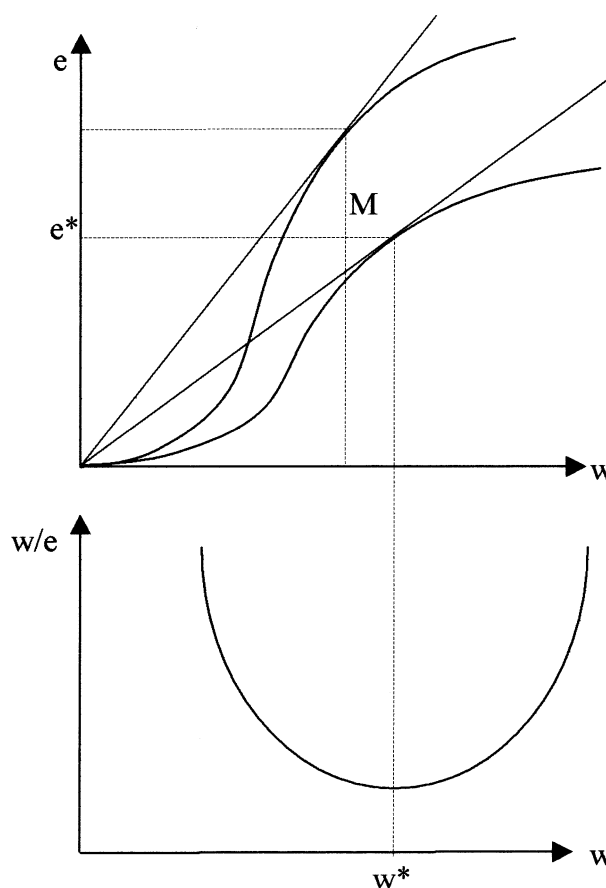
The phenomena named *thick market externalities* are another possible explanation for the existence of real price rigidities. In the real business world, buyers and sellers cannot find each other and conclude transactions without incurring search costs. Customers also need to devote time to find the product or product mix that fits best to their needs and companies need to advertise in order to supply information to the potential customers. Employees and the owners of the financial resources also need to search the potential opportunities. According to Diamond (1982) in the periods of economic progress and prosperity the markets are thick, meaning the transactions are numerous and therefore it is easier to search for the opportunities, search costs are lower than during recession with lower business activity in general. This externality of market thickness increases marginal costs during recession and decreases during prosperity and by doing so contributes to the rigidity of prices.

According to Phelps (1985), the origin of the unwillingness from companies to change their product prices too often is the difference between the operation mechanism of the auction and customer markets. In case of most products, the customers have only limited information concerning the lowest available price on the market. Checking prices, making comparison requires time and customers do not go through this exercise every single time of consumption or purchase. On the other side of the market, companies even motivate them not to do so by building a customer loyalty. Even when there a number of firms on the market, some of them – those who were more successful in building customer loyalty – enjoy monopolistic advantages. To keep regular customers firms intend to change their prices less frequently. According to Phelps it can also be evidenced that price cut does not lead to immediate reactions of the customers but price increase will urge them to start searching for new information on the market and on the competitive producers. This attitude of the customers and the intention of the companies to keep the customers are factors that contribute to the stickiness of relative prices.

## MODELS OF REAL WAGE RIGIDITIES

Keynesian economists devoted almost as strong attention to the unemployment as to the causes of business cycles. As from the 1970ies, the largest and strongest of the industrialized market economies were facing constant unemployment, it became an important and essential field of research in the new Keynesian literature. Equilibrium in the Keynesian economics is sharply separated from the market clearing, as equilibrium is the state when no economic agent intends to change its behavior. On the labor market, the Keynesian equilibrium characterized by the equilibrium real wage but this is not determined by the

equal labor demand and labor supply. Long-term equilibrium on the labor market may exist with involuntary unemployment. The natural question that arises in connection with a Keynesian labor market is, that is there is an oversupply of labor why real wages do not decrease to the market clearing level, what causes the rigidity of real wages. There are three main groups of the real wage rigidity explaining models: the models of implicit contracts, efficiency wages and the insider-outsider model.



Picture 4  
The Efficient Wage Model of Unemployment

The implicit contract model seeks for the “internal force” which joins the interest of employers and employees on the long run even when the unemployment rate is positive. For employees the reliability is a very important factor. It is important for a firm to know that it can count on the employer on the long run, therefore it enters into an unwritten, implicit contract. The wage in the implicit contract model is not simply the price of this special resource, or production factor, which is called labor, but it includes an insurance premium, which decreases the wage. The insurance premium is paid in order to be sure that in cases of unexpected shocks the employment will continue. The model uses the different risk sensitivity of the employers and employees and concludes that employers prefer lower but stable wages to the wages which are driven by unpredictable market moves.

An interesting approach to the question of why unemployed are unable to bid the prevailing wages until full employment is achieved is the efficient wage model for which the basis was laid down by Solow (1979), and further elaborated by Gordon (1990) and Yellen (1984). According to the model, the productivity (characterized by efficiency or efforts) is the function of the real wage. In the upper part of Picture 4 function E shows the efforts of employees in function of the change in the real wage. According to this function, the increase in real wages will result the increase in efforts, which leads to the increase of production. The first condition of the firm's profit maximizing is that the effort received for one unit of real wage shall be the highest possible, that is to maximize  $e/w$ . (On Picture 4, M represents this point with  $w^*$  wage and  $e^*$  effort.) The lower part of the picture shows how the wage per effort changes in the function of real wage. At the real wage level which belongs to point M, the  $w/e$  ratio reaches its absolute minimum value.

The second condition for profit maximizing is that the firm employ the number of employees whose marginal production equals with the marginal cost, which is the efficient wage. If at the wage level indicated by  $w^*$  in Picture 4, the aggregate demand for labor is lower than the aggregate labor supply, the labor market equilibrium will exist with involuntary unemployment. As the optimal wage level ( $w^*$ ) is not dependent on the level of labor demand, the change in labor supply cannot influence the real wage level either. In case the efficient wage ( $w^*$ ) is higher than market clearing wage, the involuntary unemployment will permanently exist in the economy. However, in case the aggregate demand for labor increases, the increasing unemployment will shift E curve, therefore the effort maximizing wage level will decrease. Based on the efficient wage model, new Keynesian researchers have developed a wide range of real wage rigidity explanation. Most important of these are the counter selection related to

asymmetric information, the migration model or the imperfect contracts.

The model of insiders and outsiders takes a different starting point to explain how relative wages can stay unchanged when there are people who are eager to find employment. The model names insider the group of employed and outsider the unemployed. While the efficiency wage model emphasize the power of employers, the insider-outsider model underlines the power of employees on the decisionmaking of the company concerning wage level and employment. This power rises from the so-called *turnover cost*. These are the cost of laying off and hiring, searching and training the new employees. In addition to these, the insiders may refuse to work with or train sufficiently the newcomers, therefore productivity might also decrease. As long as a firm has to face these difficulties when it wants to replace the employees with cheaper unemployed, the insiders have a strong bargaining position. Firms are willing to pay extra as long as it is less than the turnover cost.

## CONCLUSION

Although I only aimed to give an overview of the most important new Keynesian models, it is obvious that the new Keynesian literature is extremely heterogeneous in terms of the selection of research theme, methodology or results. In order to be able to judge how successful the new Keynesian school was in elaborating the missing microeconomic foundations an enormous number of articles must be considered. There are of course several critics to this attempt of revitalizing Keynes. The lack of empirical studies and the relative independency of the new Keynesians models certainly make it difficult to predict whether this unique attempt to reform the only general economic theory of the twentieth century will be successful or not.

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## Összefoglaló

A cikk az évtizedeken keresztül uralkodó, egyetlen átfogó gazdaságtani elmélet, a keynesi közgazdaságtan megújítási kísérleteiről ad összefoglalót. A mikroökonómiai alapok hiánya valamint a modern gazdaságok áru- munka- és pénzügyi piacain bekövetkező változások miatt a Keynes által megalkotott elmélet már nem tud magyarázatot és iránymutatást adni az olyan makrogazdasági jelenségekre, mint a munkanélküliség és a gazdasági ciklikus ingadozása, amelyekkel kapcsolatban a piacgazdaságokban élők érzékenysége jelentősen megnőtt.

Az új keynesinek nevezett közgazdaságtani irányzat jelentős felismerése, hogy a tökéletes verseny hiánya okolható a gazdasági ciklusok létezésért. A piaci tökéletlenség, amely a versenyzők számán keresztül vagy az információáramlás tökéletlenségéig nagyon sokféle arcot ölthet, megjelenik a mikroökonómiai alapok megteremtésében is, ahol jelentős sikereket tud az új keynesi iskola felmutatni. A cikkből megismerhetjük az új keynesiak által legtöbbet vizsgált terület, az árak és bérek nominális és reálrugalmatlanságának legfontosabb modelljeit, az implicit szerződések formájában létező hosszú távú bérmegállapodások, a menü költségek, a sűrű piaci externáliák, valamint a hatékony bérek modelljeit. A modellek áttekintésével megállapítható, hogy az új keynesi kutatók által kidolgozott szerteágazó modellek sokasága nem alkot egységes elméletet. Azon közgazdászok számára, akik Keynes nyomdokain haladva, ugyanakkor a tökéletlen piacokkal működő gazdaságok jelenségeinek magyarázatait kutatják, legnagyobb kihívást a mikroökonómiai modelleket összefogó elmélet újragondolása jelenti.

## Zusammenfassung

Der Artikel bietet einem Überblick über Erneuerungsexperimente der im Laufe der letzten Jahrzehnte dominanten, einzig umfassenden Wirtschaftstheorie, der Keynesschen Wirtschaftslehre.

Wegen Mangel an mikroökonomischen Grundlagen und der auf den Waren-, Arbeits- und Geldmärkten der modernen Wirtschaft eintretenden Veränderungen vermag die von Keynes geschaffene Theorie keine Erklärung und keine Wegweisung für Erscheinungen der Makroökonomie - wie die Arbeitslosigkeit und die zyklische Schwankung der Wirtschaft, denen gegenüber die Sensitivität derer, die in Ländern mit Marktwirtschaft leben, sich wesentlich erhöht hat - zu geben.

Es ist eine wesentliche Erkennung der so genannten "neuen" Keynesschen Wirtschaftstheorie ist, dass der Mangel an dem so genannten "vollkommenen" Wettbewerb für die Existenz der Zyklen in der Wirtschaft verantwortlich ist. Die Unvoll-

kommenheit des Marktes, die sich von der Anzahl der Mitbewerber bis zur Unvollkommenheit des Informationsflusses hin in vielerlei Gestalt manifestieren kann, erscheint auch in der Schaffung der mikroökonomischen Grundlagen, wo die neue Keynesschen Schule bedeutende Erfolge verbuchen kann. Im Artikel werden die von den Anhängern der neuen Keynesschen Schule am meisten untersuchten Gebiete, die wichtigsten Modelle der realen und nominellen Unflexibilität der Preise und Löhne, der in der Form impliziter Verträge existierenden langfristigen Lohnvereinbarungen, der Menükosten, der dichten Marktexternalien, und der effektiven Löhne beschrieben. Unter Zuhilfenahme der Modelle kann festgestellt werden, dass die Vielzahl der von den neuen Keynesschen Forschern ausgearbeiteten, mündelnden Modelle zu keiner einheitlichen Theorie führt. Für die Ökonomen, die Keynes den Spuren folgend die Erklärung für die Erscheinungen der Wirtschaften suchen, denen zugleich unvollkommene Märkte zugrunde liegen, ist die Neuformulierung der Theorie, die mikroökonomische Modelle umfasst, die größte Herausforderung.

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# BUSINESS CONSULTING IN A HUNGARIAN COUNTY

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## SUMMARY

*Our institution has made a survey among consulting firms and enterprises using consultations, enterprises not using consultations, but planning to do so and those not using and not planning to use any consultations. In the survey 362 enterprises from B.-A.-Z. county and 83 consulting firms participated chosen by representative sampling.*

*In the article we demonstrate that half of the respondents have used or been planning to use the service in B.-A.-Z county After evaluating the survey we can establish that the most important reason why entrepreneurs turn to consultants is the special knowledge and experiment of the expert in the given region. The most important consulting area is still the accounting and finance in our county, but in the near future the forging ahead of strategic, IT and the sales-marketing areas can be expected. The complexity of the offered service, the personal relationship and the undertaking deadline appear as the most important criteria of choosing the consultants.*

The Institute of Business Sciences of the University of Miskolc conducts a survey among business consultants and companies that already made use of business consulting, have not but plan to make use of business consulting and have not and don't intend to make use of business consulting. The goal of the survey is to determine the situation (importance) of business consulting in our region. Subjects of the survey are 362 companies – chosen by representative sampling – with headquarters in B. A. Z. county. We conducted a complete survey of the B.A.Z. county headquartered companies with the TEAOR number: 7414 –Hungarian

Standard Industrial Classification of All Economic Activities –HSICAEA code: 7414 (business consulting).

In the present article we like to show which are the most important reasons for hiring a business consultant. Which are the main areas the consultants are needed, what are the areas tending to be the runners in the near future, what the most important characteristics by picking a consulting firm – and what the consulting firms think about those characteristics.

**Type of representative sampling:** layered sampling based on main profile of the company and location

## 1. COMPOSITION OF THE SAMPLE

### 1.1 THE COMPANIES – CLIENTS OF THE BUSINESS CONSULTANTS

The following sheet shows the B.A.Z. county headquartered companies by range of activity:

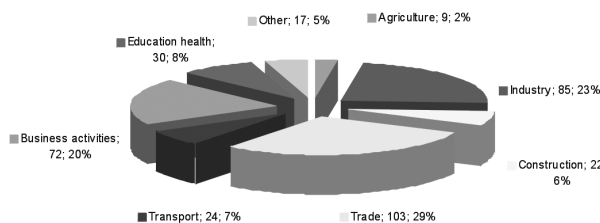
Sheet 1. – Number of registered, active B.A.Z. county headquartered companies

Range of activity	A-B	C-E	F	G	I	JKL	MN	OH	Total
Companies	494	1818	1265	4079	499	2720	1007	1039	12921
Rate	4%	14%	10%	31%	4%	21%	8%	8%	100%

A,B	Agriculture, hunting, forestry and fishing	I	Transport, storage, post and telecommunications
C-E	Mining and quarrying; manufacturing; electricity, gas, steam and water supply;	J,K,L	Financial intermediation; real estate, renting and business activities;
F	Construction	M,N	Education, health and social welfare
G	Trade, repair of motor vehicles, motorcycles and personal and household goods;	O,H	Hotels and restaurants; other community, social and personal service activities

**Sampling:** Our goal was to construct a 300 subjects sample – out of the companies in B.A.Z. county. According to former experiences 50% of the companies are willing to fill out the query, so we choose 600 companies from Issue 12/2000 of the National Companies’ Database. We contacted the companies by mail or personally and were able to have 362 queries filled out. The following diagram shows distribution of the B.A.Z.: county headquartered companies by their range of activity:

**Distribution of the analysed companies by range of activity**



**Figure 1**

Comparing the diagram with sheet 1 – we can see that because of the queries that did not come in – the industry and transport are over while the building trade and agriculture are under represented. Even though the difference is not considerable and the sample remained representative based on location.

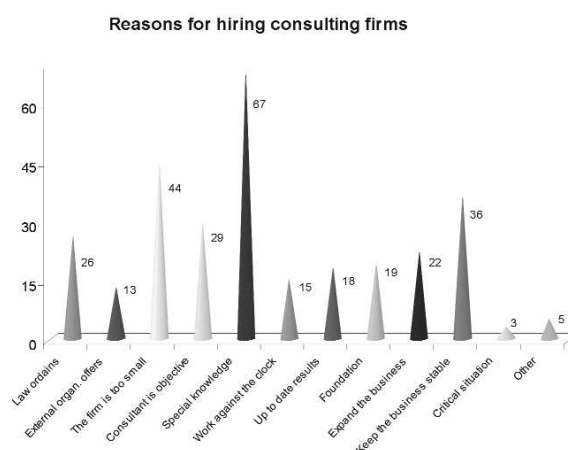
39% of the companies already made use of business consulting, 11% haven’t but they plan to make use of business consulting, 50% haven’t and don’t plan to make use of business consulting. It is important to distinguish between the 3 groups since the first group has got experience with business consulting so they evaluate this service according to that. We can analyse the expectations of the second group and the prejudices of the third one.

## 1.2 BUSINESS CONSULTING COMPANIES

We have conducted a complete survey of the B.A.Z. county headquartered companies with the HSICAEA code (TEAOR number) 7414 (business consulting). In year 2000 there were 199 business consulting companies in our county – we contacted all of them, but only 83 (41%) were willing to fill out the query.

## 2. REASONS FOR HIRING CONSULTING COMPANIES

The following diagram shows the reasons for hiring a consulting company according to the B.A.Z. based companies that already made use consulting services:



**Figure 2**

The most important reason for a hiring a consulting company (23%) is the **special knowledge and experience** they have. It is convenient to hire an external consultant than keeping a consulting department. This is more true in case of small companies: according to the survey the second reason (15%) is the **size of the company**. In the all day activities of a company there are more and more cases when special knowledge is needed and the experts are needed only

for these projects. An important aspect is **keeping a business stable** (12%). Concurrence is so intense, that there is a need to keep the market positions and it is also important to keep the business flow undisturbed. An interesting finding of the survey is that besides the special knowledge (25%) the second factor is to encourage business growth (20%) according to companies that haven't made use of business consulting but intend. An important motivating aspect for hiring a consultant for the first time is to expand the business and seek new markets.

### 3. THE MAIN AREAS FOR HIRING CONSULTING COMPANIES

The following diagram shows the areas for hiring a consulting company according to the 115 B.A.Z. based companies that already made use consulting services: (Figure 3)

Besides the conventional areas for hiring a consulting firm there are new areas like **finance** and **accounting**. Experts easily solve problems in this field. They evaluate the financial situation of the company, do the bookkeeping, and prepare the tax returns on time, do tax advising. The frequent change of tax and law regulations increases the need of hiring an external expert.

The next diagram shows the areas of planned use of consulting services according to the 115 B.A.Z. based companies that already made use consulting services: (Figure 4)

Strategic thinking, phrasing the future goal is important for keeping competitive. An increase of strategic thinking is shown by the increase of **strategic consulting**.

**IT consulting** experiences the most rapid growth in the branch. Reasons for using this service are improving information flow, developing controlling information systems, data integration, development of IT systems. Small companies are also aware that following IT development is of major importance in keeping competitive.

The planned areas of consulting

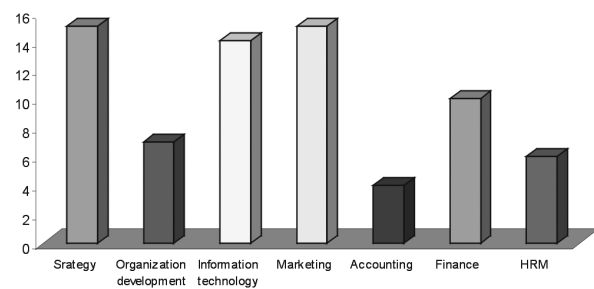


Figure 4

Due to expanding competition there is a growing need for **marketing and sales consulting** – and according to the results of the survey this area will witness an exploding development.

The answers showed that companies hire consulting companies occasionally but also regularly according to the specifics of the given area (bookkeeping, finance, tax, and law regulations). An interesting aspect is that the companies planning to use consulting services intend to use them occasionally. The reason might be the fact that the companies managed the given problems or areas and are not willing to change that in the future. So they are seeking an expert only to overview or control the project.

### 4. IMPORTANT FACTORS IN CHOOSING A CONSULTANT

We wanted to know what are the most important factors in choosing a consultant. The subjects had to evaluate the given factors by rating them 1 for unimportant and 5 for very important.

The next diagram shows the opinion of consultants and companies that already made use of business consulting:

Areas of consulting

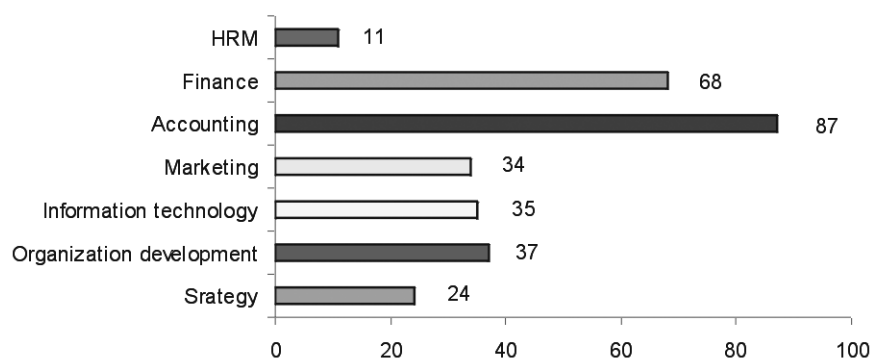


Figure 3



### Important factors in choosing a consultant

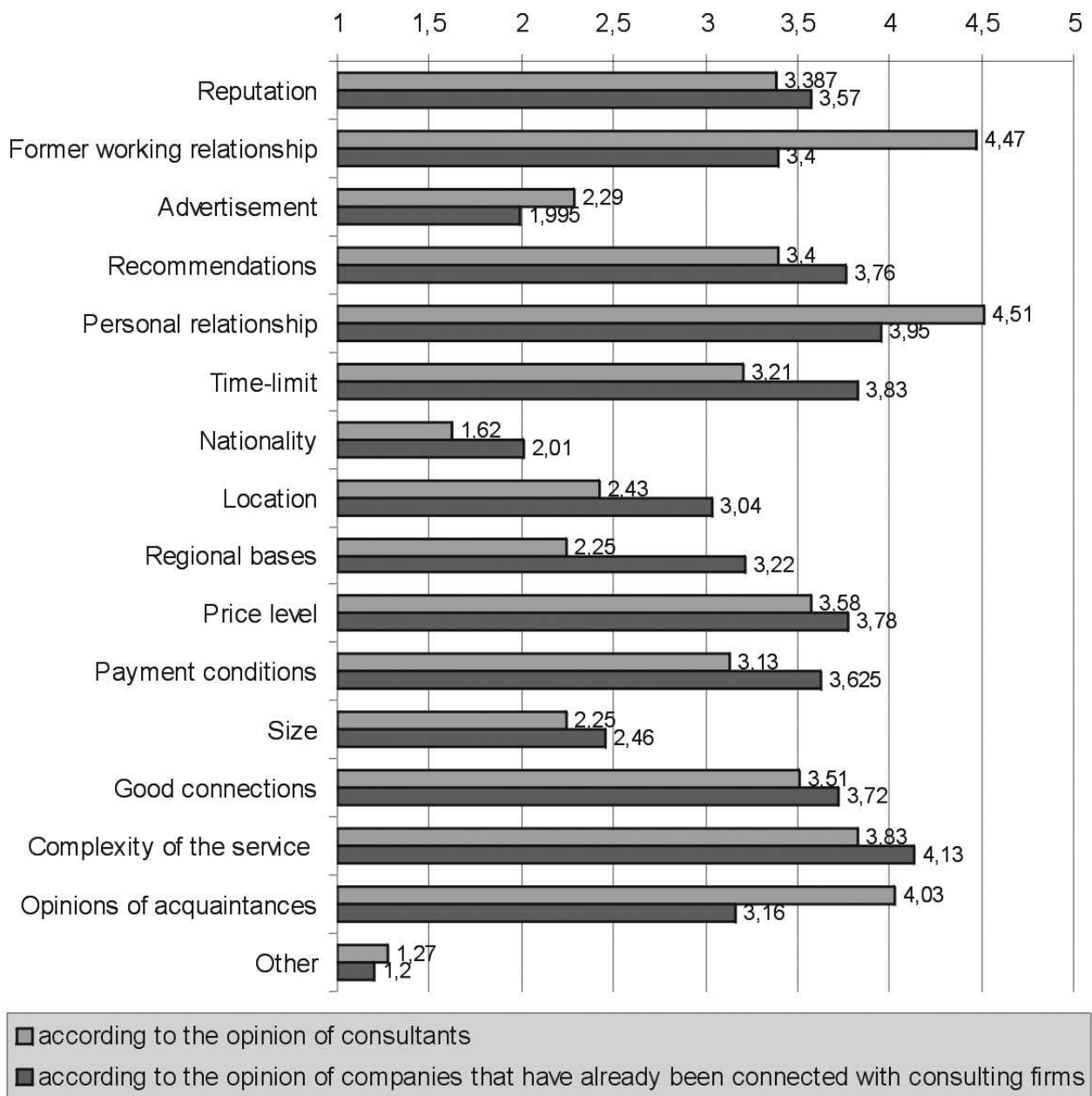


Figure 5

There is no big difference between the opinion of the consulting firms and their (potential) clients. The most important differences are:

- > According to the opinion of clients the most important factor by choosing a consulting firm is the **complexity of the service** (the consultants rated it only on place 4). The clients want the results as quickly as possible – so a dominant factor is the **time-limit** for the given project (also only of medium importance according to the consulting firms)
- > The consulting companies consider personal relationship and former working relationship and opinions of acquaintance very important (only of medium importance conform the clients).

> Price level and payment conditions aren't the most important aspects in this region. Quality and guarantees are much more important.

> Location and regional bases aren't factors in choosing a consulting company according to the consultants, but are of medium importance according to the clients. Quick, sometimes a personal help gives a feeling of safety.

> Size and nationality of consultants is not an important factor. Quality and former working relationship, recommendations are the dominant factors in choosing a consultant rather than a prejudice.

The following diagram shows the rate of clients by the type of link-up:

### Rate of clients by the type of link-up

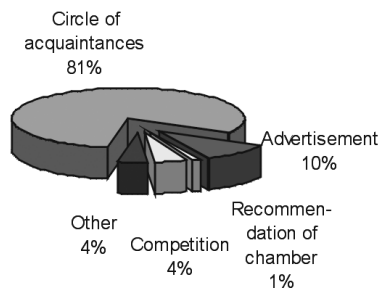


Figure 6

The most important type of link-up is the personal relationship: 95.2% of the companies have clients from the circle of acquaintances. 24.1% of the consulting firms use advertisement, 20.5% competition. Consulting firms contacted 10% of their clients with the help of advertisement, 4% with competition.

## 5. CONCLUSION

The Institute of Business Sciences of the University of Miskolc conducts a survey among business consultants and companies that already made use of business consulting, have not but plan to make use of business consulting and have not and don't intend to make use of business consulting.

The evaluation of the queries is in progress. In the present article we like to show which are the most important reasons for hiring a business consultant. Which are the main areas the consultants are needed, what are the areas tending to be the runners in the near future, what the most important characteristics by picking a consulting firm – and do the consulting firms think about those characteristics.

We would like to further analyse the order of the required service, the price variation, effectiveness, and the applied and preferred payment methods, the components of the payment. Furthermore the turnover of the consulting firms, the planned change in the turnover, the size change and composition of their investments, the most important holdback factors.

The results of the survey will be continuously published in professional magazines, conferences and professional forums.

### Zusammenfassung

Unser Institut hat eine Befragung mit Fragebogen unter Beratungsfirmen und Unternehmungen, die Beratungsgeben in Anspruch genommen haben oder nehmen möchten, und unter Unternehmungen, die die Beanspruchung solcher Dienstleistung eigentlich nicht planen, gemacht. In der Befragung haben 362 mit repräsentativ Probenentnahme ausgewählte Unternehmungen und 83 Beratungsfirmen aus dem Komitāt BAZ teilgenommen. In unserem Artikel demonstrieren wir, dass die Hälfte der Unternehmungen in dem Komitāt BAZ eine solche Dienstleistung schon in Anspruch genommen haben oder in der Zukunft nehmen möchten. Nach der Auswertung können wir feststellen, dass die Unternehmen wenden sich vor allem wegen der speziellen Kenntnisse und Erfahrungen der Berater an solche Firmen. In unserem Komitāt sind heute noch die Buchhaltung und die Finanz die wichtigsten Gebiete, aber in der nahen Zukunft werden voraussichtlich die strategischen, informationstechnologischen Gebiete und Absatzmarketing in den Vordergrund treten.

### Összefoglaló

Intézetünk kérdőíves felmérést végzett tanácsadó cégek, valamint tanácsadást már igénybe vett, igénybe nem vett, de tervező, igénybe nem vett, és nem is tervező vállalkozások körében. A felmérésben 362 reprezentatív mintavétellel kiválasztott B.-A.-Z. megyei vállalkozás, valamint 83 tanácsadó cég vett részt. Cikkünkben bemutatjuk, hogy Borsod-Abaúj-Zemplén megyében a megkérdezett cégek fele igénybe vette, vagy tervezi igénybe venni a szolgáltatást. A felmérés kiértékelése után megállapíthatjuk, hogy a legfontosabb ok, amiért a vállalkozók tanácsadóhoz fordulnak a szakértő speciális tudása, tapasztalata az adott terü-

leten. Megyénkben még mindig a legfontosabb tanácsadási terület a számvitel és pénzügy, a közeljövőben a stratégiai, információ technológiai, valamint értékesítés-marketing területek előretörése várható. A tanácsadók kiválasztásának legfontosabb szempontjaként a kínált szolgáltatás komplexitása, a személyes kapcsolat, valamint a vállalási határidő jelenik meg.

orosz

# APPLICATION OF THE ECONOMIC VALUE ADDED MODEL ON DETERMINATION OF THE VALUE OF THE BUSINESS

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## SUMMARY

*The EVA index contains many important aspects of the business processes: the size and composition of the invested capital (sum of the equity capital and the loan capital on interest), the costs of the equity capital and loan capital on interest and the efficiency of the profitability of the invested capital.*

*In the near future the EVA index will come to the fore compared to other indexes because it describes the objective business position. It gives considerable information of the performance of the business.*

## INTRODUCTION

Economic value added (EVA) is relatively new indicator, which started to be used by investors mainly in forward market economies. As living in the period of globalisation and in our condition also in the period of privatisation, many businesses, especially those with foreign investments (and gradually all of them), will be forced to use this indicator in the close future.

The main objective of this article is to describe EVA model and especially to analyse resources of its application on determination of the value of business.

## THE CHARACTERISTICS OF EVA MODEL

As main objective of the firm is maximisation of the profit, it is logical, that also index EVA is established on this category. The difference is that it is not accounting profit, but economic. Opportunity costs are amounts of money, which were lost due to the fact that equity capital was not invested in the best alternative opportunity. Economic costs include also the equity capital, which is calculated using The Capital Assets Pricing model. Using this model we can get the relation for calculation interest rate on equity capital:

$$r_e = r_f + \beta(r_m - r_f) \quad , \text{ in which}$$

$r_f$  is risk free rate,  $(r_m - r_f)$  is equity risk premium and  $\beta$  is stock beta of the investment. Interest rate calculated using this relation is further used in calculating equity capital costs.

We will use quotation:

D is debt, E is equity, C is total invested capital (D+E), t is legal entity income tax rate,  $r_d$  interest rate for loans, WACC is weight average capital charge and NOPAT is net operating profit after taxes.

Then

$$EVA = NOPAT - C * WACC \quad (1)$$

and

$$WACC = r_d * (1 - t) * \frac{D}{C} + r_e * \frac{E}{C} \quad (2)$$

The structure of indicator EVA shows, that it includes several important aspects of operational business, namely:

- the amount of invested capital and its structure (amount of equity capital and debt –),  $\frac{D}{C}, \frac{E}{C}$
- costs that business pays for equity capital and debts (WACC),
- efficiency of invested capital utilisation (NOPAT).

It is evident that the higher EVA indicator is, the more effective business works. The structure of EVA shows us even the ways to improve performance of business.

Application of EVA model on determination of the value of business

One of the applications of EVA model is its utilisation for calculating the value of the firm. In general,

$$\text{Value of enterprise (VE)} = C_0 + \sum_{t=1}^{\infty} \frac{EVA_t}{(1+WACC_t)^t} \quad (3)$$

I. Let's consider first regulated situation supposing that tax and interest rates as well as stock beta are constant. If total amount of capital invested is unchangeable, res. if its structure remains the same, that means

$$\frac{D+\Delta D}{C+\Delta C} = \frac{D}{C}, \quad \frac{E+\Delta E}{C+\Delta C} = \frac{E}{C},$$

then

$$\begin{aligned} WACC_{t+1} &= r_d * (1-t) * \frac{D+\Delta D}{C+\Delta C} + r_e * \frac{E+\Delta E}{C+\Delta C} = \\ &= r_d * (1-t) * \frac{D}{C} + r_e * \frac{E}{C} = WACC_t, \end{aligned}$$

and that means

$$WACC_t = WACC = \text{const.}. \text{ If also } EVA_t = EVA = \text{const.},$$

then

$$\sum_{t=1}^{\infty} \frac{EVA}{(1+WACC)^t}$$

is geometric series, in which

$$a_1 = \frac{EVA}{1+WACC} \text{ and } q = \frac{1}{1+WACC}$$

As  $\frac{1}{1+WACC} < 1$ , in this case

$$VE = C_0 + \frac{\frac{EVA}{1+WACC}}{1 - \frac{1}{1+WACC}} = C_0 + \frac{EVA}{WACC} \quad (4)$$

However, this case is not too suitable for businesses in transforming countries.

II. The main stroke of these states is transforming of economies closely followed by restructuring of the most of businesses. For these reasons so called two-phase model seems to be more valid. It is based on the assumption that for n years (planning term)  $EVA_t$ , as well as  $WACC_t$  are variable and beginning with the year (n+1)  $WACC_t = WACC_n = \text{const.}$  for all  $t = n$ .

If supposing, that for  $t = n$  is also  $EVA_t = EVA_n$  valid, then

$$VE = C_0 + \sum_{t=1}^n \frac{EVA_t}{(1+WACC_t)^t} + \sum_{t=n+1}^{\infty} \frac{EVA_n}{(1+WACC_n)^t}$$

In this situation

$$\sum_{t=n+1}^{\infty} \frac{EVA_n}{(1+WACC_n)^t}$$

is geometric series, in which

$$a_1 = \frac{EVA_n}{(1+WACC_n)^{n+1}}, q = \frac{1}{1+WACC_n} < 1, \text{ and so}$$

$$VE = C_0 + \sum_{t=1}^n \frac{EVA_t}{(1+WACC_t)^t} + \frac{EVA_n}{WACC * (1+WACC_n)^n} \quad (5)$$

If supposing that after n years indicator EVA will be raising in geometric way with increase rate  $\alpha$ , that means  $EVA_{t+1} = (1+\alpha)^t * EVA_n$  for all  $t = n$ , and then

$$\begin{aligned} VE = C_0 + \sum_{t=1}^n \frac{EVA_t}{(1+WACC_t)^t} + \\ + \frac{EVA_n * (1+\alpha)}{(WACC_n - \alpha) * (1+WACC_n)^n} \end{aligned} \quad (6)$$

Note 1. This relation is valid if  $q = \frac{1+\alpha}{1+WACC_n} < 1$ ,

that means,  $\alpha < WACC_n$ , If  $\alpha < WACC_n$

that means rate of indicator EVA growth is higher then cost of capital ratio, then value of the firm would be infinite.

Note 2. Using listed relations the value of the whole business can be calculated. In case we need to calculate the value of own property, we have to subtract amount of debt.

## CALCULATING THE VALUE OF THE FIRM USING EVA MODEL

**Exercise 1.** Joint-stock company Doodle, Inc. has debt in amount of 55 mil. Sk (long term loans at interest rate of 12%). Equity capital of the company consists of 134 000 shares at nominal value 1000 Sk. Legal entity income tax rate is 29%. Costs of equity capital are 15%. Every year company plans to repay the whole interest and part of debt at amount of 11 mil. Sk to have no debt in five years. At the same time it wants to raise equity capital each year at amount of 28 mil. Sk to the total sum of 274 mil Sk. Count the value of the company and market price of one share of joint-stock company Doodle, Inc.

Other information needed is in a chart:

Year	t	Debt (D)		Equity capital (E)		The whole invested capital (C)
		in mil. Sk	percentage	in mil. Sk	percentage	
2000	0	55	29,101%	134	70,899%	189
2001	1	44	21,359%	162	78,641%	206
2002	2	33	14,798%	190	85,202%	223
2003	3	22	9,167%	218	90,833%	240
2004	4	11	4,280%	246	95,720%	257
2005	5	0	0%	274	100%	174
2006	6	0	0%	274	100%	274

Solution:

Using listed formulas and relations we calculate partial results and write them down in a chart:

Rok	t	WACC <sub>t</sub>	EVA <sub>t</sub>	EVA <sub>t</sub> /(1+WACC <sub>t</sub> ) <sup>t</sup>
2000	0	0,14127	0	
2001	1	0,14359	11,42	9,99
2002	2	0,14556	11,52	8,79
2003	3	0,14725	12,66	8,38
2004	4	0,14872	11,78	6,77
2005	5	0,15	11,9	5,92
2006	6	0,15	33,9	5,92

Then we can calculate the value of the company:

$$VE = 189 + 9,99 + 8,79 + 8,38 + 6,77 + 5,92 + \frac{5,92}{0,15 * (1 + 0,15)^5} = 341,21 \text{ mil. Sk}$$

$$\text{Value of own property} = 341,21 - 55 = 286,21 \text{ mil. Sk}$$

$$\text{Market price of a share} = \frac{286,21}{134000} = 2136 \text{ Sk}$$

## REFERENCES

- [1] Kisligerová, E.: Using of the economic value added model for valuation of a company, Biatic, 11, 2000, 38-40  
 [2] Ľapka, P.: K Problematice rozhodování o efektu realizace investičního podnikatelského záměru, Ekonomická Revue, VˆB TU Ostrava, III, 2000, 67-74

### Resümee

*Der EVA Index enthält zahlreiche wichtige Aspekte der betrieblichen Prozesse – die Grösse des Anlagekapitals und seine Zusammensetzung (die Summe des Eigen- und zinsbare Fremdkapitals), die Kosten, welche das Unternehmen zahlt für das Fremd- und Eigenkapital und die Wirkung der Utilisation des Anlagekapitals. In der nahe Zukunft wird der EVA Index in den Vordergrund treten im Vergleich mit den anderen Indexen, denn er präsentiert die objektiven geschäftlichen Situationen. Er erteilt wichtige Informationen über die Leistung des Unternehmens.*

### Rezümé

*Az EVA mutató magába foglalja az üzleti folyamatok számos fontos aspektusát – a befektetett tőke nagyságát és összetételét (a saját tőke és a kamatozó kölcsöntőke összege), a saját tőke és a kölcsöntőke költségét és a befektetett tőke hasznosulásának hatékonyságát. A közeljövőben az EVA mutató előtérbe fog kerülni a többi indexhez képest, mert az objektív üzleti helyzetet mutatja be. Az üzlet teljesítményéről ad komoly információt.*

# KNOWLEDGE MANAGEMENT STRATEGIES

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## SUMMARY

*The article summarises the today recognisable, institutionalised knowledge management models by reviewing the basic problems of knowledge management. It shows the basic features, the focuses of examination, the effects of each tendency. Then the author gives models and a typological system to develop the knowledge management strategy.*

## 1. THE BASIC PROBLEMS OF KNOWLEDGE MANAGEMENT

Knowledge management is the process of delivering

- the right knowledge,
- to right people,
- at the right time,
- with the right composition
- and the right degree of abstractness,

and the collection of activities to achieve this.

The key elements of the process are:

- integrating data, information and experience
- and the different levels of the organization.

The phases of the process that identify, develop, distribute and keep up-to-date the strategically significant knowledge of the enterprise, are of outstanding importance. This collection of activities cannot be operational, cannot be restricted only to the information needed at the very time but has to ensure the knowledge base for the stable functioning of a company. In order to acquire external knowledge is of overriding importance (acquisition and transfer).

Fundamental questions of knowledge management can be summarized by the following three approaches (Bellinger, 1999):

### 1.1. MECHANISTIC APPROACH

It concentrates on the information and technical side of knowledge management. Its main elements are:

- Efforts to improve the quality of information processing
- Using network technologies in problem solving.
- Transferring documentary systems on information basis

According to this technocratic approach, support systems from external sources can be applied easily. Adopting ability is of a relatively high level. However, modernization, based on technical changes, does not always provide a higher level or wider share of knowledge than before.

### 1.2. Behaviour and Culture Oriented Approach

It is the learning processes of the company that are in the centre of thinking. The main aim is to increase innovation and creativity including the extension of explicit knowledge and transformation of experiences.

The key elements of this approach are:

- Cultural changes are accompanied by efforts to innovate knowledge, the conflicts of which the company should be prepared for.
- Traditional knowledge bases are no longer the sources of improving effectiveness, integrating new knowledge requires a change of behaviour of cooperators.
- Managers should force the fast knowledge distribution within the organization.
- The effects of cultural changes are hard to appraise, although they can be perceived through company development.

### 1.3. SYSTEM ORIENTED APPROACH

It concentrates on the problem solving process hidden behind the compulsions of changes and knowledge reception. This approach connects the tasks of knowledge renewal to products/services and technological systems.

Emphasized fields of examination are:

- Highlighting the solutions tied to the explicit knowledge of problem solving.
- Promoting complex task solutions.
- Technical changes cause the employees’ knowledge to be altered. The main tasks of knowledge management can be designated with the implementation of changes.
- This approach includes a realistic access to the questions of knowledge management.

The effect chain of institutional knowledge management is laid down in 5 phases by Wiig (1999), who separates the tasks of:

- Creation and renewal knowledge
- collection of knowledge and its systematic retaining
- utilization
- spreading
- and continuous application.

Wiig designed the functional model of knowledge management based on this effect chain (see Figure 1), which integrates individual and institutional knowledge development.

The following tasks should be aimed at

- exploring and setting up,
- transformation and restructuring,
- distributing knowledge and information required within the company as well as with the customers and cooperators
- formalizing and preserving the acquired knowledge so that it should be suitable for creating knowledge based services,

so as to operate and continuously develop our business enterprise.

The conditions to establish the success of knowledge management shown on the model above are:

- Create the information and knowledge storage systems. Insure easy and fast access to knowledge available for the employees. Facilitate creative work and support individual and team initiatives.
- Create situations, when colleagues are able to use their accumulated knowledge and share with the others.
- Create an open, inspiring atmosphere for your employees
- Make your employees interested in creating values.

In a model developed by Gupta and Govindarjan (2000) seven main steps of knowledge collection and distribution are laid down (see Table 1).

**Table 1**  
**KNOWLEDGE COLLECTION AND DISTRIBUTION**  
**BY GUPTA AND GOVINDARAJAN (2000)**

PROCESS OF KNOWLEDGE MANAGEMENT	CRITICAL POINTS OF KNOWLEDGE MANAGEMENT
<i>1. Knowledge creating (internal sources)</i>	knowledge vacancy is not recognized lack of dreaming
<i>2. Knowledge acquisition (external sources)</i>	early recognition of external possibilities lack of integration and utilization
<i>3. Knowledge retention</i>	high fluctuation of white-collar employees sharing patented knowledge with competitors
<i>4. Knowledge identification</i>	selecting the best experience recognizing values
<i>5. Knowledge distribution</i>	jealousy and egoism on the senders’ side the receivers’ refusal
<i>6. Knowledge transfer</i>	selection of effective channels selection of effective methods
<i>7. Knowledge reception</i>	finding the searching field recognizing important knowledge



## Functions of knowledge management

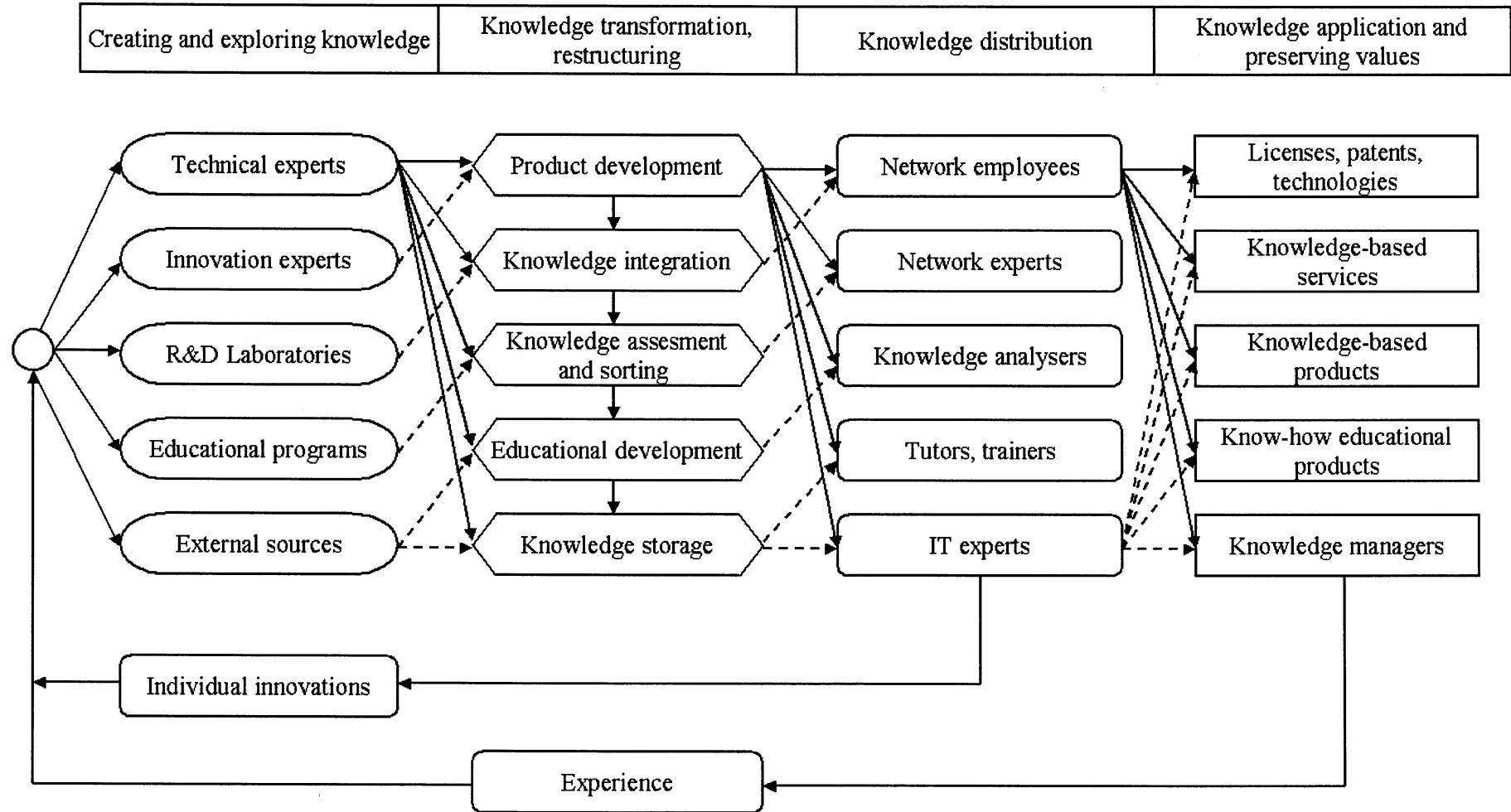


Figure 1  
Transfer processes of knowledge (by Wiig, 1999)

Preconditions of good realization can be formulated phase by phase. The authors' recommendations are summarized below:

**1. Knowledge creation:**

- well-trained employees
- accurate and careful selection attached to goal task
- tolerant receptive medium
- effective individual encouragement
- continuous, full-scale education and further education
- achievement orientation

**2. Knowledge acquisition:**

- fast and early response to innovations
- institutional support of acquired innovation, fast development of know-how level knowledge
- placing employees next to knowledge sources
- accomplishment of technological effect-analysis in organized forms
- openness for receiving information

**3. Knowledge retention:**

- rewarding employees' loyalty
- installing knowledge bases

**4. Knowledge identification:**

- deliberate sifting of knowledge and information
- clear vision of future
- institutionalization of experience recording

**5. Knowledge distribution:**

- encouraging individuals
- ensuring exchange of experience
- measuring performance and analysing

**6. Knowledge transfer:**

- designing channels and methods suitable for different knowledge types
- establishing technical background

**7. Knowledge reception:**

- institutionalization of information exchange within the company

## 2. KNOWLEDGE MANAGEMENT STRATEGY

Based on theoretical results several practical models have been developed and introduced to companies. The preparation of these actions demands to create knowledge management strategy of the company. As it is a special functional sub-strategy, it can be deduced from innovation and performance strategies. The possible issues orienting the creation of knowledge management strategies are as follows:

**a) The standard or individual character of the product or service**

Codified knowledge has a limited meaning in cases, when the company's products or services are adjusted to customer's individual expectations to a great extent.

**b) The innovative or mature character of the product or service**

Mature products or services provide a great number of opportunities for validating the codification strategy. In

these cases know-how level knowledge can be obtained by means of explicit knowledge, which can also lead to developing a technological knowledge transfer business.

The sequence of ideas is true if reversed, too: Know-how level knowledge cannot be obtained without the systematic use of codification. Person-oriented strategy produces only a good network of experts, but does not automatically provide an institutionally tradeable package of knowledge.

**c) Applied controlling system**

It can range from classical linear controlling system through matrix organizations, to project-network systems.

**d) Novelty protection of products or services**

Protection can vary on a scale from open knowledge handling to strong protective systems.

As far the content, protection can include all kinds of transitions between legal exclusion and strategic cooperation.

**e) Classification of applied knowledge: the ratio of open and tacit knowledge**

Open knowledge is easy to code and store. Tacit knowledge is attached to a person, therefore storing is difficult and its transfer cannot be automated.

The 5 factors shown above can help to determine the company's starting strategy. This strategy, however needs to be audited from time to time.

Key fields of the audit are the following:

- change of expectations in business
- maturation of the product and service structures
- employees' maturation and personal development
- development of science, integration and acceptance of new knowledge
- change of IT technologies, new possibilities in knowledge storing and structuring (advisor systems)

## 3. CLASSIFICATION OF KNOWLEDGE MANAGEMENT MODELS

According to the observation of empirically recognized practical models, five typical knowledge controlling models can be distinguished (Hansen, 1999).

### 3.1 ROUTINE ORIENTED MODEL (COOMBS-HULL, 1999)

The model is based on formalization and a highly structured and hierarchical documentary system. To create and operate this model, codificational strategy is applied, whose main points are as follows:

- Knowledge is utilized independently of the original owner of the knowledge.
- Standard knowledge pieces are created (interview-standards, comparative databases, detailed working-method descriptions, etc.)

- Knowledge base is open to potential users.
- There is no direct contact between the creator and user of knowledge.
- Based on huge electronic data banks.
- It basically stimulates reproduction.
- It can be utilized by companies having to cope with similar problems several times.
- It supports cheap and fast problem solving.
- It strives to recycle a knowledge piece already created.
- With knowledge recycling it broadens the company's problem solving capacity.

Employees are differentiated and further educated according to their reproduction abilities. Systematically arranged knowledge pieces of advisor systems are often used. Levels of primary importance represented by:

- Technical reports
  - documents made as routine tasks
  - tied to the R&D's emphasized acts

- Revisionary reports

It makes possible to map the abilities and skills of organizations (or persons) participating in innovational actions, whereas knowledge inventory enables you to separate common and special knowledge from each other.

- R&D project's documents (teamwork documents)

It represents documentation of knowledge pieces and learned by team members and developed in teams existing for various length of time. Some parts of it can be considered as individual experience (team development), while other parts can be recognized as jointly created, accepted and inherited norms.

- Documents summarizing project experience

It means an official summary of the results achieved by a knowledge-based analysis of documents.

Central elements of routine oriented models are the so-called Knowledge Management Routines (KMR). KMRs are special routines of the organization, operating in innovative (changing) processes and affecting the intensity, size and direction of knowledge change. In order to be able to interpret and apply this concept, it is necessary to explore its main features. These features can be summarized in the following structure:

1. Phases of knowledge utilization
2. Types of knowledge
3. Performance of the organization
4. Level of formalization

### Phases of knowledge utilization

In general 3 phases of knowledge utilization are identified. They are as follows: creating, transferring and utilizing knowledge. These phases have been descended from the analogy of information technology of processes. Special process elements are attached to the main phases, they can be recognized more easily. These can be the following:

- recognizing and separating the potentially useful knowledge
- catching and recording new knowledge pieces
- inserting new knowledge pieces into the transfer systems
- stabilizing isolated knowledge and having it stabilized
- inserting isolated knowledge into the environment, defining the conditions of its transfer

### Types of knowledge

The main aim is to define the general and specific knowledge pieces, because their place of genesis and determination of the ideal direction of their transfer represent primary preconditions of utilizing knowledge.

### Performance of the organization

The effect of knowledge on the performance of the organization can be measured by innovation-efficiency indexes. Output-side quality and quantity indexes are, of course, of key importance.

### Level of formalization

The KMRs can be achieved at different levels of formalization. The information technology support for R&D and innovation projects are in direct proportion to the growth of the documentation level of knowledge retention and distribution. In routine-oriented models knowledge control enforces formalization in the first step followed by the emergence of R&D knowledge centres. The effective IT support for knowledge centers and R&D processes increase the efficiency of the model, due to the growing standard and completeness of documentation and the improving technical conditions of knowledge transfer.

### Typical examples:

- complex, machine producing companies
- technology defined basic- and intermediate material producing companies

## 3.2 PROJECT-ORIENTED MODEL

The organizations and active teams of R&D accomplish a function method, which is in accordance to the structure of the matrix organization. The structural and coordinational points of intersections can be comprehended as the hot points of knowledge changing. During the functioning of the project these knowledge-accumulation points are always in motion.

Their documentation can be carried out at the time of their formation. The following elements of the so-called knowledge maps can be separated:

### a) Internal technology maps

- They are used for representing marketable systematic knowledge pieces. These maps can be explored in practice with the so-called technological audit. In lack of deliberate explorations the maps come about as results of specialists' individual efforts.

- It is also important to record knowledge pieces that can be generalized besides individual (project or event-specialized) knowledge.

### b) External technology maps

- They record relevant external knowledge sources and their content is regularly forwarded to internal users (expert's reports).

- The operation of this knowledge base is provided by a specialized establishment (company library, IT experts, external supplies) and modern technology (company Intranet).

**c) Market knowledge map**

- It is used for learning the customers' knowledge base
- It is of primary importance, when the customer's knowledge seems to be the weak point of renewal
  - either because the link with competence is too strong
  - or the expenses of change are too high

**d) Inter-company knowledge map**

- It is used to introduce knowledge chains derived from vertical links (basic material, spare parts, assembled end-products)
- The vertical steps of knowledge diffusion can be different force and controllability, whose objective and clear recognition may affect the role to be chosen (patent protection, rules of licence transfer, etc.)
- This map helps to clarify the fields of a future cooperation or its concrete forms of implementation for enterprises working together in a strategic alliance or preparing for a strategic alliance (Competence maps)
- Typical examples:
  - multinational companies producing consumer goods
  - secondary manufacturing companies

**3.3 PERSON-ORIENTED MODEL**

Having recognized and acknowledged that knowledge is linked to individuals, this model is about to spread the knowledge built upon personal ties within the company. The enforcement of this strategy is ensured by the following:

- regular organization of internal forums for knowledge spreading (workshops, internal conferences, informal panel discussions, internal information brochures, etc.);
- encouraging individuals to participate and share their opinion
- enhancing both vertical and horizontal communications
- handling personality with priority

**Emphasized features:**

This model focuses on the encouragement of sharing knowledge.

It is often used by knowledge-oriented companies, which aim at achieving the institutionalization of prominent individual knowledge. Their operation is highly facilitated by the so-called internal yellow pages (knowledge phonebooks), which represent the list of knowledge orientation possessed by the employees (acknowledgment, status, set of values, etc.). The model targets to recycle and integrate individual experience while utilizing novelty producing and value-increasing effect of individual solutions. Companies try to choose creative cooperators and encourage individual innovations. On training programs communication techniques are put into focus together with enhancing individual communication skills. Problems are solved in teamwork. The goal of IT support is to ensure employees' unlimited cooperation. During problem solving activities creative elements are trained, too. A wide network of experts is set up, while concrete tasks are accomplished by occasional teams. The model makes it possible to come up with specific solutions.

**Typical examples:**

- research institutes
- account offices
- lawyers firms
- software manufacturers

**3.4 MODEL BASED ON INTELLECTUAL PROPERTY PROTECTION**

The model deliberately aims at creating legally circumvallated (protected) knowledge. It is a tool for elaborating temporary innovation monopolies.

Artificial limits of entering a market can be set up with the help of controllers linked with knowledge transfer (economic, legal, technical).

**Typical examples:**

- pharmaceutical industry
- microelectronic spare parts producing

**3.5 IT BASED MODEL**

Activities linked to tasks of knowledge storing and diffusion are implemented by automated information networks based on IT. Virtualization can be pointed out in many phases of knowledge creation, which can cause new kind of problems in documentation and storage.

**Typical examples:**

- engineer offices
- prime-contractor or investment offices
- virtual offices

Companies tend to make recurrent mistakes in four fields of knowledge management (Achtenhagen, 1999):

- a) They cannot utilize properly knowledge pieces derived from market experience in innovational processes.
- b) Knowledge transfer between suppliers and different workplaces is not fast or effective enough.
- c) Spreading the best practical solutions deduced from the experience is not carried out.
- d) They fail to benefit from advantages coming from dispersed knowledge base built on networking.

These general problems can often be attributed to controlling inadequacy.

Companies should concentrate on four fields in controlling:

**1. Rules**

The boundaries of executing activities important for knowledge management can be made definite by creating clear rules. For example, the determination of the frequency of visits in customer-relationships or written recording of experience linked to prototypes. Creating these and similar rules enables you to utilize properly the knowledge accumulated within the company by explicit means in knowledge distribution processes.

**2. Formalization and structuring**

The acquired knowledge has to be spread through regular and official channels. In order to achieve it, collected knowledge pieces should be structured. This is generally accomplished in electronic based knowledge databanks.

**3. Enframing person-to-person relationships**

Tacit implicit knowledge of people can be moved to institutionalization by person-to-person relationships. All

these make it necessary to develop and create knowledge basically producing the initial conditions for interactions.

#### 4. Building specific processes

Means the creation of the special processes of knowledge creation and knowledge utilization, including the framework of individual and collective learning possibilities.

The structuring of knowledge always features a critical point of knowledge management. This almost always involves extra load for participants (writing records, reports, defeating jealousy). It is practical to provide adequate stimulation for contributors in order to intensify knowledge transfer.

Practical learning and planned knowledge management results in the simultaneous change of three possession-elements – that have an effect on the knowledge possessions of the company:

##### a) Professional knowledge

Professional knowledge is summarized in equipment together with their operational methods. The clearly recognizable direction of progress is indicated by the intensified integration of professional knowledge. The open spread of knowledge built in equipment (CD law database, accounting programs, expert systems for diagnostics) enables innovating and manufacturing companies to spread their own company culture as well.

##### b) Experience – practice - routines

Routines are the summary of experience derived from practices and made into rules, guides, and other formalized form.

The experts of knowledge-oriented companies' having direct contact with customers get into privileged positions due to the routines they own.

It is not by chance that leading knowledge oriented

companies (software houses, account offices, auditors, etc.) make big efforts to

- record project-history
- evaluate the results of planning
- document event-history
- write user guides and work instructions
- make bibliographies
- collect and analyze statistic data.

Creating and transferring routines to other organizations may instabilize knowledge bases, because its spreading equals to obtaining small comparative advantages inherent in them.

##### c) Constitutional culture

As a result of learning culture-influencing factors also tend to change. The main manifestations of this change are the following:

- transformation of scale of values
- change of norm limits
- change of communal and co-operational rules
- routines are revalued

Every company is supposed to clarify their core competencies in terms of their future. Knowledge and skills classified into this category enable company to

- create products or services of great and special quality
- operate special market relationship-systems.

Company study-programs linked to the strategy should focus on acquiring and developing these competencies by enhancing their own internal learning processes (individual and organizational) and integrating external learning sources (buying knowledge, concluding alliances, etc.). The table shows the achievements of companies using knowledge management systems and developing successful methods (Table 2).

**Table 2**  
**KNOWLEDGE MANAGEMENT ACTIONS (BY SVEIBY, 1998)**

FIELDS IN FOCUS		
Initiatives based on external sources	Initiatives based on internal sources	Utilizing new competencies
Utilizing knowledge acquired from customers	Enhancing knowledge-sharing	Creating knowledge management duties
	Developing and integrating new values	Instituting the knowledge transfer between individuals
Comparing external knowledge with customers' experience	Systematical recycling of individual knowledge	
	Assessing and evaluating knowledge possessions	Collecting knowledge through simulations and experiments
COMPANIES		
Benetton GE Ritz - Charlton Hotels Frito - Lay Skandia	3M Boeing Ford Motor Co. Hewlett Packard McKinsey BP	IBM Honda Xerox Matsushita

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### *Resümee*

*Dieser Artikel fasst die heutzutage erkennbaren institutionalisierten Knowledge Management Modelle durch ihre Grundprobleme zusammen. Sie stellt*

- die Grundeigenschaften,*
- die Schwerpunkte der Analyse und*
- die Effektmechanismen*

*der gewissen Methoden dar.*

*Dann gibt der Autor Modelle und ein typologisches System für die Ausbildung der Knowledge Management Strategie.*

### *Összefoglaló*

*A cikk a tudásmenedzselés alapproblémáinak áttekintésén keresztül a napjainkban felismerhető intézményesült tudás menedzselési modelleket foglalja össze. Bemutatván az egyes irányzatok:*

- alapjellemezőit,*
- vizsgálati súlypontjait*
- hatásmechanizmusait.*

*A szerző ezután a tudásmenedzselési stratégia kialakításához ad modelleket és tipológiai rendszert.*

# INTEGRATED MANAGEMENT MODEL FOR THE POLICE OF THE HUNGARIAN REPUBLIC

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## SUMMARY

*The article systematises in the PHARE program -called 'EU Conform Distance Learning Management Training PILOT Programme for the Country Police-Headquarters within the North-Eastern Hungary Region'- realised methodological and concrete development results from 1999.*

*In the article we outline the model and the producing process by which the conceptual frame of the concrete solution can be known. The study consists of three parts: in the first part the basic trends connected to the quality are summarised in the context of how the strategic management treats and transforms to the organisation these requirements. In the second part the main concrete steps, methods and results of the last period (2-2,5 years) are summed up, while in the third part the integrated management model suggested by us is outlined.*

The development of integrated management models, representing a research topic in Management Sciences for 15–20 years has been made necessary partly by developments in Information Technology, partly by the demand for linking the achievements of various specific tasks, functions and sub-systems.

- This paper is also based R & D motivated by similar reasons and factors:
  - the authors also deal with fields of management and organizational theory related to present study from this perspective.(e.g. strategic management developing organisations quality management)
  - They have been leading and acting as advisors of the EU Conform Distance Learning Management Training Pilot Programme for the County Police Headquarters Within the North-Eastern Region of Hungary since 1999.

This paper gives a survey of the theoretical and concrete results in development achieved by the authors within the framework of this program.

During the programme the clarification of the notion of EU conformity has become of primary importance. According to this the challenges affecting the Police of the Hungarian Republic are as follows:

- implementation of new quality cooperation with administrative-self government organs
- improvement of the public order, criminal investigation (etc and that of police services)
- ensuring creation of suitable connecting surfaces in the interest of cooperation with EU member countries and professional organizations

- Stronger social control in a more liberalized environment of human rights should ensure more efficient and more admitted operation

After having examined the police models operating in EU countries you can state that

- there are no unified police model, or operational / operationalising systems existing in the EU member countries either, and
- the synchronization of values always defines quality and excellence as common standards for both profit-oriented and non-profit economic organisations in each country.

It means economy or rather the whole society preserving national characteristics and cultural values is integrated into a unit according to these values.

This paper is an integrating part of a study of 800 pages that features the model and the creating process leading to a conceptual solution.

Consequently the paper is made up of three parts:

- In the first part TQM principles defined in ISO 9001:2000 and trends of ISO 9004:2000 are presented in line with the way strategic management transforms these values into the organization. The connection between BSC and strategic management also should be looked at from this perspective, because they constitute the basis of the elements of the integrated model in this way.
- The second part reviews the concrete tasks, their implementation and results carried out for the past 2–2,5 years
- The third part focuses on the final solution, the integrated management model recommended.

## 1. BASIC TRENDS

Considering quality, costs and time being permanently in contrast, you can expect the 21<sup>st</sup> Century to see a more even management of all these 3 important economic factors due to the reduction of time (turbulent changes).

As a result of this, the overall perception of quality – recently integrating innovation as well – is based upon this logical sequence in quality oriented management models. Further developments also head towards this direction.

### 1.1. ISO 9001:2000, AS THE STARTING POINT OF EXCELLENCE

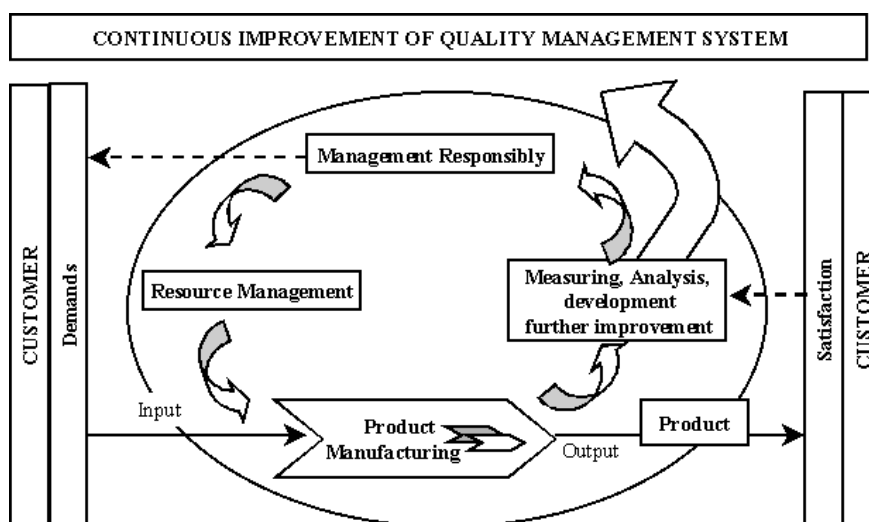


Fig. 1  
The flowchart of Quality Management

#### THE NEW STANDARD IS PROCESS – CENTRED

With the process control tending to get into the focus and gaining more and more importance the process-centeredness of Quality Management can contribute to the integration of the QM into the company processes of key importance. (Fig. 1) It is not doubtful that TQM based on process control should be more efficient and effective than its earlier version: TQM built upon on traditional functions of the company.

#### CUSTOMER FOCUS

ISO 9001:2000 focuses on the customer. The standard begins with customer demands and targets to meet customer satisfaction.

#### THERE IS ONLY A SINGLE MODEL

In this case there is only one model to be considered instead of the previously applied three (ISO 9001, 9002, 9003) models, which improves standard perception and tends to avoid questioning whether 9001 is superior to 9002 or 9003 or not.

#### ISO 9001:2000 AND ISO 9004:2000 COMPLETE EACH OTHER

In the future it will be much easier to switch over from ISO 9001 to a new, more intensive Quality Management system than it used to be, since ISO 9004:2000 is coherent with ISO 9001.

#### EASY INTEGRABILITY

Compared with the previous systems, the integration of the environment-centered QM system based on ISO 14001 becomes easier, and will be further facilitated by the appearance of the next version of ISO 4001.

#### THE DOMINATING ROLE OF QUALITY MANAGEMENT

Quality is a strategic factor, a key to the successful future. We perceive quality in a broader sense than earlier. In our interpretation it means: quality in thinking, quality in action, quality in leadership, quality in behaviour etc.

A well composed Quality Management system can be regarded as an ideal starting point for each future challenge that the organization will have to face. A flexible Quality Management system meeting the demands of the organisation will really support the organization to satisfy everybody involved and to achieve the continuous development of internal efficiency by the best possible utilization of the available resources (people, money, raw materials energy, time, etc.).

The quality concept will only lead to success if it stops being self-standing. The big gap between business goals and quality goals is a major problem. Even well-composed quality systems meant to be further developed can (especially – during regression) collapse, if they are not totally integrated into the whole of the business system. Consequently the issue



of actual quality integration into business processes is of primary importance.

Integrating quality means that the whole organisation is able to renew itself, its procedures, its basic competences and abilities in order to keep its competitiveness for a long time. The leaders have to acquire the skill to improve and renew the organization by applying the concept and tools of quality in their everyday work. The conception of quality should affect the whole organization and its each single process.

The acquisition and application of PDCA cycle (PLAN – DO – CHECK – ACT) can be the first step to integrate quality into the everyday routine of each business process.

The integration of quality systems can be achieved

- by enhancing intensity (increasing efficiency of management systems)
- by unifying sub-systems (e.g. ISO 9000, ISO 14000 etc.)
- by accepting / adopting award programmes.

This paper focuses on the relationship and integration of management models and excellence programs. In order to understand this process, it is expedient to review the role of quality standards, quality awards together with external evaluation and self-appraisal with special emphasis on the latter. The standards play an important role in the protection of the natural and social environment, safety and in the liberalization of world trade.

Quality standards prescribe the minimum demand that has to be met by all organizations in the market to avoid the risks of discrimination:

- standards can bring about their specific competitive advantages by starting out from a universal set of requirements
- the quality required by the standards defines a common level which serves for assisting to harmonize the relationship between the participants of the market
- the standards do not target to prevent organization from developing their own competitiveness
- standards serve as tools for eliminating the technical barriers to trade and inspiring confidence between business partners.

Quality awards like – Malcolm Baldrige Award, Deming Award or European Quality Award aim at enhancing the competitiveness of specific economic systems through the satisfaction of the participants and the continuous development of internal efficiency.

Adopting this method organizations can define their own position on the way to excellency.

We must consider that intensive competitiveness based on individual initiatives is endangered by the overuse of award models and self-evaluation tending to turn into rigorous standards. That is why rather models tailored to specific needs should be targeted instead of standard models.

Self – evaluation being an ideal tool for improving competitiveness should be integrated into each up-to-date model. PDCA cycle has to include self – evaluation as well in phase C (Check).

Really efficient self-evaluation has high diagnostic values. It facilitates that organisations could overcome the weaknesses hindering them to accomplish their goals, thus leading to a greater satisfaction of all partners affected and a continuous improvement of internal efficiency.

Total Quality Management and the standardized model are not synonymous. TQM: is a conception, an overall management method to improve quality and enhance competitiveness as opposed to a generally applicable standardized model. It is multidimensional and dynamic. It puts special emphasis on all the important issues related to employees' participation and continuous improvement. Involving all members of an organisation also means integrating cultural issues into the perception of TQM. As a result, it seems to be evident that no single universal standard could be generally applied in all fields.

Tito Conti helps users to select models most suited to their level and business goals together with routes of improvement through examining the direction of improvement and positioning QM models.

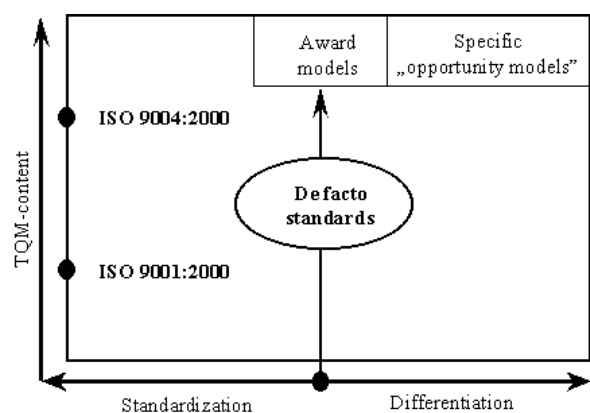


Fig. 2.  
Positioning Quality management models

The main concept of specific 'opportunity models' states that the main task is to find the best possible solution tailored to the specific needs of the organization and to the changing conditions, since there is no one single universally 'good' solution. Goal: to achieve the strongest possible cooperation between development results and organizational measures as this is the best way to ensure that the measures taken should really be effective and efficient.

In order to reach this goal managers should develop special skills: diagnostic, causal and builder's skills. They should possess all these to be able to plan and create a specific Quality Management model best suited to their organisation.

Certainly they cannot move towards awards model from a zero position. The most obvious route could be: ISO 9001:1994 @ ISO 9001:2000 @ ISO 9004:2000 @ EFQM. It means the TQM content of ISO 9001:2000 has increased compared to ISO 9001:1994. It can be further increased by the application of ISO 9004:2000. The organisation is able to proceed towards awards models from this position.

If we do not need either the audit or award models, but a managing model suitable for consistently managing self-development, the role and prerequisite of opportunity models can be given a more favourable judgement. The best possible competitiveness should be accomplished through 'opportunity models'.

### 1.2. WAY TO EXCELLENCE ISO 9004:2000, EFQM MODEL

The issues mentioned above are all the more important as expanding ISO 9004:2000 to police activities in the capacity of service (with all its specific features of course) could be termed as a trivial idea. This standard is built upon 8 major principles of Quality management.

**Customer focus (1)**

Meeting expectations, over -fulfilment

**Full commitment**

- leading people (2)
- involving people (3)
- partnership with suppliers (4)

**Process-development**

- process-centered approach (5)
- system-approach (6)
- decisions based on facts (7)
- continuous development (8)

Without going into detail you can observe the dominance of process-centered management.

The necessity of the process-centered approach is emphasized by A. R. Tenner and I. J. de Torro, [10] concluding that nowadays, it is not people, products or companies that compete, but there is a competition between processes. Business performance is the result of all processes applied by the organisation. General Electric has come up with the following definition: a world organisation is an organisation that knows all processes to a greater extent than rivalling organizations do their own processes.

The new approach can be characterized by concentrating on customers and processes rather than focusing on bosses. Functional roles and titles are replaced with ‘owners of processes’, who take the responsibility and are held accountable. They are in charge of operating and developing processes.

In traditional organisations information flows through a chain of command and follows the route of hierarchy. Decisions are made at the top level. As for process-oriented organisations, there is a direct, primary relationship between the customer and the organisations. Problems have to be solved where the necessary knowledge and information are available. Rights to make decisions are to be expanded to the lower levels of the organisation, while the upper levels also should ‘submerge’ in the process of implementation. (Fig. 3.)

Issues	Traditional approach	Process-centered approach
Focus	Boss	Customer
Direct relationship	Chain of command	Customer organisation
Orientation	Hierarchic	Process
Decision making	Management	All employees
Style	Autocrat	Participant

Fig. 3

Comparison of traditional organisation vs. process-oriented organisation [9]

Process performance has to be measured in two fields: effectiveness and efficiency (Fig.4.)

Effectiveness – “to do the right thing” – indicates what we have produced compared against what customers demand or expect that is customer satisfaction. Effectiveness can be increased by further developing and improving the product, the service and/or production processes.

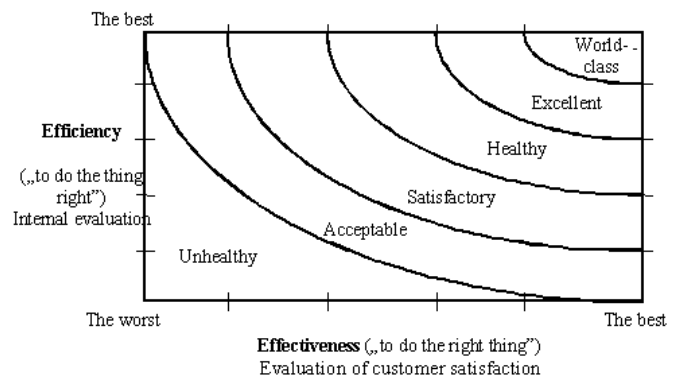


Fig. 4

Evaluation of Process Performance [9]

EFQM excellence model takes over the logic sequence of ISO 9004:2000 when perceiving 5 data and 4 results in self-evaluation. This model has risen above ISO concept. It went beyond even its own perspective in 1999. (Fig. 5.)

The basic principles of EFQM MODEL

- Result-oriented
- Customer focus
- Stability of Management and goals
- Management based on facts
- Employee development and involvement
- Continuous learning and improving
- Developing partnerships
- Accountability and responsibility to society

Basic characteristics of the improved EFQM model:

- The new model does not address only customers – though they are the most important participants – but all parties involved in the organisation or affected.
- It expands to all kinds of partnerships including joint ventures, joint promotions, market co-operation, joint training programmes, virtual organisation and of course customer, supplier relationship.
- The learning cycle has been built into the model. It begins with evaluating of data and results. Then it turns into an innovation project through learning processes.
- Knowledge management is a new element of the model, relying not only on the knowledge of company employees but capable of utilising knowledge coming from external sources as well.

EFQM defines “self-evaluation as an overall systematic and periodic examination of activities and results of the organisation, compared against an excellence model. It enables organisations to recognise and clearly distinguish their strengths from fields to be improved.

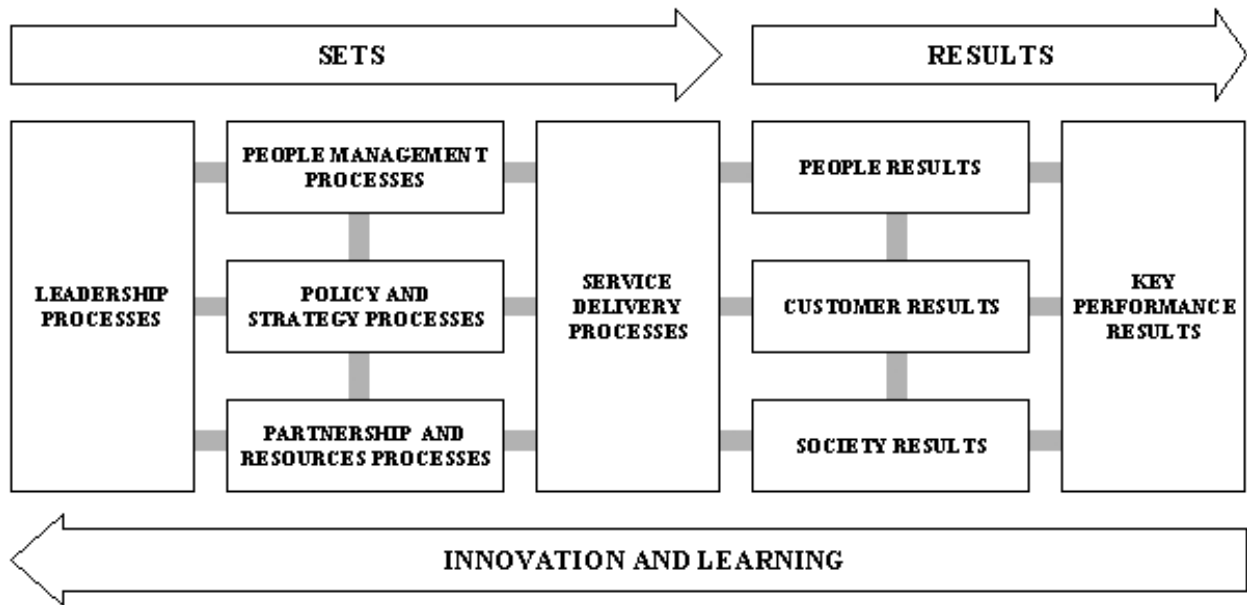


Fig. 5. EFQM Excellence Model

Self-evaluation process culminates in planned developing and improving activities whose advancement is paid attention to.”

Fig. 6. presents two types of organisational self-evaluations

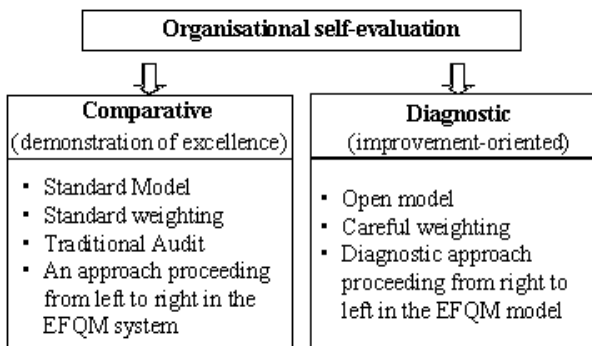


Fig. 6. The types of organisational evaluation [9]

Consequently EFQM model is capable of operating an organisation providing management programme, conveying norms of excellence, implementing efficiency improvement management together with handling knowledge management.

The organisation being able to profit from and adopt the opportunities available can create its own management systems tailored to its needs and coupled with the advantages of a well-known excellence model.

This model provides opportunities to compare its application by other users (benchmarking), which has already proved efficient. Unfortunately industry does not utilise these opportunities in an optimum way. A great number of companies still insist on the published version of the model.

All this has demonstrated the connection between ISO standards and EFQM models, making obvious the convergence and integration of these systems.

	ISO 9001:2000	ISO 9004:2000	EFQM
Quality concept	8 basic principles		
Focus	Customer	Parties involved	
TQM content	Small	⇒ Medium	⇒ Big
Demands	Minimum	⇒ Follow-up	⇒ World-class
Evaluation method	Auditing	Diagnostic self-evaluation	Comparative self-evaluation
Evaluation results	Conformance Yes/No	Effectiveness Efficiencies	Rate of excellence

Fig. 7. The convergence of ISO 9004:2000 and EFQM model [9]

### 1.3. THE CONNECTION BETWEEN STRATEGIC MANAGEMENT AND OPERATIVE CONTROL

The authors have already published several papers on the perception and theory of strategic management [1, 2, 3]. Hereby we want to highlight two essential issues.

> Strategic management, being in charge of defining and controlling change management initiates and co-ordinates transformations affecting the system of the company and the institution. These actions affect the strategy, the structure and culture as a whole. The tasks and duties meant to transform the system include a small part of evolutionary character that can be generated by the continuous developing actions of TQM.

> Projecting changes always demand resource distribution, project management, motivation together with performance evaluation. In addition to operational activities, performance evaluation should refer to strategic, structural and cultural changing programmes as well. The most up-to-date method to achieve this is Balanced Scorecard with its further developed versions, which connects strategic management with operational management.

> BSC basically means a complex procedure of performance evaluation which was developed as a response to the demand raised by owners and top management who were less and less satisfied with company financial reports and claimed a more complex, overall business evaluation and goal-positioning.

BSC is a management method that reflects past performance completing financial indicators, while it also provides precise information about factors affecting performance in the future.

You can get access to the most detailed description of the method in the book written by its creators, Robert Kaplan and David Norton. Here we give only an insight into it to an extent that is necessary to understand the third part of the paper.

BSC organisational goals together with measures indicating the implementation of goals have to be generated from company strategy. In general goals and indicators examine the excellence of operating a company from four different points of view:

> *financial* – The perspective from which owners judge what business results the organisation has achieved.

> *customer (and partners)* – The perspective from which they look at the company, and the way it creates new values for them.

> *operational (inner) processes* – The way internal processes promote to implement the goals of company strategy. It also looks at in what fields company processes are to be transformed or improved.

> *learning and development* – The way future goals can be carried out, that is how employees, systems and procedures can be developed.

Figure 8 shows the interrelation of all these issues.

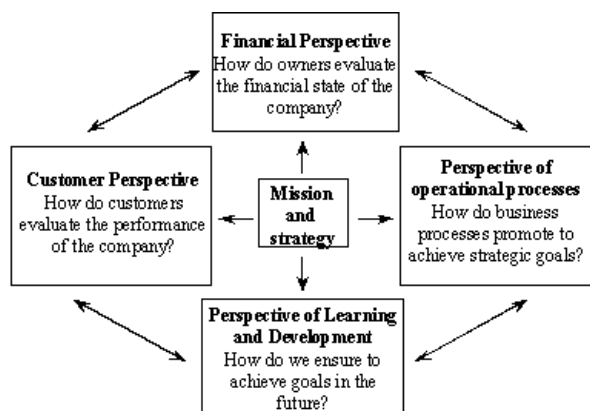


Fig. 8.

The interrelation between the issues examining company operation and their connections with company strategy

One of the basic ideas of BSC is that the organisation should develop evenly, and it is a mistake to focus only on certain BSC issues.

When applying BSC goals are segmented, structured and made measurable against measures / indicators, which are attached to actions.

**Operationalising BSC:** The first step of management cycle based on BSC is to develop BSC and then to expand it to the level organisational units, processes and individuals. The next step consists of defining the desirable value of indicators and linking action plans created during the process to business planning. The analysis of values measured and obtained during the operation of the system provides the base for strategic learning. By drawing conclusions from it and using it in the capacity of feedback to develop and modify BSC the system becomes complete.

**BSC versions:** The four perspectives of BSC mentioned before often have to be redefined according to the operational area of the organisation. This perception typically applies to customer perspective. The 'new' perspectives obtained this way can be supplier, partner environment or society perspectives. In certain cases. It is not a rare phenomenon that there are even five 5 or 6 perspectives.

It makes an important difference that with non-profit oriented organisations the most important BSC perspective is not the financial one but customer perspective or something else corresponding to it, for example society perspective. In cases like this identifying goals should be commenced from the new perspective, whereas top goals should be generated from the mission of the organisation.

## 2. SUMMARY OF THE EU CONFORM DISTANCE LEARNING MANAGEMENT TRAINING PILOT PROGRAMME FOR THE COUNTY POLICE HEADQUARTERS WITHIN THE NORTH-EASTERN REGION OF HUNGARY

Accession to the EU is a challenge not only for those directly involved in market-economy but also for the public in Hungary. This new situation requires changes in former operational methods, structure, behaviour together with certain aspects of culture. This is also true of Hungarian public administration and police activities.

This provided the background for the Faculty of Economics of Miskolc University to win the PHARE competition called Development of Human Resources. Our task has been to set up a EU conform distance learning management training pilot programme for six county police headquarters.

Participants of the Project:

- > “Borsod-Abaúj-Zemplén” County Police Headquarters
- > “Hajdú-Bihar” County Police Headquarters
- > “Heves” County Police Headquarters
- > “Jász-Nagykun-Szolnok” County Police Headquarters
- > “Nógrád” County Police Headquarters
- > “Szabolcs-Szatmár-Bereg” County Police Headquarters
- > Department of the Interior
- > HQ of the Hungarian National Police
- > “Szinva Holding Ltd.”

The consortium has defined both the long-term and short-term goals:

- > Long-term goals:
  - Meeting the expectations related to EU accession in the north-eastern Region of Hungary through the integration of internal & external professional knowledge.
  - Integration into the national strategy and joining the regional development strategy
  - Increasing the participation of Miskolc University in problem solving affecting the region.

> Short term goals:

- Common use of experience, knowledge and resources of cooperating partners
- In addition to updating the organisational and structural background, acquiring managerial mentality and practice on strategic planning, organisation and continuous quality assurance in conformity with the EU.
- Implementation of a more up-to-date and efficient recourse management practice
- Creation of the model of integrated management for the Hungarian National Police.
- Increasing the managerial knowledge of top managers and that of the staff directly reporting to them.
- Developing quality-oriented mentality.
- Improvement of co-operation skills
  - within the county law enforcement structure
  - on a regional basis (within the law enforcement structure)
  - with the population (the police and the society)

The tasks set in the programme can be divided into two partly parallelly running sub-projects, whose splitting into two was justified by the nature of activities. The manager training sub-project involves the elaboration of adaptive model primarily built on training’s and workshops, while the curriculum development sub-project means developing training material and training packages to be integrated into the model.

Table 1 features definitions of tasks in partial projects; the methodology applied in the project, the results and the duration of time. This table will provide the base for presenting our way of thinking and the results achieved so far. The first pillars of change aiming at developing a common way of thinking are as follows:

- strategic analysis, recording position targets and elaborating strategic action programs
- developing processes conform to change strategy, restructuring structural elements
- elaborating cultural change program by co-ordinating its value, mentality and behavioural components.

The structure of the co-operation is shown in the matrix below: Fig. 9

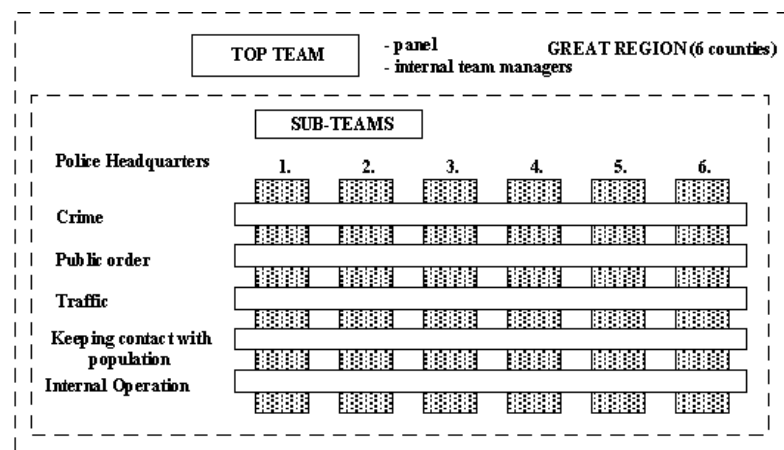


Fig. 9.

Whenever we organised teamwork, and formed teams we followed the pattern of the matrix certainly with regard to the character of the task.á

Table 1

Project advancement		Duration	Category of examination	Applied Methodology	Results/Reports
Manager training sub-project	Developing training program sub-project				
<ul style="list-style-type: none"> <li>• A course to promote the development of a common approach</li> <li>• Teamwork to explore problematic areas and to define strategic objectives</li> <li>• Preparations for the elaboration of strategic action plans; teamwork</li> </ul>		06 1999 – 04 2000	<ul style="list-style-type: none"> <li>– Target system of changing process</li> <li>– Definition of basic pillars of change</li> <li>– General operational defects and their integration into the EFQM model</li> <li>– Requirements of EU conformity</li> <li>– External and internal communication</li> <li>– Integration of projects already existing into EFQM</li> <li>– Negative factors affecting management efficiency</li> <li>– Defects of present organisational structure</li> <li>– The connection between underfinancing – connection between operation and efficiency</li> <li>– Fact vs. plan analysis in each professional area and economic management</li> </ul>	<ul style="list-style-type: none"> <li>– Training</li> <li>– Making scenario</li> <li>– Metaplan</li> <li>– Brain-Storming</li> <li>– Brain-Writing</li> <li>– Pro-contra interaction</li> <li>– Portfolio-analysis</li> <li>– Brain-Storming</li> <li>– Process examination</li> <li>– EFQM</li> <li>– Shocking situations, role play</li> <li>– Project forms specifications</li> <li>– Ishikawa diagram</li> <li>– Force field Analysis of key participants</li> </ul>	<ul style="list-style-type: none"> <li>– Training</li> <li>– Scenario</li> <li>– Interim report recording strategic position targets</li> <li>– Schedule (3projects)</li> </ul>
<ul style="list-style-type: none"> <li>• Elaboration of action plans</li> <li>• Determination of the main components of the cultural shift project</li> </ul>	<ul style="list-style-type: none"> <li>• Elaboration of training programme</li> <li>• Determination of training schedule and the range of those involved</li> </ul>	05 2000 – 12 2000	<ul style="list-style-type: none"> <li>– Performance-oriented incentive scheme – public order</li> <li>– Crime prevention</li> <li>– Budgeting to cover needs, efficient management of assets and funds</li> <li>– Key elements of the vision of future in new culture</li> <li>– Basic elements of mission</li> <li>– Examination of key factors of cultural change at each police headquarters involved</li> <li>– Basic elements of mission</li> <li>– Examination of opportunity for front/back operation</li> <li>– Implementation of EFQM self-evaluation</li> </ul>	<ul style="list-style-type: none"> <li>– Brain-Storming</li> <li>– Task division through small group work</li> <li>– Making individual suggestions</li> <li>– Role-play</li> <li>– Ranking by estimation</li> </ul>	Project advancement report Training program Interim reports fixing key elements of cultural change

Continuation of table 1

Project advancement		Duration	Category of examination	Applied Methodology	Results/Reports
Manager training sub-project	Developing training program sub-project				
<ul style="list-style-type: none"> <li>● Examining options for designing / developing organisation in team work</li> <li>● Evaluation in teamwork</li> </ul>	<ul style="list-style-type: none"> <li>● Development of the support system</li> <li>● Specification of the dominant components of quality assurance system of the course</li> </ul>	01 2001– 03 2001	<ul style="list-style-type: none"> <li>– Defects and errors of the present organisational and operational system of the Hungarian Police</li> <li>– Examining and Qualifying principles of designing / developing organisation</li> <li>– Scope and categories of measuring satisfaction</li> <li>– Examining introduction of Balance Scorecard System</li> <li>– Structuring training materials</li> </ul>	<ul style="list-style-type: none"> <li>– Metaplan</li> <li>– Defining structural characteristics</li> <li>– SORK</li> <li>– Task implementation in small groups</li> <li>– Preparing action program</li> </ul>	<ul style="list-style-type: none"> <li>– Interim report on summarising possibilities of designing and developing organisations</li> <li>– Schedule (2 projects)</li> <li>– Support system,</li> <li>– Training, quality assurance system</li> <li>– Synthesising interim report</li> </ul>
<ul style="list-style-type: none"> <li>● Elaborating project</li> </ul>	<ul style="list-style-type: none"> <li>● Development of syllabuses</li> <li>Development of course materials</li> </ul>	04 2001– 06 2001	<ul style="list-style-type: none"> <li>– Integrated management model</li> <li>– Management</li> <li>– Strategic management</li> <li>– Strategic planning</li> </ul>	Writing training books Creating training packager for distance learning Manuals Team work	Syllabuses Manuscripts
<ul style="list-style-type: none"> <li>● Elaborating project</li> </ul>	<ul style="list-style-type: none"> <li>● Preparing training packages</li> <li>Course material testing</li> </ul>	12 2000 – 09 2001	<ul style="list-style-type: none"> <li>– Process control</li> <li>– Performance evaluation <ul style="list-style-type: none"> <li>– crime persecution</li> <li>– public order</li> </ul> </li> </ul>		Training packages
<ul style="list-style-type: none"> <li>● Pilot project evaluation in the form of teamwork</li> <li>● Determination of the current tasks of the continuation of the project</li> </ul>		10 2001 – 12 2001	<ul style="list-style-type: none"> <li>– Crime prevention</li> <li>– Economic management</li> <li>– Measuring satisfaction <ul style="list-style-type: none"> <li>– external</li> <li>– internal</li> </ul> </li> </ul>		Evaluation report Script Training books Training packages Extension study

In the framework of the first teamwork we set it as a common target to create the model of excellence for the Police of Hungarian Republic together with learning the methodology problem-specification, solution and its actual application in strategic planning in the everyday practice of the police of six counties.

We defined the major trends and issues meeting the requirements of EU conformity by structuring the major problems according to EFQM, which are as follows:

- > enhancing professional recognition and money incentive
- > enhancing strategic thinking (human field)
- > improving professional knowledge / skills of job
- > introduction of TQM
- > transparent budgeting
- > improving internal and external communication.

While delivering strategic planning we performed portfolio analysis whose headstones were the external assessment of the organisation and the factors and issues within the organisation. In order to achieve our goals we positioned the present and planned state of action areas by two sets of criteria weighted by direct estimation. The team ranked professional knowledge and skills, empathy and reliability as the most important issues of external judgement of the police. As for the internal issues (issues within the police commitment, the quality of the staff, sense of vocation, and interest were given priorities. To move on from the present state, the first step was to identify actions and barriers, worked out in depths later.

The objective of the second workshop was to plan and prepare strategic action programmes. During the 3-day workshop we were looking at the possible directions of moving away from the present state by applying several methods like project forms, specification, Ishikawa diagram and force field analysis. While dealing with the issues of organisational structure and underfinancing we wanted to find out to what extent these aspects dominate the implementation of the project. We defined three projects through integrated teamwork:

- > Development of performance-based incentive bonus scheme
- > Crime prevention and safety
- > Meeting budget, more efficient utilisation of assets and money

The team dealing with developing performance-based incentive bonus scheme first determined the structure of interests within the organisation of the police, then targeted to define the scheme of subjective and objective personal requirements. The internal structure of this is made up of:

- > performance requirements
- > behaviour requirements
- > terms of subjective evaluation (based on qualification)

This was followed by working out the actual practice of evaluation.

The crime prevention project targets to define the scope and fields of crime prevention together with action groups and to accomplish task division between the police and public. The project has taken on making recommendations on the operational and/or organisational integration of crime prevention actions within the police. The project

concerning with economic planning has set the target of creating a planning system based on common norms, and measures (planning guide) so as to be able to provide financial resources suited to tasks.

The schedule of the projects was also made in the framework of the second workshop.

The third workshop aimed at defining the elements of the model of cultural change. The group defined high quality professional work as the most important component of future vision. The team members are convinced that the "police of tomorrow" have to have high professional standards and meet the demands of professionalism.

The second most important expectation determined by the team was lawfulness, which suggests a picture of the police always keeping the law and acquiring public satisfaction.

Besides these two principles, specialised police activities dealing only with professional issues, more efficient management, a human approach organisation and more efficient communication were highlighted as essential expectations to be carried out in the future. This vision of the future included both the internal values needed for the operation of the organisation and external success factors.

We set up a mission structure whose first three levels are as follows:

- |                    |   |
|--------------------|---|
| economic           | (expenses, staff number, assets)  |
| external           | (the public, partners, society)   |
| educational        | (achieving higher schooling and education, innovative thinking, using new technical devices, planned management training, manager selection, scientific co-operation with civilian organisations, introduction of applied sciences, adopting international experience, improving foreign language proficiency, enforcement of ethic norms work culture) |
| internal processes | (transit time, flexibility, productivity performance indicators, professionalism, up-to-datedness).   |

The subdivision of mission into categories like this serves for several purposes:

- > linking elements already existing with new elements
- > indicating hierarchy between elements
- > providing opportunities for extension and precision.

To move forward we examined the key elements of cultural change in all the six headquarters. Ten components (hierarchy, defining scope of job, major principles of organisation, systems, motivation, career development, abilities, communication change management and technical skills) were classified into the categories of "critical weakness" or "critical strength" together with the indication of typical barriers to them. The frequency map created by summarising the results has pointed out the problems, "the neuralgic points" whose examination can provide a base for a successful change.

Workshop 4. concerned with the possibilities of designing and developing organisations. Having examined the principles of designing organisations, we came to the conclusion that in this case the development of the organisation should be transferred into the logical system of matrix organisations.



The minimum three-dimension model should contain the following guiding principles:

- > branch division basic competencies of the police (crime, public order, traffic safety)
- > territorial division (National Headquarters for the Police, County Headquarters for the Police, police forces, police officer)
- > cross-sectional functions and services (human resource management, financial service, technical service, PR, labour safety, healthcare, duty projects on the level of National Headquarters for the Police, projects on the level of County Headquarters).

Projects can be accomplished in minimum, small organisations as well, which belong to project offices or the head organisation of the given organisation. (Fig. 10)

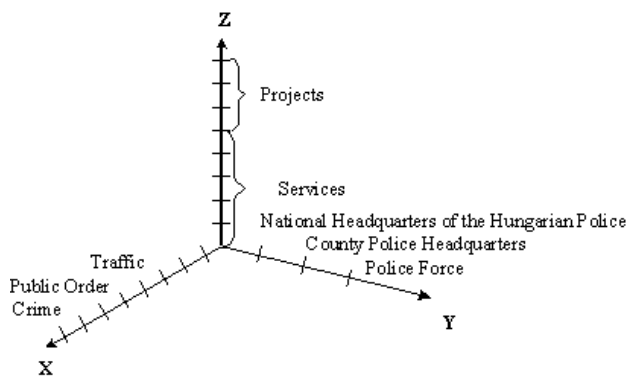


Fig. 10

We must emphasise that crime prevention, public safety, the relationships with civilian organisations or the public can be placed neither in the dimension of territorial division nor that of sectoral structure. These generally represent projects aiming at different goals, or tasks like maintaining relations for a long period, which could be operationalized through 1-2 project offices based on teamwork.

The operationalization of the project could be solved by activating the staff in readiness. The service dimension could be basically staffed by civilians, as there is no need for the official positions or rank to be able to carry out the tasks. When looking at the task vs. function variations we completed the functions vs matrix examination with the number of management levels and territorial division.

In order to measure satisfaction towards the police, we had developed some training material for both surveying internal satisfaction and external satisfaction (that is public satisfaction), which also meant the commencement of the project.

During the examination of introducing Balanced Scorecard we defined the possible viewpoints to be applied in the case of the Hungarian police (economic statement, external relationships, learning, willingness to change culture, internal processes) and determined the result and performance indicators to measure them.

### 3. INTEGRATED MANAGEMENT MODEL AND MODEL CONNECTIONS

The meaning of the word 'integrated' is perceived here in several terms which can be summarised like this:

- Creating link between ISO oriented actions based on TQM and excellence models; Putting "revolutionary" or "evolutionary" systems in a common framework, or enframing systems based on action planning, distribution of resources, incentives and evaluation meant for form-breaking small-scale developments to assist strategic management.
- Establishing connection between strategic and operational management.
- The common establishment of developing and evaluating elements of normative comparability and measurability (between police forces, county headquarters, the national headquarter, and those of EU countries).
- Creating links between levels of knowledge transfer, that is on individual, group and organisational levels.
- Providing framework for headquarters on different organisations levels and operating under different conditions to generate development programmes.
- Giving common priority to the human element and TQM by linking organisational learning and developing staff.
- Integrating the values and sub-systems of developing actions taking place in the organisation of the Hungarian Police.

These requirements go far beyond the framework of the classic EFQM model, so we have brought about an integrated management model including generalised EFQM principles and BSC where knowledge transfer is achieved by linking models of direct individual learning and distant learning.

The sub systems already existing can be indicated within this new framework by locating them. (Robotcop, Police Innovation Bank, PEODESYS system, ... etc.)

#### 3.1. GENERALISED EFQM MODEL

By **management** we mean not only TQM approach, quality customer-, supplier-, resource support

- > but leadership culture
- > decision-making techniques
- > problemsolving methods
- > operational management techniques
- > methods and support
- > elements of project reports ... etc. as well.

Thus the connection between management style, culture, operational behaviour, operative control and transforming management to be tackled together.

In addition to planning human resource and participation when leading co-workers we should consider the connections between scope of job analysis and evaluation systems; the precisely defined sphere of competence, work and behavioural evaluation systems and job requirements. Career planning, replacement data banks together with staff-developing systems related to them are of also key

importance. Commanding, managing, evaluating systems and incentive bonus schemes are also to be indicated here. It is obvious that the cultural issue of management is essential from the viewpoint of employee competence here as well.

As for **policy** and **strategy**, we must state, that they need multiple expansion. The policy, the mission declaration are satisfactory in the capacity of summarising guidelines.

The further actions, however, should be examined from the perspective of change management. We must ensure that the elements of change management should operate here and strategy, culture, structure as the main fields of actions or carriers of actions be integrated here. That is why it is expedient to define and perceive the notions of changing actions and projects here, that can comprise the minor TQM based process-development actions as well.

The extension issues for resources are competences based on knowledge, capital gained through relations and connections together with partnering relations. The processes should be extended partly from the viewpoint of structure, partly from the viewpoint of contents.

It is vital that the notions of the so-called system processes and operational processes should be distinguished from each other and clarified. The logic of ISO should be interpreted in terms of structure / or in a more structured sense. Operational processes make up key processes, that is critical processes, whereas system processes create link between data and results.

Employee satisfaction can be expanded to all employees. Leader's satisfaction, that of those who are led and their attitudes can be broken down into three main categories,

- > job satisfaction (motivation, incentives also belong here)
- > identification with the job
- > commitment to the organisation.

Evaluating job competence, and behaviour and that of product-based performance also come under this category.

Elements of customer satisfaction can be divided into client and public satisfaction, or we can differentiate between internal and external clients.

With social satisfaction, local governments, governing and civilian organisations and the media are to be examined separately from each other.

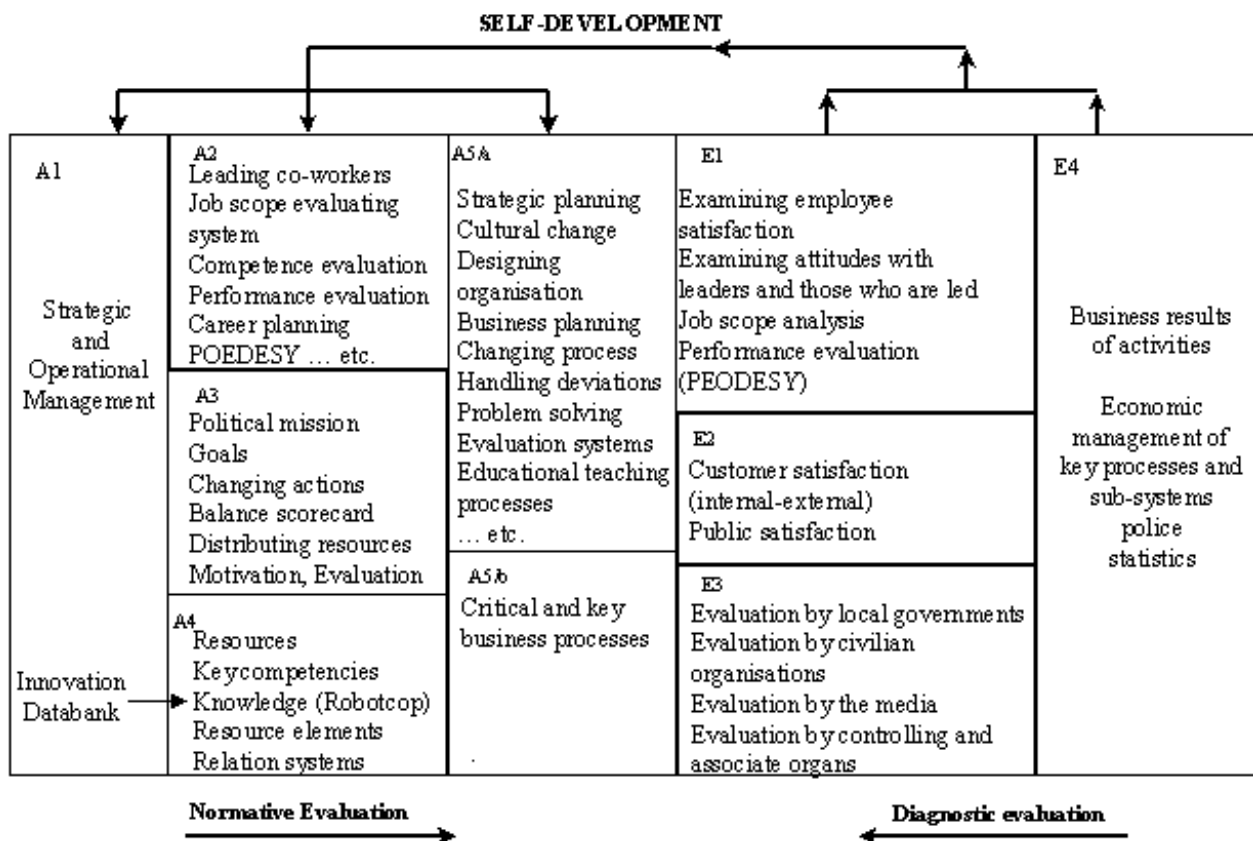
The business and economic evaluation of key processes do not need re-evaluating, as the emphasis is on economic management and police statistical indicators.

The generalised EFQM model can be evaluated:

> Through normative, comparative method, that is proceeding from the left – to the right, from the date towards the results. The comparison of the different territorial units of the police is based on a manual about self-evaluation made and used just for this very purpose.

> By diagnostic evaluation, proceeding from the right – to the left, ie. starting out from results or from the lack of results so as to achieve self-evaluation based on cause – and – effect mechanism.

Table 2.



In this respect two major issues are to be focused:  
 > The normative and diagnostic evaluations can be delivered together since conclusions and consequences are different.  
 > Diagnostic approach makes it possible to build the system in phases that is the detailed evaluation of data and results always takes place considering critical processes.  
 The relationship between generalised EFQM, classic EFQM and ISO 9004:2000 is featured in figure 11.

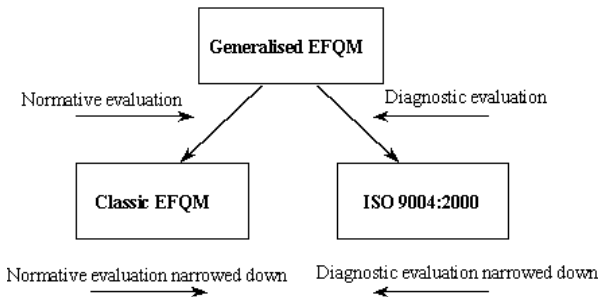


Fig. 11

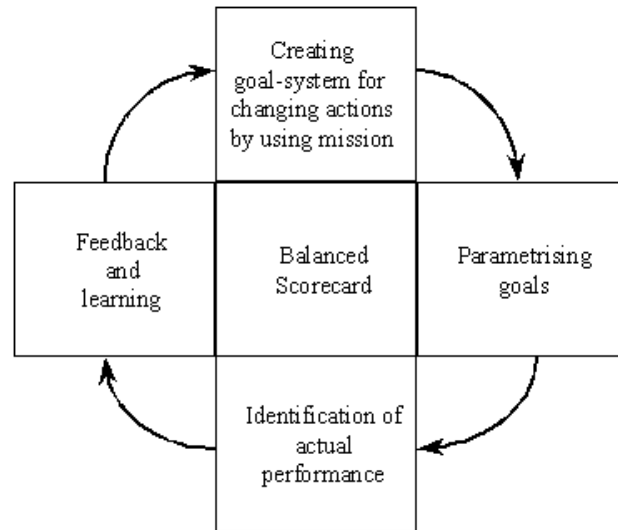


Fig. 13  
 The relation between BSC strategic management [8]

### 3.2. STRATEGIC MANAGEMENT AND BSC

We have already mentioned the action fields and system of relationships as major elements of strategic management. The tasks linked to change management are shown in fig. 12. Balanced Scorecard is the most widely applicable goal-structured and evaluating system. It tends to be an actual tool for linking strategic management and operational management.

It is expedient to structure the change actions according to BSC so as to enable it to be linked to EFQM model.

Certainly, BSC perspectives could be further sub-divided, but we focused only an division related to EFQM model and strategic management, which seems to be easy to follow. The relation between the models presented so far can be called integrated TQM model.

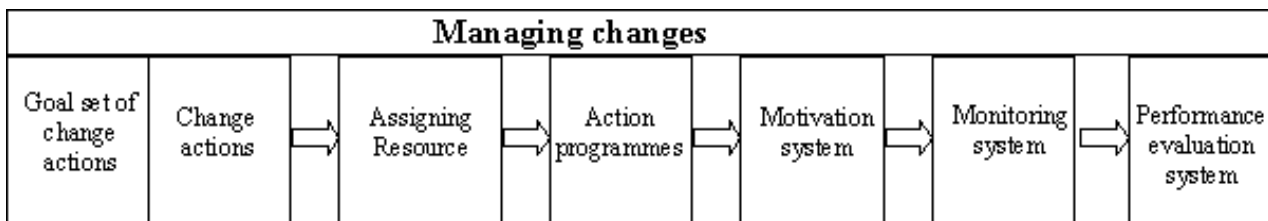


Fig. 12

	Strategic	Structural	Cultural	TQM based continuous
			change	
Financial Viewpoint				
Client perspective				
Public perspective				
System process viewpoint				
Operational process viewpoint				
Learning and development perspective				

Fig. 14

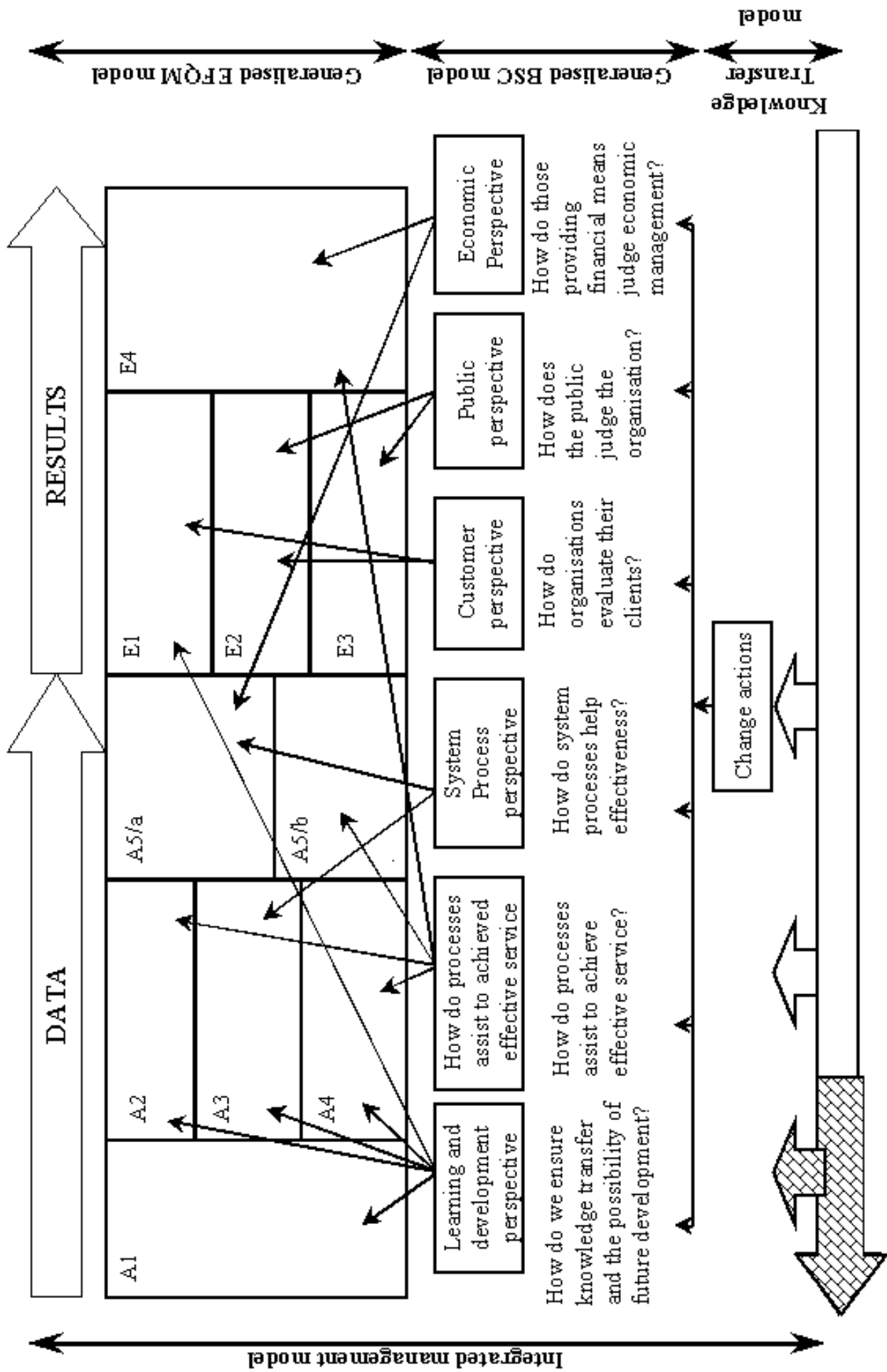


Fig. 15

### 3.3. INTEGRATED MANAGEMENT MODEL

The integrated management model is created by linking the generalised EFQM model to the generalised BSC and also a knowledge management model partly going beyond BSC, partly containing some of its elements. See Fig. 15 (Integrated TQM model – knowledge management).

The model outlined contains specific data referring to the police but certainly it is analogous to any profit-oriented or non-profit organisation.

Knowledge management is not analysed in fig. 15, that is why we will present it briefly later on, but it will be specified to the Pilot programme.

### 3.4. KNOWLEDGE MANAGEMENT

The relation between integrated management model outlined above and knowledge management can be explained in the most clear way through trends in knowledge management. These trends can be distinguished by the questions they raise and the subjects of their examinations. Thus we differentiate:

- > goal-oriented approach (focuses on measuring intellectual capital)

- > learning-centered approach (organisational learning)
- > process-centered approach (examines life of knowledge pieces)
- > technological approach (focuses on the method of codifying knowledge)

When applying goal-oriented approach we must be concerned with measuring indicators of knowledge, which should result in organisational improvement, as with controllable goals processes tend to become manageable.

Balance Scorecard makes an excellent methodology for its measuring, which also makes up an integrated model here. I would like refer back to the viewpoints used while employing BSC with the Hungarian Police: economic evaluation and its implications, external relationships, willingness to learn and change culture, internal processes. It can be deduced that these dimensions can be appropriate for expanding goal-oriented approach.

In the case of learning-centered approach knowledge is created as a conversion between tacit and explicit knowledge, whereas organisational knowledge comes about through steps of knowledge conversion, proceeding from individual group (organisational learning to inter organisational learning. Examining explicit tacit knowledge together, the creation of spiral organisation knowledge can be observed (Fig. 16) (Nonaka, 1994)

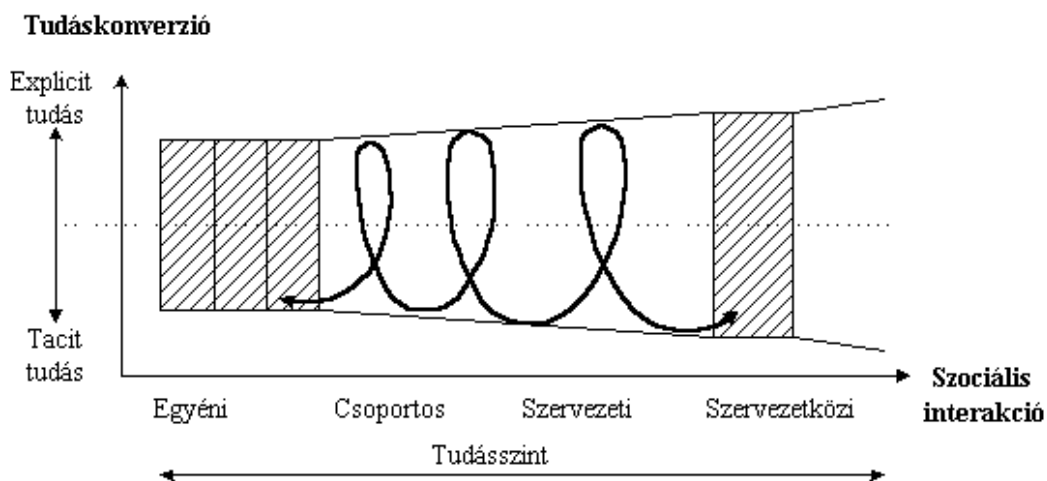


Fig. 16 [11]

The logical sequence of this knowledge conversion and the change of knowledge levels can be traced in the Pilot Programme of distant learning. We have chosen distant learning technology, because we are supposed to train the police staff of six counties while they are fulfilling their service. The training should be self-managing and self-going. This aspect should be emphasised, because the development of training packages will be built upon tasks, exercises, tests generalised during the learning process. The self-going character of the process extended to certain ranks of the staff makes it (top-down approach) possible to entail the staff trained in the previous phase. Thus the cyclic process of knowledge conversion is achieved: individual explicit

knowledge turns into tacit knowledge, then this tacit organisational knowledge changes into explicit organisational knowledge. This principle is embodied by syllabi of applied knowledge (performance evaluation, internal satisfaction) together with the logical and time aspects where social interaction can be followed.

Process centered approach with integrated models can be best exploited through TQM, while technical approach is exemplified by Robotcop, Police Innovation Databank or PEODESYS system.

All this mentioned above has become a part of the quality development programme for the Hungarian Police, which will be expanded to 19 counties in 2002.

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### INTEGERIERTES FÜHRUNGSMODELL – SELBSTENTWICKLUNG, KNOWLEDGEMANAGEMENT

Resümee

*Dieser Artikel systematisiert unsere seit 1999 verwirklichten theoretischen und konkreten praktischen Ergebnisse, die im Rahmen eines PHARE-Programmes "Ein EU-konformes PILOT-Programm für Managementausbildung in der nord-ungarischen Region tätige Polizeihauptmannschaften" durchgeführt wurden. In dem Artikel stellen wir das Modell und das Schaffungsprozess dar, durch die der konzeptionelle Rahmen der konkreten Lösung zu erkennen ist. Die Studie besteht aus drei Teilen: im ersten Teil untersuchen wir die grundsätzlichen mit der Qualität zusammenhängenden Trends im Kontext, wie das strategische Management diese Anforderungen trifft und sie in Richtung der Organisation transformiert; im zweiten Teil fassen wir die wichtigsten konkreten Schritte, Methoden und Ergebnisse der vergangenen 2-2,5 Jahre; im dritten Teil stellen wir das von uns vorgeschlagene integrierte Führungsmodell dar.*

### INTEGRÁLT VEZETÉSI MODELL – ÖNFEJLESZTÉS, TUDÁSMENEDZSELÉS

Összefoglaló

*E cikk az 1999-től az „Északkelet-Magyarországi Régióban működő Rendőr-főkapitányságok távoktatási, EU konform menedzserképzési PILOT programja” c. PHARE program keretében megvalósult elméleti, illetve konkrét fejlesztési eredményeket rendszerezi. A cikkben vázoljuk azt a modellt és alkotási folyamatot, amelynek kapcsán a konkrét megoldás koncepcionális kerete megismerhető. A tanulmány három részből áll: az első részben a minőséggel kapcsolatos alapvető trendeket tekintjük át abban a kontextusban, hogy a stratégiai menedzsment ezen követelményeket hogyan kezeli és transzformálja a szervezet felé; a második részben az elmúlt időszak (2-2,5 év) főbb konkrét lépéseit, módszertanait, eredményeit foglaljuk össze, míg a harmadik részben felvázoljuk az általunk javasolt integrált vezetési modellt.*

# IS, COULD BE OR WILL BE THERE GLOBALISATION ECONOMICS?

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## ABSTRACT

*In the globalising world economy the framework of neoclassical economics is more and more elusive. Such basics of neoclassical economics are being questioned - like the corporation personified by the rational decision maker, the idea that macro economy's only unit of analysis is the nation economy, and that the world economy is some sort of conglomerate of the nation economies -, which previously were thought to be unshakeable. Therefore the models built on these assumptions are more and more difficult to operationalise.*

*The assumption of institutional economics to focus on the analysis and comparison of real economic systems could prove useful for neoclassical economics. It could help in finding the existing entities of neoclassical modelling.*

*A neoclassical-neoinstitutional synthesis could contribute to the emergence of global economics, a discipline that not only helps in better understanding the world economy of today but can also support the formation of desperately important strategies concerning the future. The paper on the one hand sketches those global tendencies and problems, those questions left unanswered by science, which justify the emergence of global economics, and tries to identify the place of the new discipline within the system of economics on the other hand.*

## CONCEPTUALISATION

New paradigms do not appear unexpectedly in science or society. The number of those problems which cannot be answered properly within the framework of the existing consistent theories increases. No answers can be found to these problems which either help to eliminate existing inconsistencies in theories or provide better practical applications. The latter gains increased significance in social sciences where due to changes in society application of traditional, routine frameworks leads to results which are in no connection with reality. We experience more or less the same in today's economics. It worth therefore trying to collect those changes which increasingly tear apart the framework of the reigning economic theory. This attempt can also help the so called alternative economic theories to collate their assumptions with the wide variety of problems. In so doing the threats of one-sided conclusions derived from one or two problems picked out at random, or confused interpretations could be avoided as well.

Using this train of thought developed by Kuhn we start off by stating that the reconciliation of the neoclassical mainstream and the institutional economics cannot be regarded as accidental. The reconciliation does not mean that the two schools managed to persuade each other. Both sides realised in the 60ies the one-sidedness of their approach and its inability to provide adequate answers to problems. The problems relevant to our topic are as follows:

➤ certain non-intended effects of the behaviour of market actors, which are not included in their contracts,

and which influence the conditions of other actors. These effects influence the third party's ability to gain profits or resources, the conditions of management. The stakeholder theory provided by the institutional economics gave the chance for the neoclassical school to extend its line of thinking toward the externalities. Including the externalities in the neoclassical theory has definitely brought it closer to reality;

➤ but it did not solve the problem rooted in the fact that the economic growth described by the neoclassical model reached the limits of the ecological system that previously provided the conditions for its expansion. Global problems warned us that even the longest term resource calculations lead to resource waste;

➤ it cannot handle the diffusion into economy of new results of the technological revolution, which lead to global dimensions in the economic processes, and brought virtual reality into the real world, and in so doing it changed the framework used by classical-neoclassical economics;

➤ the neoclassical approach personalising the company is less and less capable of modelling the new processes of management. The division of stakeholders and shareholders meant the introduction of a new approach but it did not brought a breakthrough;

➤ the economic globalisation limits the traditional economic functions of the state described by the neoclassical (and monetarist) and by the Keynesian wing. Therefore it is questionable whether the national economy can be viewed as the basis of macroeconomic analysis, and as the aggregate of the microeconomic actors. The aggregate of the micro

economy (companies) is more and more the world economy. Multinational companies function in global conditions, and use global strategies to optimise their operation. International institutions founded before the formation of the global economy are unable to take over the functions previously held by the nation state – institutional economics can help in the mapping of the new economic environment, too.

## LEVELS OF PARADIGM CHANGE AND ITS CONSEQUENCES

Considering the above we can state that economics has tried to better understand reality, but neoclassical institutionalism did not bring a breakthrough, a general paradigm change. No general theory was found that explains well enough the new phenomena, which fundamentally change the economic relations, and the values lying behind them, and which at the end of the day are connected to the increasing acquisition of financial resources. It is now clear that this system of interests and values endangers the ecological system, which provides the frames of economic processes, and insures the conditions for economic growth.

It also worth mentioning that neoclassical institutionalism has been raising more and more problems, and analysing more and more phenomena of such kind, which previously were not included in its agenda. The new approaches can be captured in different methodological issues, most of which result from co-operations with other scientific areas. One of these new approaches is closely related to changes in the world economy. International economics and world economics form a part of economics, which is built on micro- and macroeconomics, by expanding its rules to the international scenes. Over the past two decades however such new disciplines appeared on the scene like regional economics, economics of integration and economics of the European Union, transitional economics, and globalisation economics (just to mention the most well known of them), which have all outgrown from certain issues of the classical world economics. These part-disciplines of certain part-disciplines signify the importance of regional and international aspects, and with it the possible direction of the evolution of economics.

The formal answer to the question raised in the paper's title therefore is yes. There is global economics, it is taught in universities, and there are researchers and research institutes that study globalisation and the economic aspects of globalisation (or some of them argue the relevance of them, which is part of every new discipline). The theory of science has more strict conditions. It is not enough if someone creates a new abstraction, and uses it as the name of a new discipline. Every discipline has certain criteria, like: special subject of analysis, special methodology, and new, well identifiable scientific result.

As far as the first criterion is concerned, it can be stated with high probability that despite all criticism and scepticism the world economy of today is not a simple continuation, extension of the past. The world economy is

at a new level, it is more, than the simple aggregate of national economies and their relations. The new level can be called the global one, which has its own characteristics, therefore it can be regarded as a separate subject of analysis. The scientific problems it is seeking an answer to cannot be answered within the classical world economics framework. However it is true that it is not independent from its world economic premises, as the process of globalisation can be defined within the framework of the world economy. The basis of the distinction is that only a part of the world economic processes are global. The globalisation economics will not take over the role of world economics, as, indeed, none of the new disciplines mentioned earlier will, as there will continue to exist non-global processes in the global economy. Most likely some sort of division of labour will form between the two, and they will not break away completely from each other.

It is not likely that methodologically there will be significant differences between world and globalisation economics. Probably system analysis, analogies and methods used to study regional problems will be the most popular tools.

Finally, there already are a few specific scientific results connected to the new challenges and phenomena mentioned above. We will try to present a few of these later on in the paper, together with the question marks formulated in connection with them.

Before finishing the train of thought about paradigm change, a distinction must be made between social and scientific paradigm (Pirages [1978]). There is a specific interrelation between the two. Science, due to its own evolution, or changes in its subject of analysis, often faces periods, when it is increasingly incapable of addressing certain situations and phenomena. This is the root of every paradigm change. The history of science, as Kuhn [1984] stated, is the history of paradigm changes.

Changing conditions cause social tension in society. These tension also contribute to the renewal of the scientific thought, they push it toward innovation. Scientific paradigm change on the other hand will lead to new social paradigm. The new results of science restructure the value system, and with it the behaviour of social actors.

The distinction is especially important in our case, as social paradigm change (in Pirages' words: the change of dominant social paradigm) induced by paradigm changes in economics has an effect on economic policy as well. Taking into account the global problems, the new phenomena of the global economic system and society, the socio-economic effects of them, and the increasing discrepancy between these effects and the adequate scientific knowledge concerning them, we can easily conclude that globalisation economics can be a 'curtain-raiser' for the scientific paradigm change which ultimately will force the social paradigm change. There are signs already indicating that new knowledge about globalisation have caused a slow change in social paradigms. Analysis of sustainable development for one, has changed our thinking about resources, and changes in values and attitudes has lead a willingness to decrease pollution and waste output.



## SOME OF THE GLOBAL CHALLENGES CONCERNING ECONOMICS

One may wonder: aren't the changes induced by globalisation, and their challenges to science overstated? Couldn't these problems be solved within the framework of neoclassical economics? If we think of the tensions caused by the global economy (paradoxically with the help of new technologies which lead to globalisation), and the inability of economics to help solving these tensions efficiently on the basis of old paradigms, we have to conclude that the current framework is insufficient. They do not insure an ecologically sustainable society which makes available a humane life for everyone, although this is the only way for mankind to survive.

Which are the premises of neoclassical economics 'boosted' with institutionalism, which should be substantially mapped, which form those weak points where theoretical knowledge is inadequate, therefore their application does not lead to definite socio-economic changes? The question is undoubtedly complex, as a result the answer is difficult, too. Many would try to find answers applying many different approaches, but it is likely that they will find the same answers concerning a few cardinal problems. We will make an attempt to give an answer imbedded into a wider social and historical context.

The separation of the state and the church was a great achievement of the Enlightenment, and it resulted that ethics also got separated from the power. This circumstance made the quick development of technology possible after all, which formed the basis of the market lead economic development. The development of markets and the growth in asset production, the long term growth has been lead by the economic efficiency and profitability requirements. Market mechanisms are not based on truth and ethics but on equality. The stronger side overcomes the weak in competition without any ethical worries.

The extension of local markets to regional and international levels is ultimately the result of this self-inducing process. In the neoclassical theory the freedom of markets, the free flow of goods and services, of capital and intellectual assets (of every marketable asset), and the lack of any restrictive authority is the most important condition of effectiveness and production growth. It is not surprising therefore that the liberal approach of neo-classicism postulates that the world economy must function as a 'global free-trade area', and the only task of global institutions is to get the nation states (which, according to them, are protectionists) to form a such zone. The so called Washington Treaty adopted by the UN in 1995 basically records this idea. This was the first occasion when economic globalisation was assessed from a political point of view. The treaty draws the picture of a 'brave new world', a world which will form as a result of globalisation – according to the economic elites of the developed countries. The only open question is that when will this prophecy will come trough.

Despite the above it is impossible not to notice that globalisation has not only brought good things, but it also excited increasing tensions in the world:

- > it increases the gap between wealthy and poor within a society, or among different regions of the world. As effective free market mechanisms proved in production and in the creation of wealth, their failure in distribution was just as big. Capitalism tends to polarise the society economically, but in global circumstances the process proves to be intolerable and therefore impossible to handle;
  - > facilitates the increased exploitation because of the relative immobility of labour;
  - > whilst in the developed world nation states are based on democratic principles, these states do not make every effort to create the same conditions on the international scene as well. They often follow their own interests when deciding on confronting or backing dictatorships;
  - > globalisation destroys traditional values, and carries the threat of homogenisation of cultures. The threat is even more serious, as the homogenisation process is dominated by certain American sub-cultures (eg.: MTV-culture, McWorld etc.);
  - > internationalises terrorism, mafia-economy, drug-taking, which carry the threat of demoralising the society;
  - > it destroys the environment and causes irreversible destructions;
  - > it increases unwanted public disobedience, helps the escalation of violence (paradoxically anti-globalisation groups play their part in it as well, when demonstrating more and more violently against globalisation). After the decline of communism the utopia of a perfect social order within the capitalist system has not come through, disturbances has steadied worldwide, civil wars are fairly common all over the world, the number of refugees reaches the millions;
  - > finally, the two international superinstitutions, the IMF and WTO, are unable to efficiently manage the global processes, and to carry out the functions left for them by the developed world.

These are perhaps the most critical phenomena which cry out for help towards economics. They also designate the questions, new theoretical problems, in the analysis of which the change of approach is most needed.

## THEORETICAL PROBLEMS TO BE SOLVED CONCERNING GLOBALISATION

In this final part of the paper we mention a few of those areas where economic struggle has already begun. By struggle we mean that the analysis is on its way, but it still remained within the traditional framework. We can only talk about part-results therefore, and there is still no evidence paradigm change in economics:

- > first of all we will discuss the neoclassical assumption that the limits of the economic actors are known. This assumption forms the basis of all optimisation processes be it within a static or a dynamic model. The actors co-operate with each other along these limits, they form the framework of their decision-making and action both in micro- and in macroeconomics. But in the global economy in many cases

these limits cannot be assumed as known. On the level of the corporations the strategic alliances and the networks are those two radical changes which reformat the economic thought. The time periods within the neoclassical theory create a different limits for the corporation (typically a multinational one), than those, relevant for the strategic term which characterises the global economy. This duality is further complicated by the networking processes taking place either inside the multinational companies, or between the multinationals and their 'halo'. The problem lies in both cases in the contradiction between the profitability assumptions on the one hand, and those strategic perspectives on the other hand, which are not directly linked to the profit. It seems unlikely that this contradiction can be unlocked within the neoclassical framework. (When a multinational company decides on the closing of a profitable affiliate because it does not fit into its long-term strategic plans, is a good example to this phenomenon.)

> on the level of states and governments the redistribution of regulatory functions causes the headache for economist. The changes are dual here, too. On the one hand the regulatory functions are weakened 'downward', by the intern processes of the micro-economic actors, by the multinational and national companies. The complexity of the problem is well characterised by the fact that the regulation of the two – every more often separated spheres of the economy, the real and the financial part – inside the firm, and their international flow not only is uncontrollable, but it is also unforeseeable. This has a negative effect on the national economy, the clearing away of which is always paid by the population. The top institutions of globalisation can only help in the 'fire-extinguishing' at most, they do not

have the tools to help in preventing the problems. Uncertainty, unpredictability, instability are elements of the system, which can endanger the society in a longer term. They can only be put away, if paradigm change is achieved. (We will again mention only one problem. We desperately lack knowledge about financial bubbles.)

> with the enforcement of the integration process within globalisation, some of the regulatory functions are moved upward. Whilst the liberals say that the state should return to a night-watch role, in reality it is its task to handle the problems of those, who were left behind in competition, to care with the lost and with those, who are unable to support themselves (eg. the unemployed). The transformation of the welfare state into the opportunity state is backed by the neoclassical idea that although every move of the state that limits the market and disturbs the private economy leads to inefficiency, yet it is still necessary for the normal operation of the society. This interpretation of state tasks is contrary to the pure neoclassical premises of utilitarianism, but it is clear that the global economy is unsustainable without a efficient, global-sized and financed social net.

Globalisation economics, the new discipline will undoubtedly not be able to answer all the cardinal questions of economic theory by itself. Probably it is not its task, either. But by studying an area of the economy which has great potentials for the future, can bring scientific results that help discovering the reality more completely, and by doing so, it can help the renewal of economics as well. It suggests to economic theory that the global economy run on neoclassical terms heads into its own disaster. In order to stop this, the ethical elements need to be restored to theory within the framework of a new synthesis.

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**OB DIE GLOBALISATION EINE ÖKONOMIE HAT,  
HABEN WIRD, HABEN KANN?**

*/Resümee/*

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In unserer globalisierenden Weltwirtschaft sind die Rahmen der Untersuchungen der neoklassische Ökonomie immer weniger greifbar. Die früher unerschütterlich gedachten Grundgedanken der neoklassische Ökonomie werden gefragt, wie die personifizierte Unternehmung durch einen rational Entscheider und dass die einzige Einheit der Makroökonomie die Volkswirtschaft ist und dass die Weltwirtschaft irgendein Konglomerat der Volkswirtschaften ist. Deshalb sind die Modelle, die unter anderen von den obenstehenden Grundgedanken abgeleitet werden, immer schwerer operationalisierbar.

Für die neoklassische Ökonomie kann die Auffassung der institutionalistischen Ökonomie nützlich sein, welche die Analysierung und Vergleich des existierend Wirtschaftsystems als Gegenstand der Forschung betrachtet. Damit kann diese Auffassung helfen die vorhandenen Entitäten der neoklassischen ökonomischen Modellierung zu finden.

Eine neoklassische-neoinstitutionalistische Synthese kann deshalb dazu beitragen, dass die globale Ökonomie neben (und teilweise statt deren) die heutige unter internationale Ökonomie beziehungsweise Weltökonomie Nahmen bekannte Disziplin zustande kommt, die nicht nur die bessere Erkennung der Weltwirtschaft ermöglicht, sondern auch bei der Ausbildung der zukünftige (brennend nötige) Strategien hilft.

Die Abhandlung stellt einerseits die durch die Wissenschaft offen gelassenen Fragen, die Welttendenzen und Problemen dar, die das Zustandekommen der globalen Ökonomie begründen, andererseits strebt sie nach der Bestimmung der Stelle dieser neue Disziplin in dem System der Wirtschaftswissenschaft.

**VAN-E, LESZ-E, LEHET-E A GLOBALIZÁCIÓNAK  
GAZDASÁGTANA?**

*Resümé*

Dr. habil Tóth László

Gazdaságtudományi Intézet

Világgazdaságtani és Összehasonlító Gazdaságtani Tanszék

A globalizálódó világgazdaságban a neoklasszikus közgazdaságtan vizsgálódásának keretei egyre kevésbé „megfoghatók”. A neoklasszikus közgazdaságtan olyan korábban megingathatatlanak hitt alapvonásai kérdőjeleződnek meg, mint a racionális döntéshozó által „megszemélyesített” vállalat, az, hogy a makroökonomia kizárólagos egysége a nemzetgazdaság, és hogy a világgazdaság a nemzetgazdaságok valamilyen konglomerátuma. Ezért azok az modellek is egyre nehezebben operacionalizálhatók, amelyeket többek között e fenti alaptételekből vezetnek le.

A neoklasszikus közgazdaságtan számára hasznos lehet az institutionalista közgazdaságtannak az a felfogása, amely a va-

lóságos gazdasági rendszerek elemzését és összehasonlítását tekinteti kutatása tárgyának. Ezzel a neoklasszikus közgazdasági modellalkotás létező entitásait segíthet megtalálni.

Egy neoklasszikus-neoinstitutionalista szintézis ezért hozzájárulhat ahhoz, hogy a mai nemzetközi gazdaságtan, illetve világgazdaságtan néven ismert diszciplína mellett (és részben helyett) létrejöjjön a globális gazdaságtan, amely nemcsak a mai világgazdaság jobb megismerését teszi lehetővé, hanem a jövőre vonatkozó (égetően szükséges) stratégiák kialakítását is segíti.

A tanulmány egyrészt azokat a világtendenciákat és problémákat, a tudomány által nyitva hagyott kérdéseket vizsgálja, amelyek a globális gazdaságtan létrejötté indokolják, másrészt törekszik arra, hogy meghatározza ennek az új diszciplínának a helyét a közgazdaságtudomány rendszerében.

# THE ROLE OF EUROPEAN EMPLOYMENT STRATEGY IN KNOWLEDGE TRANSFER BASED ON THE EXAMPLE OF BORSOD-ABAÚJ-ZEMPLÉN COUNTY

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## SUMMARY

*In the first part of the essay I am dealing with the achievements, concerning employment, of the European Union, in the second part I am trying to answer the question whether to what extent it is possible to utilise the knowledge and expertise, accumulated in the European Union, in solving the problems of Borsod-Abaúj-Zemplén County being in the most critical employment crisis. In the process of the accession of Hungary to the European Union, it is becoming important to take over the stock of knowledge accumulated in the European Union and the ‘Community achievements’. The European Employment Strategy, that is built on the common and co-ordinated influencing of the economic and employment processes, is an achievement of this kind for the Hungarian employment policy. The guidelines of the employment policy, which serves as a basis for that co-ordination, have appeared in the set of goals and means of the Hungarian employment policy as well.*

*The economic situation of Borsod-Abaúj-Zemplén County has been characterised by structural problems and an employment crisis for more than a decade. The Labour Market Fund provides centralised and decentralised budgets through its sub-fund of employment. I have also looked into the use of financial means. I found that the knowledge transfer is to be developed and the preparation for receiving the Social Fund of the European Union should be continued.*

Human history is nothing else, but a process of knowledge-production and knowledge transfer. The most prominent event of European history in the second half of the 20<sup>th</sup> century was the Roman Contract in 1957, which established today’s European Union.

The half a century long history of the EU is a constant process of learning. The EU got to the point of today’s development from the custom’s union, the economic integration, the common market, the European Monetary System to the strengthening of the social dimension through several steps of development phases. There are a lot of integrations working today in the world, but European Union is the most developed of them, it has gone furthest in cooperation. The key to all this is the knowledge, the spiritual capital, which was accumulated by the European culture through the centuries. The fact that the economies of the western European countries could compete with the USA after being damaged in world war II. is due to the knowledge creation, the high quality research and development, the usage of knowledge, the efficient knowledge transfer that works on higher and higher levels in the regional integrations, and to the European spirit, which tries to reach its aims through raising the less developed member states and decreasing the differences in development.

The progress of Hungary’s joining the European Union, the negotiations suggested it would be necessary to take over the stock of knowledge accumulated in the Community, the Acquis Communautaire. For our homeland the taking over of the European Employment Strategy to the Hungarian employment policy can be regarded as such an achievement, in order to secure increasing employment and economic activity and decrease unemployment.

The European Union treats the employment policy not independently, but as part of the social policy. The definition of social policy went through a lot of changes during the development of the European Community. These changes show the how the relationship between the social and the economic sphere changed. The broader definition of social policy includes: territories beyond the welfare benefits as labor law, social dialog, the equal chances for men and women, security at work, health protection, the rights of the disabled persons and finally employment policy. So employment policy is part of the social policy. The social issues belong to the competence of the member states basically. The initiatives of the Community play only a supplementary role, though we can experience a more and more self-confident behavior on Community level in the last decade, which can be explained by the increasing problems of employment and labor market in the EU.

## I. THE DEVELOPMENT OF EUROPE'S EMPLOYMENT POLICY

Before we discuss the questions of the application of "European" or as it is called recently, the "Community Employment Strategy" in Hungary or in Borsod-Abaúj-Zemplén County, we have to take a look at its antecedents and meaning to be able to evaluate its domestic realization in the country and in the county.

The employment policy of the European Union has three steps of development:

- From the Roman Treaty to the Parisian Conference (1957–1972)
- From the Social Action Program to the Maastricht Treaty (1974–1992)
- From the White Book (growing, cooperativeness, employment) to nowadays (1993–)

When the European Union was established the main aim was to create an economic integration, every other aims (such as social politics) were subordinated to this. They thought that if economic circumstances get better, then the circumstances of life will develop as well, and the well-operating European competitive economy will solve the social problems automatically. This view is shown in the way the Roman Treaty defined the aim of the Community: "The aim of the Community is to realize a common market and harmonize the policies of the member states to help develop the economy over the territory of the Community, stability, the standards of living go up and making the relations stronger between the member states.". The paragraphs 117–128 of the Roman Treaty include social issues that can be generally used: "The member states agree to help develop the workers' life and work circumstances, and decrease the differences among them by maintaining the development."

In the first phase of Europe's employment policy history Social (and employment) policy was only important to the extent it helped the economic integration. That is the reason why the *free motion of labor force* was of great importance, which caused the differences among the member states to decrease, and the conditions of competition come into balance. Supporting migration helped decrease the shortage of labor. At this time the second priority was *education* and training.

*The second, two decades long phase* of Europe's employment policy started with the first enlargement of the Community (United Kingdom, Denmark and Ireland) and last until the beginning of the 1990's, until the Maastricht Treaty. In this period the social dimension came into the foreground. It was realized that integration can not be strengthened without harmonizing the social regulations, and the new agreements were signed in this spirit. It was experienced in the countries of the Community that balanced economic development is just a condition of the development's increasing, but it does not solve the problems of the labor markets. Big changes had to be made in the field of social politics. The most important steps of this period were:

→ The *Social Action Program* in 1974, which had principals such as full, or at least higher level employment, improving life and work circumstances and taking part on a higher level in the decision making of the Community.

→ In 1986 the *Single European Act* altered the Roman Treaty in several important questions. With the second enlargement of the EU (Greece-1981, Spain and Portugal-1986) the number of the members increased to 12, so the institutions and the decision making mechanisms had to be adjusted to these changes. The social legislation became less difficult with the introduction of the majority voting. Economic and social cohesion, solidarity and the development of underdeveloped regions came into the foreground.

→ *Community Charta on the social rights of employees* (1989) it was an adoption of the European Social Charta (1961) to Community law. The Economic and Social Committee of the European Economic Community publicized a communiqué on the protection of the social rights. The Charta on the social rights of employees was a consequence of this. The document was vetoed by Brits so it had only been a political Communiqué for a long time, and could not become part of the regulation.

→ *The Maastricht Treaty* (1992) the documents created in the first years of the decade treated the social issues as equal to the economic sphere. They emphasize that investments in human capital has a definite role in view of the future of the Union. The Protocol of Social Politics and the Social politics Agreement are part of the Maastricht Treaty. Especially the last one is of great importance as it makes majority voting possible on several fields, extends social dialog and the taking part of social partners in the preparation of decisions.

*The third period of development* began in the first years of the last decade when unemployment and the low rate of employment became an important problem in politics. The lasting depression caused the rate of growth to stabilize on at about 2% instead of the 4% it used to be. Unemployment increased above the critical level (10%), there were 18 million workers unemployed in the EU, and employment balanced at about 60%. The main aim of the Maastricht Treaty was to realize the Economic and Monetary Union (EMU) to be able to treat the economic shocks and employment problems more efficiently.

The period after the Maastricht Treaty, the main stations of lifting up the social- and employment policy of the European Community:

→ *The White Book (growing, cooperativeness, employment)* 1993, which includes the strategic assets to reverse the unfavorable processes in the labor market. It searches for the answer how market comparativeness and social solidarity could be fitted.

→ The Essen Conference where *The Strategy for employment in the Community* was published. The so called Essen priorities put emphasis on the development of qualification, help increase employment, decrease indirect labor costs and support those who are most likely to become unemployed.

→ The *Amsterdam Treaty* (signed in 1997.) was a real breakthrough. The main priority of the Amsterdam Treaty that came into force in 1999 was employment policy. The Roman Treaty was enlarged by a chapter about employment, what lifted the employment policy to Community level.

According to the Amsterdam Treaty the member states and the Community bring their employment policy in harmony, and try to realize it harmonized, as employment issues are of great importance for each member state. At the same time the Community has to help make the cooperation among the member states better, and lift up the level of employment.

## 2. FROM THE EUROPEAN STRATEGY FOR EMPLOYMENT TO THE HUNGARIAN NATIONAL EMPLOYMENT ACTION PLAN

The Employment policy Agreement of the Community, which was accepted in 1997 became the middle run policy of treating the problems of employment and unemployment in the last years. The "employment" chapter of the Amsterdam Treaty includes the following priorities:

- The member states and the Community endeavor to develop a harmonized employment strategy.
- The sharing of competence among the member states and the Community, and the subsidiary principle prevails.
- Community issues, but the practice has to fit the national specialties.
- The member states coordinate their social and employment strategy with the Council.
- The Community encourages and supports the cooperation among the member states.

The most important things to do according to the *order of the procedures defined in the chapter of employment*:

- The European Council overlooks the employment situation and the things to do every year.
- The European Council gives advices on the directions of employment every year. policy issues every year.
- The European Council examines how the member states considered the given directions.
- The European Council consults with Economic and Social Committee and the Committee of the Regions in questions of employment policy.
- Provisions for development of employment cooperation and getting to know the best practice.

The employment strategy accepted by the European Council is being built on the harmonized, common influentation of economic and employment processes. The **Employment policy directions** that establish the coordination is being built on the pillars of four objectives: increasing employability, the encouragement of becoming entrepreneurs, the development of adaptability and increasing the equality of chance. [4]

1997 was the first year when Employment Policy Directions were accepted at the Luxembourg Conference. Since then 4 directions were publicized, the in 2001. Hungary considers the European issues of employment policy as an associate member from the "Essen priorities" to the employment directions. The documents of the concrete provisions are the alterations of law on increasing employment

and treating of unemployment, and law on labor, just as the Hungarian National Employment Action Plan.

At the same time the European Union is occupied in the labor market situation continuously. There are three ways to continue work on the European employment strategy:

- The European Employment Pact, which had an aim to strengthen macroeconomic connections.
- Recommendations of the Council to treat the specialties of the member states.
- Regional Employment Pacts to solve local and regional problems of employment.

The Regional Employment Pact announced on experimental levels in 1998-98, then generally in 2000 is qualified for strengthening the realization of the Luxembourg process, made to help carry out the European Employment Strategy. The harmony of the developments realized in the framework of Structural Funds and employment Directions (lifting up the underdeveloped regions) can be secured this way. A bigger support can be given to carry out the European Employment Strategy then the sources of the European Social Fund could afford.

The main objective of the Regional Employment Pact is to help realizing the employment directions, increase the creation of workplaces, coordinating and integrating the efforts of regional, local and others involved in the issue. The practical aim of the Regional Employment Pact is to work out a program including provisions creating new workplaces, which is in harmony with the region's general development plan.

The Regional Employment Pact is such a strategic document for treating employment problems that include the main objectives, cost and expectable results, definition of the aim-groups and the main characteristics of the chosen region.

How deep the Regional Employment Pact is worked out, the form of the document, the circle of those who take part in the work can change according to the regional specialties. It is unique that such important involved ones as regional and national authorities, representatives of the business sector, social partners, banks, nonprofit organizations chambers, educational institutes and corporations that control the usage of the Structural Funds have to take part in the work. [4]

Following this I will examine considering the last point of view how the accumulated knowledge and practice can go to the place where it is most needed in Hungary, to Borsod-Abaúj-Zemplén County.

## 3. THE EU-CONFORM TREATMENT OF EMPLOYMENT PROBLEMS IN BORSOD-ABAUJ-ZEMPLÉN COUNTY

Economic and social cohesion, regional processes and the situation of regions are a very import part of Hungary's accession trials with the EU. [5] In the Northern region of Hungary Borsod-Abaúj-Zemplén County is of great importance looking at the territorial and population questions.

### 3. 1. THE EMPLOYMENT SITUATION IN BORSOD-ABAÚJ-ZEMPLÉN COUNTY

The labor market of the county has been in disequilibria for about a decade now. The unemployment rate was the highest in 1993, above 22%, and the number of the registered unemployed reached 75 000. In the middle of the decade, in 1995–96 the measure of the unemployment rate (15-16%) let us hope that the county has passed the crisis of employment. The favorable changes were only temporary though, on one hand because of the changes in the unemployment supply system, on the other hand because the first wave of the laying offs ended in the steel industry. The process in the county is opposite to the tendencies of the country as unemployment rate was becoming lower everywhere in the country, but not here, where the rate exceeded 21% in February 2001, and the number of the registered unemployed was at about 60.000.

The seriousness of the situation is shown by the fact that while in 1997 Szabolcs-Szatmár-Bereg County had the highest unemployment rates, we reached and left them in 1998. [6]

There are opposite trends in the county today, as there are economic developments and crisis at the same time. The number of workplaces increased in Miskolc and Ózd, but they decreased in Kazincbarcika, Putnok and Edelény where mines were closed. The Northern, agricultural regions of the county are still in the worse situation. [7]

The stock of the unemployed got worse in comparison with the last years. The rate of women, elderly people and less educated workers increased. The changes show that the opportunities for younger and better qualified employees got better. Their outflow from the stock of unemployed increases while the less searched groups stay in durable unemployment. The seriousness of these problems are shown well by the following data. There were 202.000 registered unemployed in the country in February, 2001, 15% of that in B-A-Z County. The number of durable unemployed, who can not work for more than a year is 105.000, and 20% of them live in B-A-Z County. [5]

In the regions of the county the employment situation is different. As I have already mentioned, in the North-Eastern part of the county the situation has become more unfavorable, while in the region of Miskolc and Ózd it got better. The differences between the regions have grown.

The most typical characteristic of the county is the lack of workplace-supply. The monthly average supply of 7–9.000 workplace is much lower than the number of the unemployed (50.000). It is unfavorable that while the number of the supplied workplaces grow, the ones not supplied decrease. Next to the global disequilibria the structure of demand and supply differ.

As the law on employment was changed, the number of people getting supplies increased (52%) and the number of those who get aid decreased to 21%. The seriousness of the situation is shown by the fact that 27% of the unemployed get no money, and then we have not mentioned the thousands who are passive unemployed.

### 3. 2. THE PILLARS OF TREATING UNEMPLOYMENT IN BORSOD

In the middle run the strategic objectives of Hungarian employment policy in harmony with EU standards are the following:

- The broadening of employment, securing the opportunities for full employment on the long run,
- Turning back the tendencies of inactivity,
- Changing the type of unemployment, from durable to shorter run, from mass to economic, from structural to frictional,
- Encouraging increasing the adaptability of workers and the competitiveness of firms,
- Increasing equality in the labor market.

The national action plan for employment in the year 2000 was created using the EU's employment policy directives. [9] The law on employment and the usage of the Labor Market Fund were altered. On basis of the experiences of the member states of the EU the change from the passive to the active means of employment policy is of great importance to increase employability, adaptability, and to realize the equality of chances. The financial sources given to the county, used for the active steps, coming from the central frame of Employment Funds were doubled from 1999 to 2000. It can hardly be understood that about 20 million Ft of this source has not been used, knowing the very bad situation of the county. This shows that adaptability is still a great problem in the region, and the technique of knowledge-transfer has to be developed in the county.

#### *The fields of using the supplies from the central frame of the Employment Fund*

- Trainings in connection with the mine closing in B-A-Z County (pillar I.)
- Training and employing experts on regional management (pillar I.)
- Taking over the interests of restart credits (pillar II.)
- Public utility works at the floods (pillar II.)
- Taking over the casual work costs (pillar III.)
- Encouraging employment of about 50 years old unemployed with a degree (Pillar IV.)

The actually used 72 million Ft helped to make better the employment chances of 563 people, efficiency can not be measured as no monitoring was made. It can be registered though that more than 10 million Ft at the floods and more than 7 million at the supply encouraging the employment of the about 50 years old unemployed were not used up in the year 2000.

The County's decentralized frame of the Employment Fund was 3,7 milliard Ft in 2000, and about 88 million Ft of those were not used up. The next table shows the given supports from the decentralized frame.

Table 1.  
The assets financed from the Employment Funds

	The rate of usage within the Fund (%)	Number of people involved	
		(Number)	(%)
1. Training	25,52	9 153	22,36
2. Traditional public utility works	28,39	14 734	36,04
3. Supply on the wages of durable unemployed	14,74	6 018	14,72
4. Supply on starters	10,41	3 296	8,06
5. Investments saving workplaces	3,51	127	0,31
6. Public utility employment for environmental protection	2,25	786	1,92
7. Public utility employment at the Industrial park of Ózd	1,84	704	1,72
8. Financing of programs	4,22	1 042	2,55
9. Other issues	4,63	3 971	9,03
Altogether	100,00	40 882	100,00

Source: Lórántné Orosz Edit (2001) i.m. [10] 1. supplement

The most important supplies among the “other objectives” are: territorial mobility (1 850 persons), the overtake of contributions on employment (1 286 persons), the encouragement of becoming an entrepreneur (489 persons), the temporary self-employment of durable unemployed (221 persons) and the employment benefits of the starters (112 persons),

The 3.929 milliard Ft used for decentralized supplies helped 40.882 persons, so the supply is almost one million Ft per person. The costs of the assets are different. The most expensive is the creation of new workplaces, where the supply was 1.100.000 Ft per person, the cheapest was the supply for territorial mobility.

It is illuminating to see which were the fields where the sources were not used up:

- The supplies on intensive search for work,
- Durable self-employment of unemployed,
- Supplies for territorial mobility.

Adaptability seems to be low in these territories, and the involved ones do not know how to the supplies. The 18 million Ft left unused from the source for encouraging territorial mobility is very big, regarding how needed it would have been, looking at the fact that thousand of starters go to work to Budapest and Trans-Danubia from Borsod. The second biggest source left is the supply for encouraging unemployed to become self-employed with 15 million Ft, the third is the wage supplies for disabled and durable unemployed with 8 million Ft. Researches should be made to examine the efficiency of the usage of these sources, and this could answer the question which factors hinder knowledge transfer.

### 3. 3. THE LABOR MARKET PROGRAMS LAUNCHED IN BORSOD-ABAUJ-ZEMPLEN COUNTY

The European Union tries to fulfill its employment policy objectives through the assets of the European Social Fund. The countries waiting to access can use these sources only after accession. Hungary has already started preparations for using these sources, to able to use up the supply frameworks we will have. At application we have to consider the principles of concentration, programming, paternity, and additionality accepted by the EU. [1]

The law on encouragement of employment and unemployed supplies says that the Labor Market Fund can secure the financial sources for programs that aim the realization of employment objectives, influentation of labor market processes, and employment of those who are in an unfavorable situation.

The main characteristic of labor market programs is complexity. The objective is to bring back the unemployed to the labor markets. The programs use the assets of service based on the individual characteristics of the unemployed. They are able to concentrate sources in order to integrate unemployed in the labor market. The Labor Center of Borsod-Abaúj-Zemplén County started its fist program in 1999, in the framework of the Regional Employment Pact “Complex public utility works”. Its objective was to make the labor market chances of the involved ones (mostly durable unemployed) better through using different methods and services of employment policy and coordinating the efforts of the involved ones.



Table 2.  
The programs financed from the Employment Funds in 2000.

	The usage of the Fund Ft	Number of people involved
1. Complex public utility and reintegration program	149.351	768
2. Program for social treatment	9.608	60
3. Program encouraging the employment of persons in unfavorable situations	4.768	25
4. Program encouraging the employment of durable unemployed, disabled and starters	2.475	189
Altogether	166.202	1042

Source: Lórántné Orosz Edit (2001) i.m. [10] 1. supplement

The program cost 87 million Ft in 1999, the number of the involved ones was 513, 122 of them managed to get employed, and 22 others without supplies. The rate of finding a new job was 30% instead of the 20% expected. On basis of the favorable experiences the program was launched in 2000 as well, with 3 new programs. The most important data of these programs is included in the following table.

In 2000 the most important program was the Complex public utility and reintegration program. 89,9% of the

sources was used for this program, and 73,7% of the involved ones. The success of this program can be accounted for the 1999 program. [12]

These programs are in harmony with the ones mentioned in the European Employment Strategy, as it says that problems of the unemployed can only be treated efficiently with complex programs using different methods and services, concentrating the sources. At the same time we need more knowledge transfer to be able to meet the requirements of European Employment Strategy.

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**Die Rolle der Europäischen Beschäftigungsstrategie im  
Kenntnisstransfer  
auf dem Beispiel von der Komitat Borsod-Abauj-Zemplén  
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*Im ersten Teil der Studie werde ich mit der gemeinsamkeitliche Errungenschaften der Beschäftigung der Europäische Union beschäftigen, in der zweiten Teil suche ich die Antwort auf die Frage, wie der im EU zusammengehäufte Kenntnisse und Erfahrungen in der Lösung den Problemen der beschäftigungskrise von Borsod-Abauj-Zemplén Komitat helfen können.*

*Im Prozess des Anschlusses von Ungarn zu der Europäische Union wird die Übernahme der im EU aufgehäufte Wissenschaften, die "gemeinsamkeitliche Errungenschaften" notwendig. Solche gemeinsamkeitliche Errungenschaft ist die Europäische Beschäftigungsstrategie für die ungarische Beschäftigungspolitik, die sich auf die gemeinsame, abgestimmte Beeinflussung den Wirtschaft- und Beschäftigungsprozessen gründet. Die beschäftigungspolitische Richtungslinien, die die Grundlagen der Koordination sind, haben schon erschienen in die Zielsetzungen und Instrumente der ungarische Beschäftigungspolitik.*

*Strukturelle Störungen und Beschäftigungskrise kennzeichnen die Lage der Wirtschaft in der Komitat Borsod-Abauj-Zemplén seit eines Jahrzehentes. Für die Behandlung dieses Problems sichert die Arbeitsmarktgrund zentrale und dezentralisierte Kontingente durch seine Beschäftigungsgundteil. Ich erforschte die Anwendung der Finanzierungsinstrumente. Ich habe festgestellt, das die Kenntnisstransfer noch auf die Entwicklung wartet und die Vorbereitung auf dem Empfang der Sozialgrund der EU soll fortgeführt weden.*

**AZ EURÓPAI FOGLALKOZTATÁSI STRATÉGIA  
SZEREPE A TUDÁSTRANSZFERBEN BORSOD-ABAÚJ-  
ZEMPLEN MEGYE PÉLDÁJÁN**

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*A tanulmány első részében az Európai Unió foglalkoztatást érintő közösségi vívmányaiival foglalkozom, második részében arra keresem a választ, hogy az EU-ban felhalmozott tudást és tapasztalatot mennyiben sikerült alkalmazni a legkritikusabb foglalkoztatási válsághelyzetű Borsod-Abauj-Zemplén megye problémáinak megoldására.*

*Magyarország Európai Unióhoz való csatlakozásának folyamatában szükségessé válik az EU-ban felhalmozódott tudásállománynak, a „Közösségi vívmányok-”nak az átvétele. Ilyen vívmánynak tekinthető az Európai Foglalkoztatási Stratégia a magyar foglalkoztatáspolitikára számára, amely a gazdasági és foglalkoztatási folyamatok közös, összehangolt befolyásolására épül. A koordináció alapját képező foglalkoztatáspolitikai irányvonalak megjelentek a magyar foglalkoztatáspolitikai célkitűzéseiben és eszköztárban is.*

*B-A-Z megye gazdaságának helyzetét több mint egy évtizede a strukturális zavarok és a foglalkoztatási válsághelyzet jellemzik. Kezelésére a Munkaerőpiaci Alap a foglalkoztatási alaprészen keresztül központi és decentralizált keretet biztosít. Vizsgáltam a finanszírozási eszközök felhasználását. Megállapítottam, hogy a tudástransfer fejlesztésre vár és folytatni kell a felkészülést az EU Szociális Alapjának fogadására.*