The SLEM Model as an Assessment Method for Local Goods' Competitiveness

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SUMMARY

In this paper we develop and present the SLEM model created to measure the market potential of local goods supplied by the entrepreneurs of the Cserehát region, one of the most deprived regions of Hungary. The SLEM model evaluates goods along four dimensions: supplier conditions, labour conditions, (professional) embeddedness, and market conditions. The four pillars were measured with factors that are easily accessible, and so the evaluation can be repeated with other regions as well. In case of Cserehát, we have identified the following five groups of local goods with the greatest potential: animal husbandry; honey; spices and pharmaceutical crops; nature tourism; and mineral water.

Keywords: deprived region, local products, product competitiveness
Journal of Economic Literature (JEL) codes: L25, P25, Q12
DOI: http://dx.doi.org/10.18096/TMP.2016.02.01

INTRODUCTION

The development of a region and the quality of life of its population in various dimensions – but primarily in an economic dimension – depend on the region's competitiveness in different markets. Especially important is the availability of its 'marketable' products and a high demand for them. Social innovation and community resources are expected to support 'local' performance that can considerably contribute to achieving social and economic goals set by the region.

A question arises, namely, what methods are to be applied and what factors are to be considered, investigated and evaluated in order to identify the economic weight points, products and services that could enhance the desired development and competitiveness of a region. In addition, it is also critical to decide what methodology is to be used for investigating the marketability of a specific 'local' product and service.

In order to answer the research questions listed above, a research study was conducted within which a model was created for identifying the range of products and services that could be of determining importance for a specific region. In addition, model calculations were also made, since our model was applied to evaluate Cserehát, a highly deprived region suffering from numerous disadvantages. In a region like this, the development of carefully selected products and services may enhance economic development of the region's social and economic environment, considerably improving the welfare of the people living there and resulting in additional favourable impacts.

A thorough literature review was conducted and a secondary study was carried out, which provided a basis for gathering, processing and summarising the national and international literature relevant to this research study and for elaborating the methodology that could be applied for performing investigations related to the marketability of any product. The secondary research was also based on the available national and international literature, but with a special emphasis on market trends. Reports on research findings, pilot projects, databases, statistical publications and informative publications of professional associations were used as sources for this research study. The most valuable findings available from these sources were gathered, selected, analysed, evaluated and summarised. Finally, the range of products to be researched was identified.

The SLEM model was created within the framework of the T-model project, concentrating on the social entrepreneurship opportunities of deprived regions. This special issue includes papers presenting research carried out on similar issues: sustainable enterprise models (Illés 2016); sustainable accounting (Demény & Musinszky 2016); establishing and operating social enterprises (Várkonyi 2016); the place of public works in the

employment model of the Cserehát region (G. Fekete 2016); and route-based tourism product development (Nagy & Piskóti 2016).

LITERATURE REVIEW

Measuring competitiveness is a complex task. According to Losoncz (2004), there are more than 10,000 definitions of competitiveness in use. A widely accepted definition that can be equally applied to micro-, mezzo- and macro-level competitiveness defines the phenomenon as "the ability of firms, industries, regions and nations to permanently generate a relatively high level of income, and sustain a relatively high level of employment, while competing with international (global) competitors" (Lengyel 2000, p. 43). A similar definition was adopted by the US Competitiveness Council: "the ability to produce goods and services that meet the test of national and international markets while citizens earn a standard of living that is both rising and sustainable over the long run" (OECD 1997, p. 35).

Longman's Advanced American Dictionary (2000) simply states that competitiveness is "the ability of a company or a product to compete with others and the desire to be more successful than other people". If this ability broken down to business functions, the competitiveness of the firm can be interpreted as its ability to do better than the competitors in sales, market share, and profitability (Lall 2001). Szerb et al., who recently conducted very comprehensive competitiveness research focused on Hungarian firms, define small enterprise competitiveness as "a closely interconnected system of competencies such as human capital, financing, cooperation, offered product, administrative routines, competition strategy, applied technology, marketing, internationalisation, and online presence, that enable the firm to efficiently compete with other businesses, and to offer products that are valued highly by the customers" (Szerb et al. 2014, p. 8).

Although some prominent experts claim that competitiveness primarily lies in products and businesses (e.g. Krugman 1994), a more aggregated level of approach also makes sense. Regional competitiveness can simply be interpreted as a sum or combination of competitive firms, but on mezzo- and macro-levels other factors have an important impact as well. Such conditions as a business-friendly economic environment, productivity, or high level of education are all important components of competitiveness (Liargovas &Skandalis 2008, p. 5). Cooperation links among businesses within a region is also significant; competitiveness is also defined by the extent to which a region is called a "learning" region, or an "innovation system" (OECD 1997, p. 36).

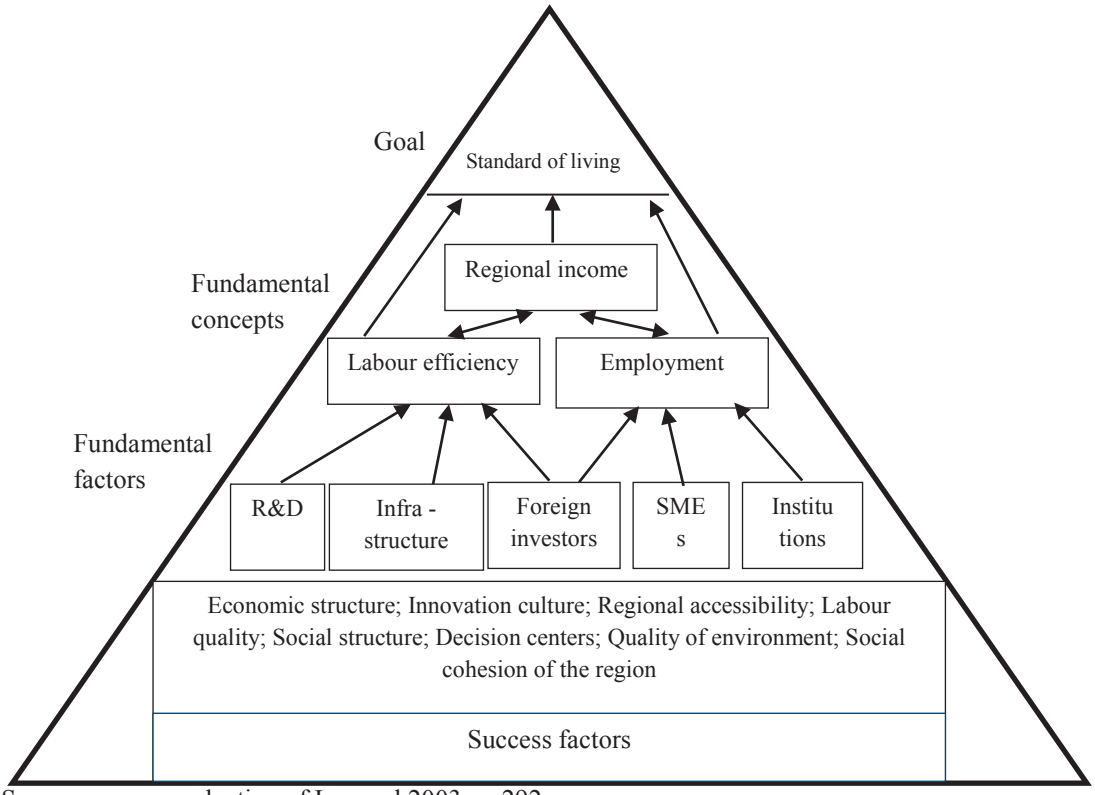
We built our own model on Porter's five forces (Porter 1979) and his diamond (Porter 1990) model. Porter is another expert who focuses on product- and industry-level competitiveness, although he does not deny the importance of institutional factors. He accepts that the government is a factor that affects the five forces, for example (Porter 2008). The five-forces model identifies the key components of the competitiveness or attractiveness of an industry in the following five factors:

- threat of new entrants: profitable industries yield high returns that attracts competitors;
- threat of substitutes: good substitute products from other industries can push customers to switch to alternatives;
- bargaining power of buyers: the high bargaining power of buyers can push prices down over time;
- bargaining power of suppliers: suppliers of parts, materials, labour, or services can push up the price of inputs, and shrink profits if they have high bargaining power;
- industry rivalry: high levels of competition creates the incentives for innovation in the industry (Porter 1979).

Porter published his diamond model (1990) to answer the question of why certain industries rose in certain regions. The diamond model therefore is more related to regional/macroeconomic competitiveness. By taking a look at cluster development in ten trading nations, it names four main determinants. They may be influenced by the government or some other random conditions:

- factor conditions: including human, knowledge, physical, and capital resources, and infrastructure;
- demand conditions: competition levels and the sophistication of customers, which pressure firms to innovate faster;
- related and supporting industries: these industries not only provide cost-effective inputs, but they also help in the innovation process of the final product offered by the sector;
- firm strategy, structure and rivalry: rivalry, as in the five-forces model, creates incentives to innovate, and well-set strategies help in exploiting competitive advantages (Porter 1990).

Porter excluded natural resources-driven industries (e.g. the oil industry) from his analysis. His decision is understandable, but given that our research is focused on a mostly agricultural region, natural resources will have to be considered as well. The five forces and the diamond model can be integrated. The integrated model shows the interconnections among the factors of the two models. The bargaining power of suppliers affects factor conditions, while the bargaining power of buyers affects demand conditions. Supporting industries, on the other hand, influence the intensity of competition and rivalry (Némethné 2010).



Source: own reproduction of Lengyel 2003, p. 292

Figure 1. The pyramid model of regional competitiveness

We end the literature review by presenting Lengyel's pyramid model (2003). The pyramid model interprets competitiveness at a regional level. Given that we focus on the competitiveness of goods of a certain region, the categories introduced by Lengyel are relevant in our analysis as well. Lengyel agrees that the ultimate goal is to provide relatively high standards of living for the people living in a certain region. The standards of living are determined by factors that Lengyel splits into three categories: fundamental concepts, fundamental factors, and success factors (see Figure 1). Competitiveness can be measured through the fundamental concepts: labour efficiency, income, and employment. Fundamental factors are factors that influence competitiveness in the short run. The competitiveness of the region can be boosted by wisely managing the fundamental factors. Success factors, on the other hand, have a long term influence on competitiveness, but according to Lengyel they cannot be changed by the decision makers (Lengyel 2003).

Building the SLEM Model

Based on Porter's and Lengyel's concepts we have built the SLEM model used to measure the competitiveness of goods and services coming from the Cserehát region. We built the model around three main criteria: it should comply with the most respected theories of the field; it should only have a complexity level that enables us to highlight the most important influencing factors; and it should be realistic in the sense that it can be used for primary analysis. Given that the ultimate goal is to ensure a relatively high level of income, and standards of living, we have chosen four pillars of competitiveness:

- Supplier conditions: the ability of businesses producing a certain good or providing a certain service to rely on local supplier networks. An important aspect of competitiveness is that the products compare favourably with those of international competitors. One such group of internationally competitive products is "Hungaricums". SLEM focuses on Hungaricums with its supplier conditions category.
- Labour conditions: the ability of businesses to rely on qualified labour available in the region. The Cserehát region is characterised by high levels of unemployment, and at the same time by the shortage of qualified labour. Developing businesses that require labour with the skills and competencies that are locally available is therefore a key to the region's future growth.
- Embeddedness: the ability of businesses to rely on their partners and other stakeholders from the region to engage in cooperation focused on innovation. Competitiveness is greatly boosted if businesses can form networks with each other, and with other stakeholders. Although networks can be artificially

created as well, usually the tradition and culture of cooperation in a given industry is the one factor that decides if a network is functional or not.

- Market conditions: the ability of businesses to rely on sound and high quality market demand. This final factor is self-explanatory; income may only be generated if the products are sold.

SLEM, the name of our model, is derived from the abbreviations of the four above factors. These factors are quite close to the ones found in Porter's diamond model. S for Supplier conditions is the equivalent of related and supporting industries (and it is also connected to the bargaining power of suppliers, an element of the five-factor model). L for Labour conditions is an element of factor conditions (although factors like capital or physical factors are also included in the diamond model). E for Embeddedness is a representation of Porter's firm strategy, structure, and rivalry factor. M for Market conditions is identical to Porter's demand conditions.

Lengyel (2003) would put all four elements of SLEM into the success factors category (see Figure 1). In other words the SLEM model ranks local products according to the extent to which they correspond to the long term success factors of a region.

Operationalising the SLEM Model

Finding indicators to properly measure the SLEM factors is not easy. Some of the most important criteria for selecting an indicator are the following:

- relevance: the indicator measures exactly what the model means by a certain factor, and changes in the indicator value only occur when there is a change in the characteristics of the factor as well;
- easy to measure: the cost of producing the indicators should be low;
- easy to access: in case the measurement is done by a third party, accessibility of the indicators is very important;
- reliability: if possible, indicators with objective measurements should be given priority;
- strictly monotonic: only those indicators can be used for reliable measurement whose value change can be interpreted consistently; e.g. GDP per capita is consistent, since an increase always signifies a positive change; the calories consumed per capita is not strictly monotonic, since an increase canhave a negative effect after reaching a certain tipping point;
- wide scale: the indicators should apply to a wide range of industries or countries, so that the analysis can be repeated in many circumstances.

The indicators chosen for the measurement of the SLEM model are described below. They fulfil five of the above criteria completely, and there is partial correspondence between the relevance criteria and the chosen indicators. The relevance could be increased if custom-made statistics were created through surveys. This, however, would make the measurement very expensive and narrow in scale.

1. S – Supplier conditions: to measure the supplier conditions a simple indicator was chosen that only has two values. If a given business can be attached to the value chain of a product that can be found on the list of Hungaricums (CHV 2016), the indicator has a value of 1. In any other case it has a value of 0. This measurement method fulfils the criteria of being easy to measure and easy to access, the indicator is obviously strictly monotonic and is wide scale. The relevance is questionable, since a number of other indicators could have also been chosen, each of which would have had to been measured by us. Simplicity was favoured over higher relevance here.
2. L – Labour conditions: to calculate the indicator for labour conditions, the regional statistics database of the Hungarian Central Statistical Office (KSH 2016a) was used. The latest available data belongs to 2011. Since district-level employment data is provided, three districts were chosen (Edelény, Encs and Szikszó) to represent the Cserehát region. Most of the settlements of these three districts indeed belong to Cserehát, therefore the distortion is only minimal. Sectorial employment numbers (the number of employees working in (1) agricultural and forestry, (2) industry and (3) services), and total employment numbers are both accessible. The ratio of the sectorial and the total employment numbers is used as the indicator for labour conditions. This way the indicator value of vegetable production for example, is the share of people working in agriculture compared to the total number of people employed. The relevance of this indicator could be improved if employment data were produced in a more detailed structure.
3. E – Embeddedness: a similar measurement was used as for labour conditions. The regional statistics database (KSH 2016a) offers district-level data on the number of registered enterprises. 2013 is the year with the latest available data. The ratio of registered enterprises operating in (1) agriculture and forestry, (2) manufacturing, (3) the construction industry, (4) catering and hospitality, or (5) health care services, and the total number of registered enterprises is the indicator for embeddedness. The indicator value for rural tourism for example is calculated by dividing the number of enterprises operating in the catering and hospitality industry by the total number of enterprises. This indicator has the same advantages and disadvantages as that for labour conditions. Thanks to the more sophisticated structure of the enterprise data, however, its relevance is stronger.
4. M – Market conditions: the System of National Accounts section of the Hungarian Central Statistical Office's database (KSH 2016b) was used to calculate this indicator. This database offers data on the distribution of Hungarian country-level household consumption. We calculated the average rate of

change of household consumption between 2009 and 2013 (the latest available data) in the following areas: (1) alcoholic drinks; (2) food; (3) housing products and services; (4) non-alcoholic drinks; (5) tourism. The change rates were then normalised using the minmax method (see formula (5) presented below), and the normalised value was used as the indicator for market conditions. Yet again, this indicator has exactly the same advantages and disadvantages as for E.

By calculating the average of the four indicator values, an index can be derived that has a minimum of 0 and a maximum of 1. Values near zero indicate a low potential; values near 1 indicate a high competitiveness product in the Cserehát region. Since no weights are used, the four factors are considered to have the same relevance in determining the competitiveness of a product. The formulae used in the calculations are the following:

(1) S = 1 or 0, depending on the type of the product

(2) $L = \frac{\text{number of people employed in a given sector in the Cserehát region}}{\text{total number of people employed in the Cserehát region}}$

(3) $E = \frac{\text{number of registered enterprises operating in a sector in the Cserehát region}}{\text{total number of registered enterprises in the Cserehát region}}$

(4) $AM = \frac{household\ consumption\ in\ a\ given\ area\ in\ 2013}{household\ consumption\ in\ a\ given\ area\ in\ 2009}$

(5) $M = \frac{AM_{actual} - AM_{min}}{AM_{max} - AM_{min}}$, where

AM_{actual} = the AM value of a given product
AM_{min} = the lowest AM value of all products
AM_{max} = the highest AM value of all products

(6) $SLEM = \frac{S+L+E+M}{4}$

Products Tested

The SLEM model was tested on 24 high potential products from the Cserehát region. These products were identified by a study conducted in 2013 (G. Fekete 2013):

1. fruit palinka
2. grape-pomace palinka
3. wine products
4. apple wine
5. mineral water
6. rural tourism, rural accommodation services
7. cultural tourism (castles, manors, historical industrial sites)
8. nature tourism (cave tours, forest tours)
9. leisure tourism (fishing, horse riding, biking)
10. retirement homes
11. therapeutic and recreational tourism (thermal sources)
12. fruit products (grapes)
13. vegetable production
14. cereals production (maize)
15. forage crop production (medick, clover)
16. industrial crop production (sunflower)
17. organic food production
18. spice and pharmaceutical crops production
19. honey production
20. energy grass production
21. logging industry
22. animal husbandry
23. dairy-based food production
24. construction materials production.

Testing the SLEM Model

By applying the methodology and using the statistical data related to Cserehát, this study determined the sub-components of the index measuring the competitive advantage potential of the region under investigation. After summarising the obtained results related to twenty-four products, the consolidated SLEM index was calculated.

Supplier Conditions

As for the supplier potential, seven out of twenty-four products were identified as 'superlative products', namely Hungaricums (fruit palinka, grape-pomace palinka, mineral water, nature tourism, spices and pharmaceutical crops, honey and livestock) that could be produced, supplied and marketed. People engaged in these activities could act as producers, suppliers or even service providers and gain a considerable competitive advantage. Table 1 shows products that could become Hungaricums in the region.

Table 1
Supplier potential of potential Hungarikums

Product groups	Hungaricums
Fruit palinka	Palinka
Grape-pomace palinka	Grape-pomace palinka
Mineral water	Soda water
Nature tourism	Caves of Aggtelek Karst and Slovák Karst; Bódvarákó, Bódvaszilas, Égerszög, Hidvégardó, Komjáti, Martonyi, Perkupa, Szalonna, Szendrő, Szin, Szinpetri, Szögliget, Teresztenye, Tornakápolna, Tornanádaska, Tornaszentandrás, Varbóc
Spices and pharmaceutical crops	Ilcsi beauty herbs and natural cosmetic products
Honey	Hungarian honey
Livestock	Food products from fattened geese

Source: own elaboration

Embeddedness

In the methodological description, the share of enterprises in the sector of national economy compared to the total number of enterprises was measured in the professional embedded sub-index in the Cserehát region. As many as five sectors of national economy were focused on the basis of which all twenty-four products can be classified into groups. The sectors are as follows:

1. Agriculture, forestry and fishery
2. Processing industry
3. Construction
4. Accommodation and food service
5. Human health and social work.

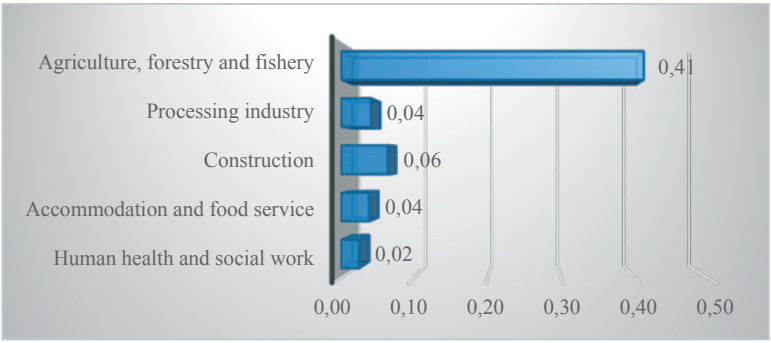
The total number of registered enterprises in the districts of Edelény, Encs and Szikszó amounts to 8,784. The enterprises operating in the five sectors of economy under investigation account for 5,094 and 668 of these enterprises are partnerships. Their distribution by economic sectors is provided in Table 2.

Table 2
Distribution of enterprises operating in five sectors of economy in the Cserehát region

Sector of economy	Registered number of enterprises	Registered number of partnerships	Total
Agriculture, forestry and fishery	3,462	164	3,626
Processing industry	223	134	357
Construction	348	211	559
Accommodation and food service	261	75	336
Human health and social work	132	84	216
Total in five sectors	4,426	668	5,094

Source: KSH 2016a

Based on the sub-index methodology, the professional embeddedness is measured by comparing the number of enterprises in the national economy with the total number of enterprises operating in the region. The degree of embeddedness of the major economic sectors in the region is illustrated in Figure 2.



Source: own elaboration

Figure 2. Sub-index of professional embeddedness

The diagram clearly shows that agriculture, forestry and fishery are dominating sectors of economy in the Cserehát region. Their index value of 0.413 indicates that almost half of the enterprises operating in the region pursue agricultural activities. The importance of the remaining four sectors is significantly lower. Construction enterprises amount to 6%. The number of processing, accommodation and food service enterprises is nearly the same and accounts for about 4%. Enterprises engaged in human health and social work have the lowest degree of embeddedness, with their 0.025 sub-index.

Labour Conditions

In order to quantify the indicator showing the preparedness and professional knowledge of the available workforce, the twenty-four selected products were grouped by professional knowledge required from the workforce for producing and supplying these products.

Three groups were created based on workforce competencies: workforce employed in agriculture, and forestry (A), in industry and construction (I), and in commerce, trade and services (C). Then the products were classified in line with this principle (the capital letters in the brackets indicate the workforce competencies): fruit palinka (I), grape-pomace palinka (I), wine products (A), apple wine (A), mineral water (I), rural tourism (C), rural accommodation services (C), cultural tourism (castles, manors, historical industrial sites) (C), nature tourism (forest schools, cave tours) (C), leisure tourism (horse riding, fishing and cycling) (C), retirement homes (C), therapeutic and recreational tourism (hot water wells and springs) (C), fruit products (wine) (A), vegetables (A), cereals (maize) (A), folder products (lucerne, clover) (A), industrial crops (sunflower) (A), organic food (A), spices and pharmaceutical crops (A), honey (A), grass energy (A), logging (I), animal husbandry (A), cheese and dairy products (A) and construction products (I).

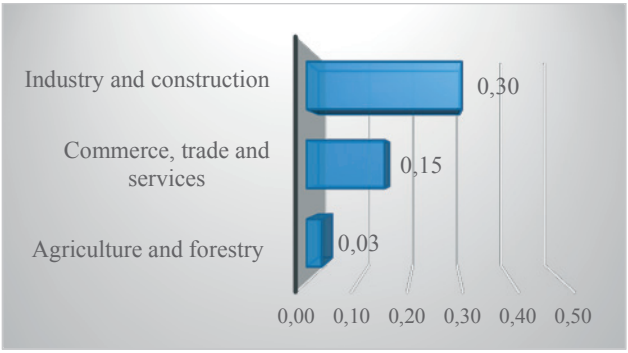
In the second step of calculating the sub-index, the number of employees possessing various professional knowledge was determined from the statistical data related to the Cserehát region (Table 3).

Table 3
Number of employed by nature of employment in the Cserehát region

Employment sectors	Number of employed
Commerce, trade and services	3,108
Agriculture and forestry	624
Industry and construction	6,188
Others	10,584
Total	20,504

Source: KSH 2016a

After this, the indicator value assigned to the selected products (Figure 3) was calculated.



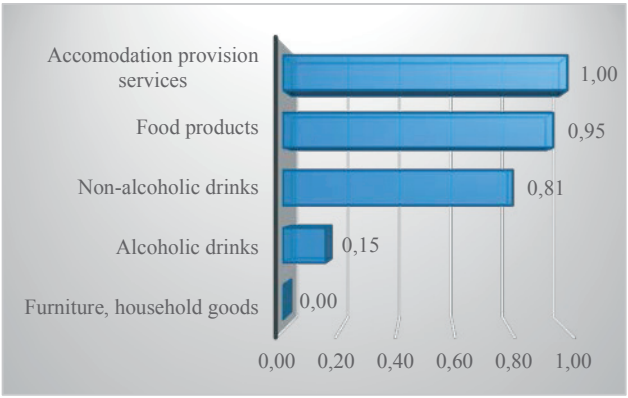
Source: own elaboration

Figure 3. Labour conditions sub-index

Figure 3 clearly illustrates that products requiring workforce employed in industry and construction have the highest standardised indicator value (0.302), which indicates that these products are the most reliant on professional knowledge. The indicator value of products produced by employees engaged in commerce, trade and services amounts to 0.152, which is a half of the previous value. This means that the labour intensity of these products has considerably decreased. The indicator value of the products made by the workforce employed in agriculture and forestry is extremely low, since it accounts for only 0.030, which indicates that the production of agricultural products does not require a high number and highly qualified workers.

Market Conditions

The last element of the SLEM index assesses supply conditions by taking into account changes in household consumption expenditure. The products can be classified into five expenditure groups: food products, non-alcoholic drinks, alcoholic drinks, furnishing products, household goods and accommodation provision services. The standardised indicator value enables us to characterise product groups.



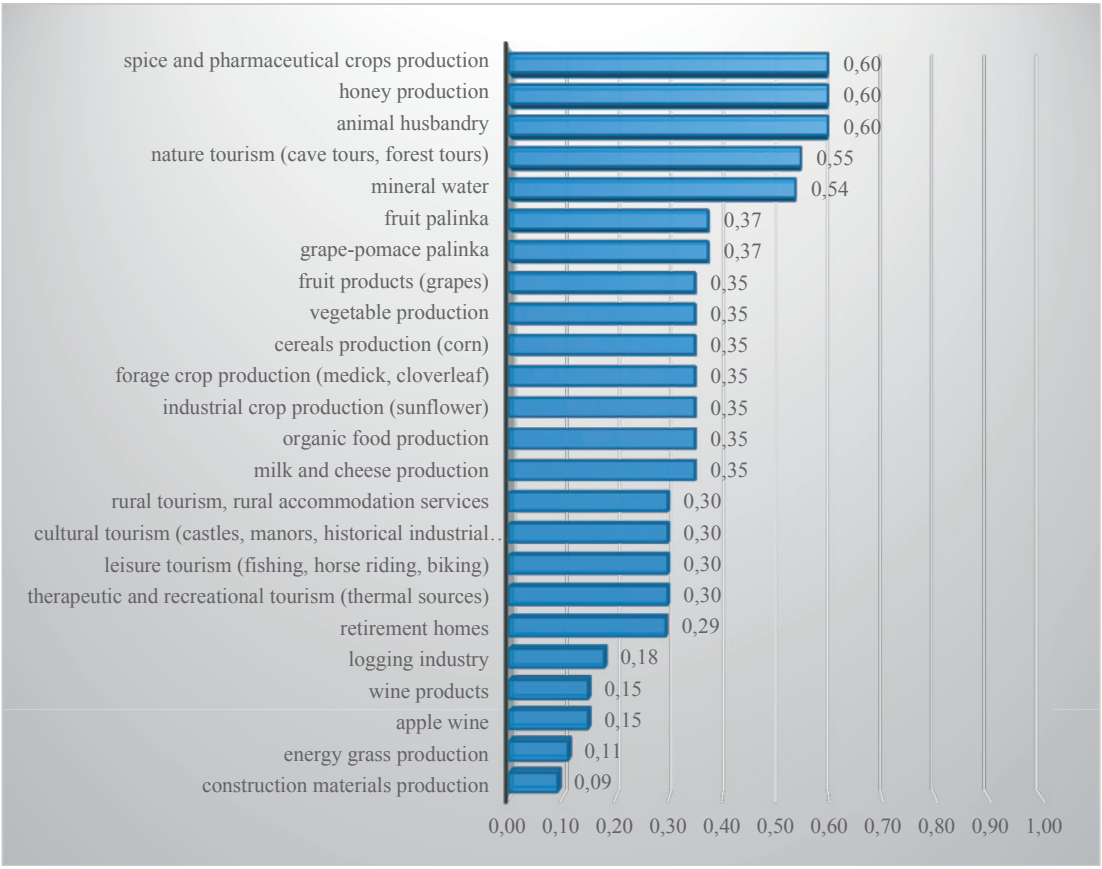
Source: own elaboration

Figure 4. Evaluation of market needs

Figure 4 shows the increase in private consumer spending resulting from the increase in the demand for accommodation provision services, food products and non-alcoholic drinks in the period mentioned earlier. The low value of alcoholic drinks, furniture and household goods results from a low demand for these products.

Consolidated SLEM Index

By averaging four sub-indices, a consolidated index value for products was obtained. The objective set in this research study has been achieved, since it has become possible to determine the economic potential of the twenty-four products available in the Cserehát region. The ranking provided in Figure 4 allows the direction of primary research studies to be determined more accurately, placing greater focus on research areas.



Source: own elaboration

Figure 5. Assessment of market needs

The SLEM index enables us to identify five products as potentially market competitive products (animal husbandry, honey, spices and pharmaceutical crops, nature tourism and mineral water) since their index values are high and amount to 0.5. Four products (logging, apple wine, wine, energy grass and construction products) which have lower index values than 0.2 can be neglected.

Conclusions, Recommendations

Since the SLEM model only offers a rough measurement method, there are several options to make it more sophisticated. A potential way to develop it is if we carry out a target study for the region examined. During this, we can explore the existing typical products, and the corporations producing them in the given geographical area. Furthermore, we can examine if there are suitable skills available on a local level, and how robust the professional and entrepreneurial embeddedness is.

To sum up, the findings obtained with the help of the created model can be improved still further if the potentially competitive products are further investigated by quantitative research methods. The first recommendation is to conduct an expert interview with the 'supply side' and sample as wide range of target audience as possible: product producers, farmers, players actively participating in trading with local products and market operators. The second recommendation is to investigate the 'demand side' by performing focus group interviews. While selecting samples for interviews from the pool of potential consumers of local products, not

only local inhabitants but also people living in other areas should be interviewed, since they may also become potential consumers in the region under investigation. While selecting samples, attention should be paid to conventional family roles in order to avoid overrepresentation of females in the sample and to attract an audience from several generations and various life cycles.

Although it could be fine tuned, even in its current form the SLEM model can be successfully applied to explore the comparative advantages of a given region even in its current form. These results can be particularly useful when a development strategy is formulated for the given region, as development priorities should be based on these relative strengths. The SLEM model provides useful information when decisions on the distribution of European Union and Hungarian development funds are made. Information on high potential products/businesses of the region is also useful for non-governmental organisations aiming to develop the region.

REFERENCES

CHV – Collection of Hungarian Values (2016). Hungarikums. Accessed on 20/09/2016. http://www.hungarikum.hu/en/szakkategoria

DEMÉNY, A & MUSINSZKI, Z. (2016). Social accounting – In the wake of the sustainability. Theory, Methodology, Practice, 12(special issue), pp. 26-40. http://dx.doi.org/10.18096/TMP.2016.02.03

G. FEKETE, É (2013). Helyi termék stratégia és védjegyrendszer (Borsod-Torna-Gömör) (Local products strategy and brand system). Irota: Észak-magyarországi Regionális Kutatásokért Alapítvány.

G. FEKETE, É. (2016). A postmodern employment model on the peripheries. Theory, Methodology, Practice, 12(special issue), pp. 41-54. http://dx.doi.org/10.18096/TMP.2016.02.04

ILLÉS, M. (2016). Enterprise Models from Terms of Sustainability. Theory, Methodology, Practice, 12(special issue), pp. 55-67. http://dx.doi.org/10.18096/TMP.2016.02.05

KRUGMAN, P. (1994). Competitiveness: A Dangerous Obsession. Foreign Affairs, 73(2), 28-44.

KSH – Hungarian Central Statistical Office (2016a). Regional statistics, http://statinfo.ksh.hu/Statinfo/themeSelector.jsp?page=2&szst=T

KSH – Hungarian Central Statistical Office (2016b). System of National Accounts statistics. http://statinfo.ksh.hu/Statinfo/themeSelector.jsp?page=2&szst=QPF

LALL, S. (2001). Competitiveness, technology and skills. Cheltenham: Edward Elgar Publishing.

LENGYEL, I. (2000). Porter-rombusz: A regionális gazdaságfejlesztési stratégiák alapmodellje (Porter rectangle: the basic model of regional economic development strategies). Tér és Társadalom, 14(4), 39-86.

LENGYEL, I. (2003). Verseny és területi fejlődés (Competition and regional development). Szeged: JATEPress.

LIARGOVAS, P. & SKANDALIS, K. (2008). Factors Affecting Firm Competitiveness: The Case of Greek Industry. University of Peloponnese, Department of Economics Working Papers, 0012.

LONGMAN ADVANCED AMERICAN DICTIONARY (2000). Essex: Pearson Education Limited.

LOSONCZ, M. (2004). Európai uniós kihívások és magyar válaszok (EU Challenges and Hungarian Responses). Budapest: Osiris.

NAGY, K. & PISKÓTI, I. (2016). Route-based tourism product development as a tool for social innovation – history-valley in the Cserehát region. Theory, Methodology, Practice, 12(special issue), pp. 75-86. http://dx.doi.org/10.18096/TMP.2016.02.07

NÉMETHNÉ, G. A. (2010). A kis- és középvállalatok versenyképessége – egy lehetséges elemzési keretrendszer (The competitiveness of small- and medium-sized enterprises – a possible analytical framework). Közgazdasági Szemle, 57(2), 181–193.

OECD (1997): Regional Competitiveness and Skills. Paris: OECD.

PORTER, E. M. (1979). How competitive forces shape strategy. Harvard Business Review, 57(2), 137-145.

PORTER, M. E. (1990). The Competitive Advantage of Nations. New York: Free Press.

PORTER, E. M. (2008). The five competitive forces that shape strategy. Harvard Business Review, 86(1), 78-93.

SZERB, L., CSAPI, V., DEUTSCH, N., HORNYÁK, M., HORVÁTH, Á., KRUZSLICZ, F., LÁNYI, B., MÁRKUS, G., RÁCZ, G., RAPPAI, G., RIDEG, A., SZŰCS, P. K. & ULBERT, J. (2014): Mennyire versenyképesek a magyar kisvállalatok? - A magyar kisvállalatok (MKKV szektor) versenyképességének egyéni-vállalati szintű mérése és komplex vizsgálata (How competitive are the Hungarian small enterprises?). Marketing és Menedzsment, 48(special issue nr. 1), 3-21.

VÁRKONYI, M. J. (2016). Challenges of establishing and operating social enterprises. Theory, Methodology, Practice, 12(special issue), pp. 68-74. http://dx.doi.org/10.18096/TMP.2016.02.06

Generating and Measuring Regional Social Innovation

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SUMMARY

Innovation is one of the determining factors of economic output. The actors of economics have long recognized that in regions where there is a lack of economic and natural science innovation, social innovation can be a compensating factor. This recent research presents a methodology for measuring social innovation potential (index) and defines a knowledge engineering system that helps to generate such innovations. This can be applicable to defining the intervention axis along which social innovation potential can be increased.

Keywords: social innovation potential, knowledge engineering
Journal of Economic Literature (JEL) codes: O35, D83
DOI: http://dx.doi.org/10.18096/TMP.2016.02.02

INTRODUCTION

The national and international scholarly community is paying growing attention to the examination of the conditions and effects of innovation, as is shown by the yearly increase in the number of publications. The reason for the interest is clear: innovation has a key role among the determining factors of economic performance (output) and competitiveness (Ewers-Brenck 1992, EC 2001, EC 2002, EC 2005). Empirical analyses have shown that there is a significant correlation between a given settlement's or region's economic and innovation potential; the more innovative territories have higher performance than the regions lacking in innovation. It is also true inversely: the locations with relatively higher operating costs can only be competitive if they can produce products and services with high value added (Camagni 1995, Clar et al. 2001).

It is not by chance that in the last two decades the European Union has changed its innovation policy (mainly because of the decline in its world economic competitiveness). As a result of this, as well as new aims, new tools and methods have also appeared which will help to foster the "European innovation climate" (EC 2010). A critical objective of the territorial (subnational) level is to create a regional research and technology policy that conforms to the local capabilities and that has a close connection to the decentralization efforts of the European Union. So a need has been identified for the transmission and spatial visualization of the central concepts in generating spatial innovation processes.

It is well known that the neoclassical (and related) theories consider market interventions to be harmful and undesirable. In contrast, Keynes and his followers (post-Keynesians) have contested the regulating power of "the invisible hand" from the beginning, and emphasised the need for interventions. The question of whether intervention is reasonable is constantly recurring in the practices of the European Union. The economic policy of the EU are partly neoliberal (for example, in trade policy, competition policy, etc.) and partly Keynesian (for example, in agricultural policy, cohesion policy, R&D&I policy, etc.). This is a special Janus-faced dichotomy. There are many arguments for each side. On the one hand we fear for the competitiveness of the EU, and on the

other hand (because of the increasing social inequalities) we worry about the increasing social tension.

Recognising the danger of larger social gaps, the EU considers the issue of social cohesion as a common policy. The main goals are to maintain social peace and avoid exclusion (EC, 1992; EC, 1993). The results are not rather ambiguous; hence, in spite of creating the European Cohesion Fund and European Social Fund, poverty and lack of social inclusion remain an everyday problem (EP, 2006). Moreover, because of the new member states of the EU, the spatial inequalities have increased (Table 1).

Table 1
Share of regions with GDP per capita above the EU average and below the 75% threshold

year	number of NUTS2 regions	number of regions with GDP/capita above the EU average	number of regions with GDP/capita below the 75% limit
1999 (EU15)	214	128 (60 %)	22 (10 %)
2005 (EU27)	271	129 (47 %)	69 (25 %)

Source: Eurostat

There is a similar tendency also in Hungary. While in the core regions the R&D expenditure is higher than the average, the catch up process of the peripheral areas is supported by R&D expenditure only to a lesser extent.

Thus, there is a correlation between the economic output and the innovation potential of a given region. But also the concept of innovation (the search for new and recent solutions) has to be interpreted more broadly than before. The European Union, in concordance with social changes, is paying greater attention to the context of social innovation. This can be underlined by the fact that in the last two decades several related research institutes (for example the Netherlands Centre for Social Innovation, Rotterdam; Zentrum für Soziale Innovation, Vienna; Centre for Social Innovation, Malmö University, etc.) and projects (for example TEPSIE – The Theoretical, Empirical and Policy Foundations for Building Social Innovation in Europe; INNOV-Care-Innovative Patient-Centred Approach for Social Care Provision to Complex Conditions; Soziale Innovation in Deutschland, etc.) have been established or funded.

AIM AND METHODOLOGY OF THE RESEARCH

The European Union has redefined its traditional research and technology policy (Autio 1998, Braczyk et al. 1998, Cook – di Marchi 2002). As a result of this, the target system was modified and structural changes were made in the methodology of planning and monitoring and also in the institutional structure of the innovation policy. The conditions for getting resources were broadened. In the last two decades the definition of innovation has become more complex. Nowadays innovation is a broader notion than earlier: it is the complex process of recognizing novelty, and novel products and launching them on the market (EC 1995, Egger 2014).

The science policy aims of European integration were actually defined by the Lisbon summit in March 2000 and then modified in 2005. The aim is no less than making the Union "the most competitive and dynamic knowledge-based economy in the world," a process which creates more and better workplaces, and strengthens the social cohesion of the member states. This aim cannot reached without the so-called "knowledge triangle" (education, research and innovation).

The Lisbon strategy's pretentious objectives were not reached. It was clear already in 2004 that the actions of the Lisbon strategy (although it had produced results) had low efficiency (most of the aims were not fulfilled, and it was impossible to reach the goals for 2010). The Lisbon strategy was one-sided: almost the whole concentrated on the conditions for and tools of industrial and economic development. The practical issues of economic development (that the economy should move towards knowledge-based sectors, which produce more added value) did not get appropriate emphasis. The Lisbon program ignored the eastern expansion of the EU (in 2004 and 2007 new member states joined the EU, including some with weak innovation situations, for example Romania and Bulgaria). Although "more and better jobs and greater social cohesion" were among the objectives, social innovation was not included in the tools for implementation. The strategy paid attention only to the technical and economic components of innovation. To reach stable social results it is not enough to concentrate only on these factors (for example environmental policy or sustainable development), because without the social adoption of the new solutions (for example the negative effects of "shock therapy" in our region) it is not possible to achieve harmonious development.

In the EU the social problems are expected to continue recurring because of both inner factors (increasing income inequalities, aging, etc.) and external reasons (for example, migration waves). The problems can scarcely be solved with one-time fiscal interventions and occasional projects.

Economic and scientific innovations are clustered spatially and also by sector, as is proven by international statistics (Pfirrmann 1991, Benko 1998). Factors such as qualifications and the characteristics of educational and cultural institutions play an important role in this clustering. This results in the core regions being in a more beneficial situation, while it is more difficult for the peripheral territories to catch up. Because of this, there is a need for a paradigm shift. Besides R&D activity in engineering and the natural sciences, which requires ever more expenditure, there is a need for new and up-to-date solutions that are adequate to handle the social and

economic problems of small communities (settlements, territories). In the disadvantaged (peripheral) communities job creation and social integration are complex tasks, which are scarcely feasible without the active cooperation of the stakeholders.

The aims of our research are to set up a methodology that can measure social innovation potential, and to define the operating conditions and frames of a decision supporting system that can help to generate social innovations. This can contribute to solving the problems and increase the stakeholders' well-being (Figure 1).

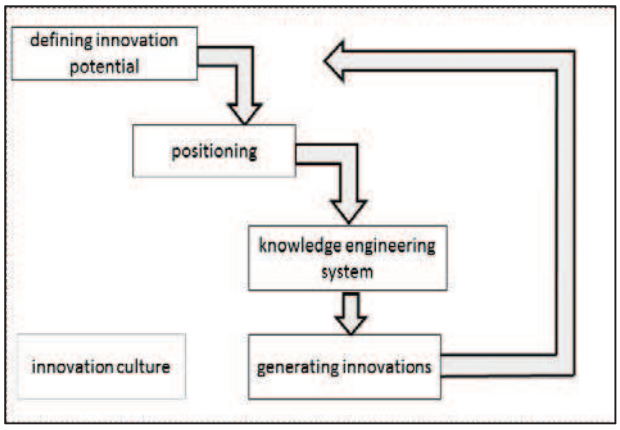

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Figure 1. Aim of the research

NOTION OF SOCIAL INNOVATION

We stand now at the beginning of a trend shift, which has two main causes. First, there has been a focus shift as an effect of the transition from an industrial society to a knowledge and service orientated society. Second, it is a natural need of the peripheral settlements and communities to catch up to the rest of society, and local ideas and recent initiatives can significantly contribute to this process.

About two decades ago a new notion appeared in the literature: social innovation (Howaldt & Schwarz, 2010). The explanation for this that there is ever more need for the expansion of innovative areas in addition to the former areas of engineering, natural science and economic based innovations.

Social innovation has no uniformly accepted definition because of its recent character. Some authors emphasize the community's well-being, others the new and recent solutions for social problems. These can be summarized by the following quotations.

"The combination or modification of available immaterial (cultural) elements to create new products" (Ogburn 1957, p. 168).

"Recent solutions to solve human problems" (Whyte 1982, p. 2).

"Sum of new and recent solutions which support the objectives and help to handle the problems better and which are due to the change-supporting new organizational forms, new regulations and new life styles" (Zapf 1989, p. 177).

"Social innovation is an initiative coming from a given community whose aim is to transform their own situation" (Gillwald 2000, p. 1).

"The social innovations are sum of activities, which help to improve the social connections and governmental structures, and help the collective participation" (Moulaert et al. 2013, p.3).

"The social innovations are such ideas (products, services and models) which fulfil social needs (in a more effective way than other methods) and parallel create new social relationships or cooperation" (EC, 2014. p. 4.).

In our interpretation (considering also the above mentioned definitions) social innovation gives a new or recent answer to a given community's problems with the aim to improve the well-being of the community. Social innovation potential is the sum of potential abilities which help in the creation of social innovations.

However, it would be an error to restrict the range of social problems to living or existential problems. Problems can appear in different forms depending on space, time, and income relations, etc. (Table 2).

Table 2
Potential problems arising from needs

hierarchy of needs	potential problems
physiological needs	➢ environmental contamination (water, air, etc.) ➢ malnutrition, etc.
security needs	➢ risks to property ➢ addiction (drug, alcohol, etc.) ➢ workplace, meeting basic needs ➢ risk to human life, etc.
love/ belonging	➢ loneliness ➢ exclusion, etc.
self-esteem, self-actualization	➢ lack of vitality, creativity ➢ lack of trustworthiness, etc.

Source: own compilation

The significance of social innovation is becoming stronger in the life of communities, though engineering, natural science and economic based innovation is also necessary. The two types collectively enable the wealth and well-being of a given community (Figure 2).

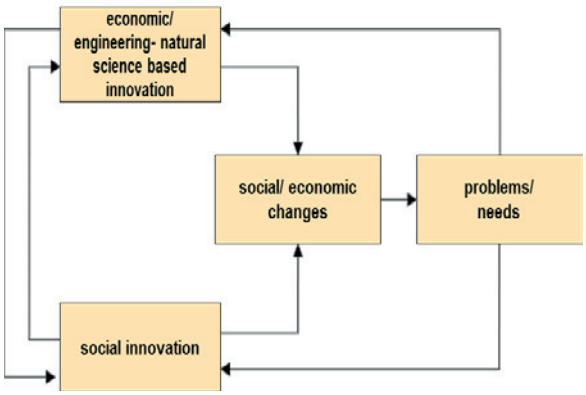

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Figure 2. Embeddedness of social innovation

Social innovation and economic innovation are strongly connected. Economic innovation (in Schumpeter's words) provides the "creator destruction", but the change is not automatic. It has to go together with a change in social relations (Ogburg 1964, p. 23). The effects of social innovation can contribute primarily to improvement in the quality of life for people living in peripheral settlements/territories and for disadvantaged social groups. But social innovation alone is presumably not enough to progress from a relatively underdeveloped club to a more developed one. The strong connection between social and natural science innovation can be indicated with the following typological similarity (Figure 3).

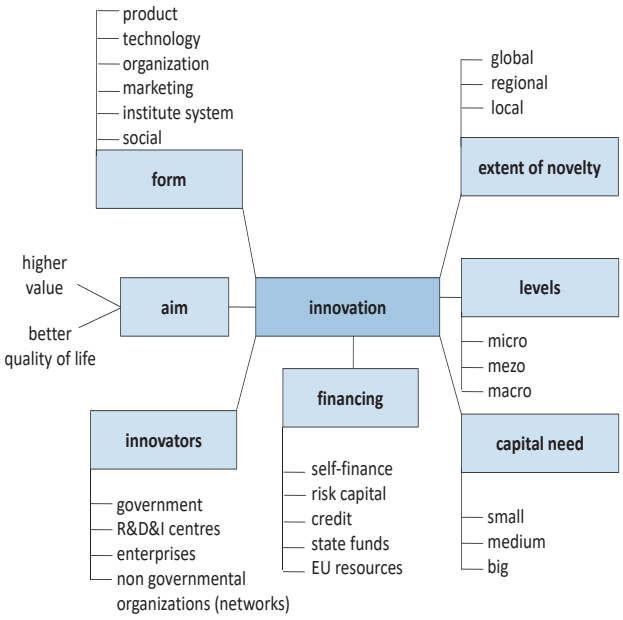

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Figure 3. Typology of innovation

Aim of social innovation

Significant differences between the social and economic innovation can be found primarily in the aims and capital needs of innovation. The aim of social innovation is to secure a better quality of life, which can be reached by increasing employment rates and by improving security and environmental conditions.

Social innovators

Social innovation affects every stakeholder of the society (households, NGOs, the business sector, local and state government). In this aspect it has more participants than "traditional" (natural science) innovation.

Levels of social innovation

Social innovation can be defined also at micro (enterprises), mezzo (settlement, micro region, county) and macro (national) levels.

Financing of social innovation

There are basically three different resources (self-financing, state funds and EU resources) to finance social innovations. In its Europe 2020 strategy (which is the continuation of the Lisbon strategy), the EU secures financial resources for improving social innovation capabilities. The basic objective of the program is the implementation of the Lisbon strategic aims: improving the member states' R&D activity and reaching a 3% R&D expenditure in the share of GDP by 2020. The Horizon 2020 investment package also supports this objective, which emphasizes social innovation more than earlier. (This is due to the recognition that global competition only depends on the competitiveness of products and technologies.)

The budget of Horizon 2020 supports six fields:

- handling social challenges,
- supporting the European Institute of Innovation and Technology,
- social science research,
- operation of the Euratom program,
- programs which help to improve the EU's competitiveness and help to create jobs,
- developing strategic sectors.

MEASURING SOCIAL INNOVATION

There are three main questions when measuring social innovation (the need for this is not new, appearing first in the beginning of the 1960s; see the Frascati Manual, 1963, OECD 1994, Inzelt 1996):

- Which factors generate (indicate) new and recent solutions?
- How can the indicators be measured?
- What effects do the input indicators have on the economy's output?

As a result of research measurement methodology of economic innovations and of the natural science R&D outputs was created (Müller et al. 1996, EC 1996). Compared to this, the literature concerning social

innovation measurement is more modest. In our research we attempt to cover it in the following steps (Figure 4):

- definition of the input and output indicators related to social innovation, and defining the direct and indirect relations existing among them;
- examining the measurability of the indicators,
- calculating the given settlement's or territory's social innovation potential, and examining the results' comparability in space and time. This is in connection with the macro-social and micro level (enterprises or institutes) innovation, so we also apply the aspect of co-evolution in our examination (Child et al. 1987; Lewin et al. 1999).

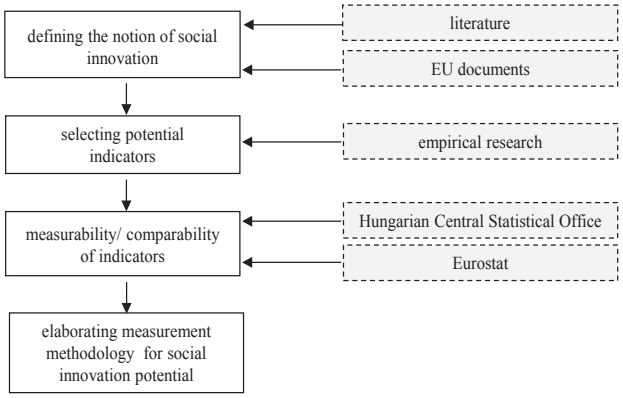

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Figure 4. Measurement of social innovation

INDICATORS OF SOCIAL INNOVATION, CONNECTION AMONG THE INDICATORS

The first stage of the research was to search for an answer to the question "what should be measured?". The task is complex, first, because this question has appeared only indirectly in the literature (Evangelista et al. 2000, FOREN 2001), and second, because there is a need for selection due to the number and measurability of the existing indicators.

Generally the connection between the input (xi) and output (yi) indicators can be described as follows:

$$y_i = \propto w_i + u \qquad w_i = \beta x_i + \varepsilon$$

where xi is the input indicator, wi the innovation potential, yi output indicators, α and β are constants, and u, ε are residuals. Thus the social innovation capability is the force which can transform the input indicators into output indicators (Bund et al. 2013).

Input Indicators

The possible input indicators are in connection with the institutional system, location factors, human conditions, and the activity of the community or examined settlement (Table 3).

Table 3
Input indicators

No.	factors	indicators	source
1.	institutional system (I)	➢ number of NGOs (I2) ➢ number of cooperating partners (I1)	Hungarian Central Statistical Office (HCSO) local government
2.	location factors (T)	➢ density of social enterprises (T1) ➢ number of non-profit enterprises (T2)	HCSO HCSO
3.	human conditions (H)	➢ age structure (H1) ➢ activity rate (H2) ➢ educational qualifications (H3)	HCSO Labour Office HCSO
4.	activity (A)	➢ grant application activity (A1) ➢ social activity (A2)	TEIR local government

Source: own compilation

a. Institutional system
   National and international experience has proven that there is a strong correlation between the number of the institutions (local governmental, charity, and market based organizations) and the social innovation strategy, and social situation (social catering, elderly day care, domestic help) (Whyte 1989; Gillwald 2000).
b. Location factors
   The density of enterprises, the employment ability, the R&D concentration (for example, the sum of R&D expenditures, employment in R&D, and number of patent applications) affect the economic and social situation (Kocziszky 2004).
c. Human conditions
   The age structure, the activity rate and educational qualifications have a significant effect on the economic, cultural, social and health situation.
d. Activity
   There is a correlation between a given territory's grant application activity and its absorption capacity (Kocziszky 2004; Howaldt & Schwarz 2010).

Output Indicators

We have identified in our model four groups of output indicators (economic, cultural, social and health) (Table 4).

Table 4
Possible output indicators

No.	factors	indicators	source
1.	economic (G)	➢ G_1: number of grants won (annual) ➢ G_2: amount of funds drawn upon (Ft/year) ➢ G_3: number of local products ➢ G_4: number of social cooperatives ➢ G_5: number of public employees	TEIR primary research local government enterprise register local government
2.	cultural (K)	➢ K_1: number of traditional events ➢ K_2: number of traditional organizations	local government local government
3.	social (Sz)	➢ Sz_1: number of segregated areas ➢ Sz_2: number of people living in segregated areas ➢ Sz_3: number of people receiving social benefits ➢ Sz_4: unemployment rate	TEIR TEIR local government HCSO
4.	health (E)	➢ E_1: number of people suffering from chronic diseases ➢ E_2: number of people with addictions	HCSO HCSO

Source: own compilation

Table 5
Potential logical connections between the input and output indicators

Output / Input	G_1	G_2	G_3	G_4	G_5	K_1	K_2	Sz_1	Sz_2	Sz_3	Sz_4	E_1	E_2
I_1	X	X	X	X	X	X	X					X	X
I_2	X	X	X	X	X	X	X	X	X		X		
T_1	X	X	X	X	X	X	X	X	X	X	X	X	X
T_2	X	X	X	X	X	X	X	X	X		X		
H_1										X	X	X	X
H_2								X	X	X	X	X	X
H_3	X	X	X	X	X	X	X	X	X				
A_1	X	X	X		X	X	X	X	X				
A_2					X			X	X	X	X	X	X

Source: own compilation

The strength of the correlation between the input and output indicators depends on the settlement (Table 5).

Impact Indicators

Higher innovation potential improves the living conditions of a given settlement's inhabitants, and thus their well-being, but this is not equivalent with what we call welfare. While welfare pays attention only to income, well-being takes other factors into account beside material needs (Figure 5): these include

- human conditions,
- physical and emotional security,
- self-esteem, competence level of the individuals,
- relational needs, family relationship (belonging to a community),
- social infrastructure, and
- environmental conditions.

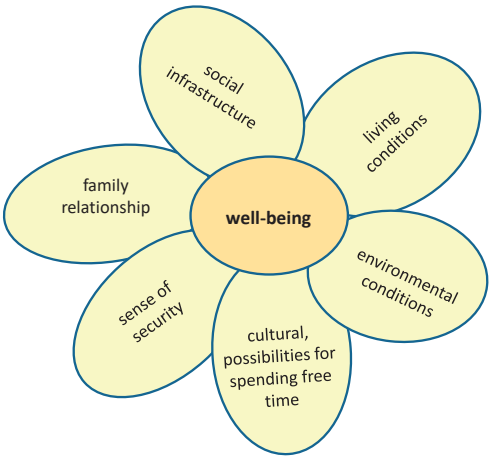

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Figure 5. Sunflower of material and non-material resources

The monitoring of change in well-being is justified, because material welfare and satisfaction are not synonyms.

The impact appears in at least six fields (Table 6).

Table 6
Impact indicators

No.	factors	indicators	source
1.	social conditions	➢ income ➢ life expectancy at birth ➢ educational attainment	HCSO HCSO HCSO
2.	family relationship	➢ share of single-person households ➢ share of big families	HCSO HCSO
3.	sense of security	➢ number of registered crimes ➢ detection rate	Hungarian Police Headquarters Hungarian Police Headquarters
4.	social infrastructure	➢ social infrastructure	local government
5.	living conditions	➢ poverty index	HCSO
6.	environmental conditions	➢ ecological footprint	HCSO

Source: own compilation

CALCULATION OF THE INDEX

The measurement of innovation and innovation potential and the calculation of the innovation index had a central role in our research. This does not mean, however, that we apply only quantitative methods. Qualitative methods are also used, for example interviews with the relevant stakeholders of the micro-regions (for example, the mayors of settlements or cities, representatives of NGOs, employees of chambers of commerce). As well as in data collection, we use several aspects in parallel in data processing (in addition to the factor and cluster analysis, also the interpretation of the phenomena). We purposely use triangulation in the selection of aspects and methods (Balaton 2007).

The social innovation potential can be a new or recent answer to a given settlement's or area's problems. It is presumable that in the case of higher potential well-being effects will increase with the decrease in the severity of problems. The potential can be calculated for a particular settlement, but it is practical to create rankings or clusters of the settlements.

a) Preliminary explorative factor analysis. Its aim is to create a smaller number of independent factors from the highly correlating data.
b) Defining the distance between the elements. (To use the notion of Mahalanobis distance the database has to fulfil some preconditions, which is often not true for databases applied for cluster analysis.)
c) Excluding variables which are in high correlation with each other. If there is a high correlation (above 0.9) between two indicators, it is reasonable to decide to exclude them from the initial database. The content of a variable that has a high correlation with another variable will be redundant. The exclusion of highly correlating variables is a good solution to avoid distortional effects.
d) Defining the number of clusters.

SOCIAL INNOVATION POTENTIAL OF HUNGARY

We carried out a social innovation potential analysis for the 19 NUTS3 counties of Hungary for the time period of 2007 to 2013. Our database was based on the data of the Hungarian Central Statistical Office and the TEIR database (Figure 6).

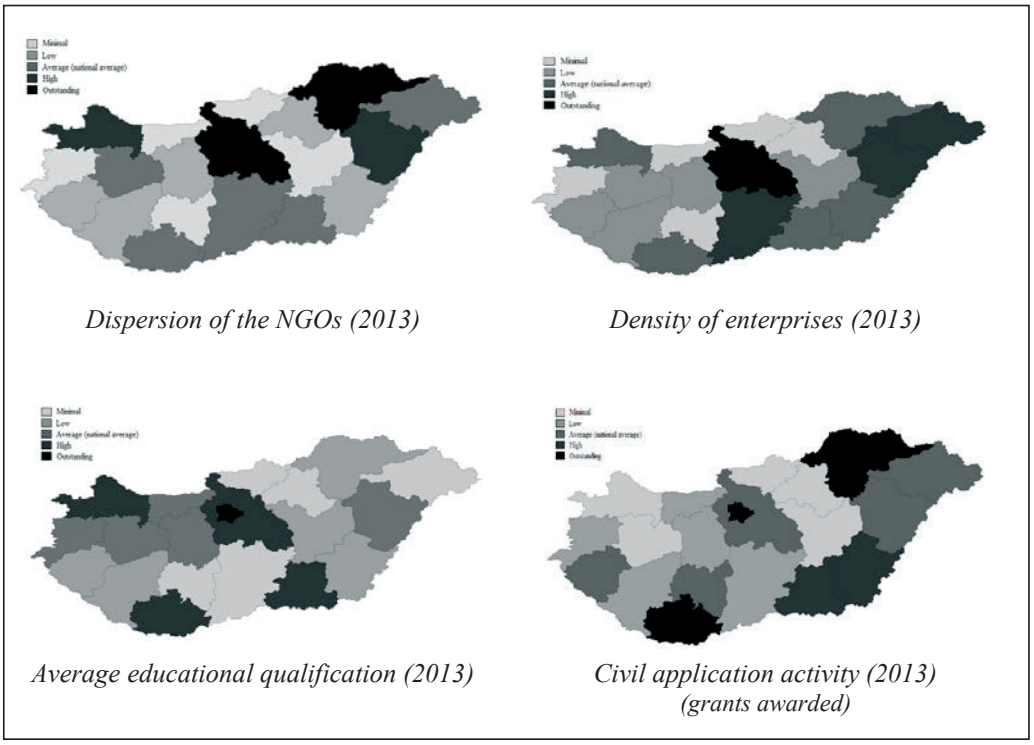

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Figure 6. Input indicators

Table 7
Correlation between the input and output indicators (2013)

Input \ Output	G_1	G_2	G_3	G_4	G_5	K_1	K_2	Sz_1	Sz_2	Sz_3	Sz_4	E_1	E_2
I_1	0.997	0.990	-	0.958	0.847	0.67	0.71	-	-	-	-	0.963	0.915
I_2	0.67	0.71	0.73	0.81	0.67	0.72	0.76	0.49	0.79	0.81	-	-	-
T_1	0.989	0.982	-	0.954	0.843	-	-	-	-	-	*0.38*	0.957	0.896
T_2	0.997	0.991	-	0.958	0.843	-	-	-	-	-	*0.2*	0.963	0.913
H_1	*-0.26*	*-0.30*	-	*-0.02*	-0.15	-	-	-	-	-	0.36	*-0.06*	*0.749*
H_2	*0.287*	*0.270*	-	*0.079*	0.147	-	-	-	-	-	0.14	*0.168*	*0.78*
H_3	0.653	0.621	-	0.243	0.213	-	-	-	-	-	0.46	0.468	*0.53*
A_1	0.89	0.91	0.61	0.59	0.91	-	-	-	-	-	-	-	-

Source: own compilation

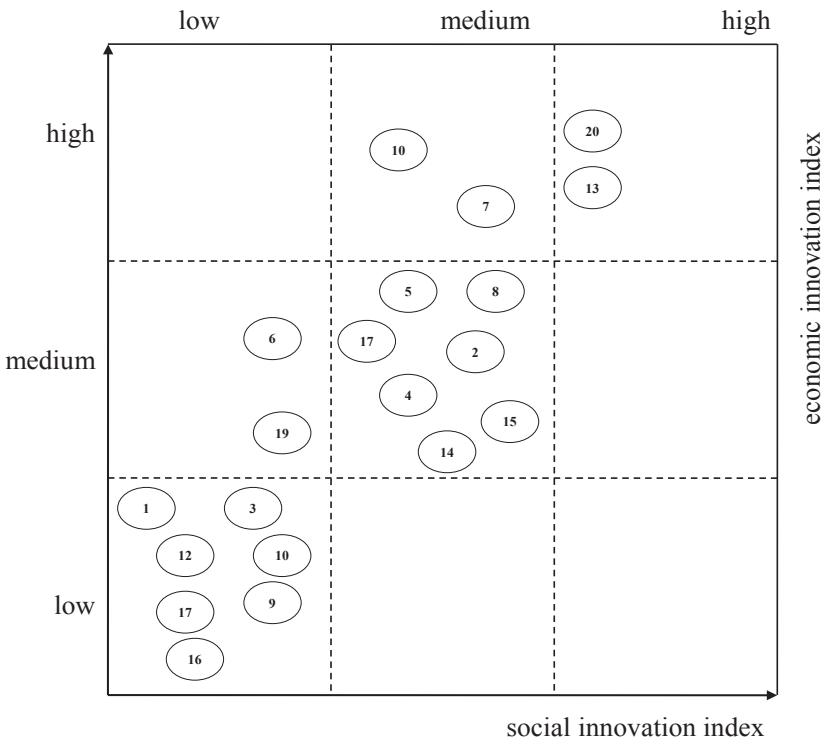
The correlation of the examined input indicators is strong (Table 7).

G1, G2, G3, G4, G5, K1, K2, Sz1, Sz2, Sz3, Sz4, E1, E2, I1, I2, T1, T2: data from 2013 (Hungarian Central Statistical Office: Dissemination database, TEIR, National Employment Service, and Széchenyi2020 data)
H1, H2, H3: Census data 2011.

H1 age structure: share of elderly people in the population indicator
H3 educational qualifications: share of people above 25 years of age with higher education degree.

Results

In terms of their social and economic innovation potential, the Hungarian NUTS3 territories can be grouped into four clusters (Figure 7).



Legend:

1. Baranya
2. Bács-Kiskun
3. Békés
4. Borsod-Abaúj-Zemplén
5. Csongrád
6. Fejér
7. Győr-Moson-Sopron
8. Hajdú-Bihar
9. Heves
10. Jász-Nagykun-Szolnok
11. Komárom-Esztergom
12. Nógrád
13. Pest
14. Somogy
15. Szabolcs-Szatmár-Bereg
16. Tolna
17. Vas
18. Veszprém
19. Zala
20. Budapest

Source: own compilation

Figure 7. Hungarian NUTS3 level economic and social innovation potential

Clusters show that there is weak social innovation in the territories with low economic innovation.

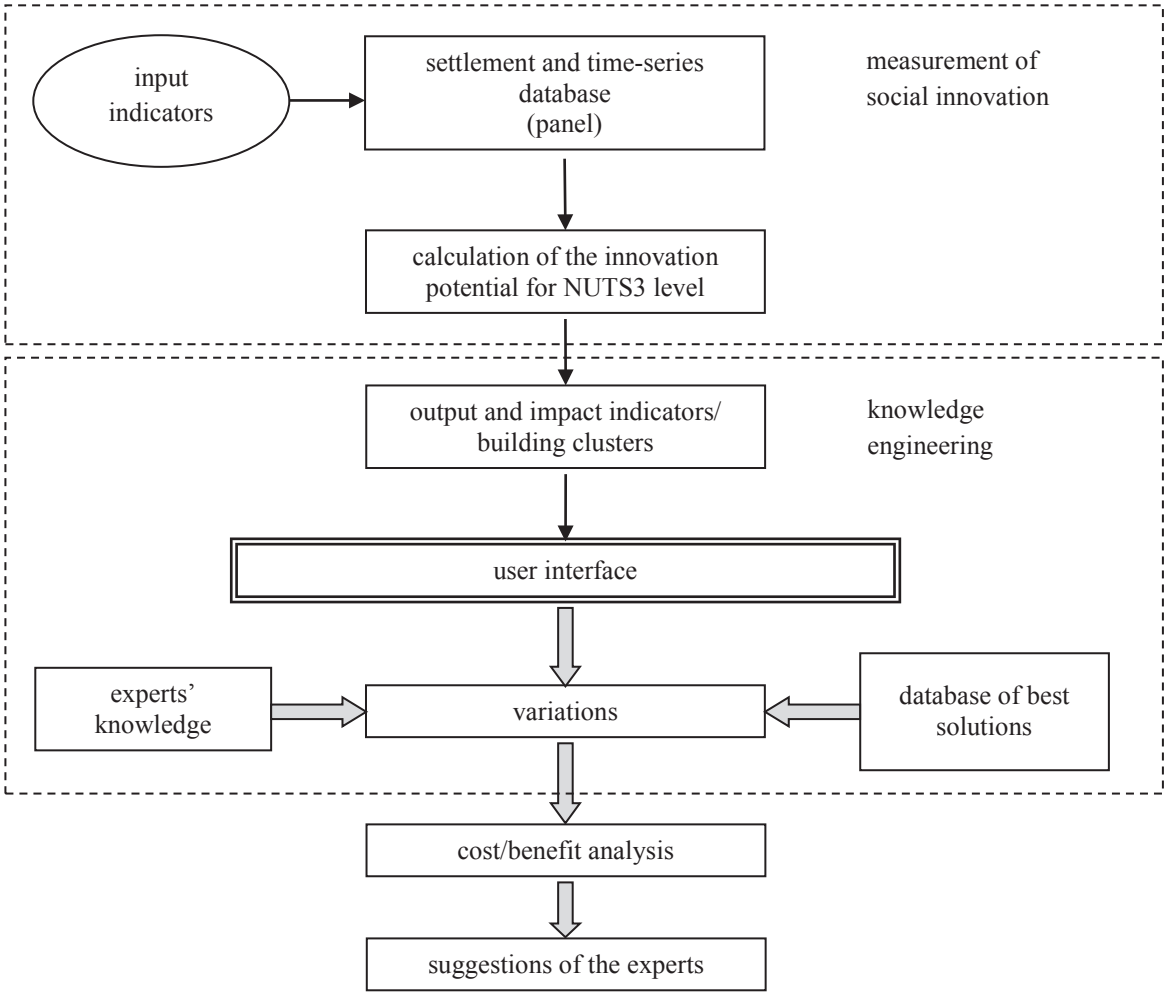
NOTION, STRUCTURE AND TYPOLOGY OF KNOWLEDGE ENGINEERING

According to the literature, knowledge engineering is a kind of program which is appropriate because of its analytical ability to determine (and weight) problems, and it suggests a possible solution from the previously fixed variations. This system supports the recovery of the "best solution" with the use of a "knowledge bank" during theproblem solving process. It is a useful helper in decision preparation.

The research concerning (or establishing) the structure and operation of knowledge engineering (Expert System, Expertensystem) started in the mid-1950s (analysing artificial intelligence) (Puppe 1991). Significant changes in the research took place in the 1970s, when many researchers took interest in the elaboration of the knowledge-based system.

The suggested knowledge-engineering system has two main parts (Figure 8):

a. a user interface that makes it possible to query, group and compare data (for example, based on settlement, year, etc.), and to define and visualize the calculation results and changes;
b. evaluation by peer review.



Source: own compilation

Figure 8. Structure of social innovation knowledge engineering

The experts provide consultation as partners with the system. They can make their suggestions concerning the improvement of social innovation based on their knowledge, preparedness, and knowledge of the literature (database of best solutions).

CONCLUSIONS

In recent years there has been a paradigm shift in innovation research. The characteristics of the forming new innovation paradigm are the following:

- The significance of the social innovation is no smaller than that of economic and natural science innovation.
- Economic and natural science innovations reinforce some social problems, which can be answered only with the help of social innovation.
- Because of this, there is a need for a strong symbiosis between social and engineering/natural sciences innovations.
- The generation and management of social innovation are expensive, as is the case for other types of innovation.
- There is a need for (yearly) monitoring of resource usage.

It is no accident that the European Union has built the support of social innovation into the objectives of the 2014-2020 programming period. Nowadays the representatives of local and territorial economic policy pay less attention to social innovation than would be ideal; they consider it as a "have to do" task, and they examine only the available EU funds which concern this topic. However, social innovation represents the surplus existing in the community, which can contribute to the self-solving of a settlement's problems. The measurement and monitoring of social innovation can help to increase this kind of activity, and can contribute to defining directions for the desired interventions.

REFERENCES

AUTIO, E. (1998): Evaluation of RTD in Regional Systems of Innovation. European Planning Studies, 6(2) pp. 131-140. http://dx.doi.org/10.1080/09654319808720451

BALATON, K. (2007): Organizational Strategies and Structures Following the System Turnaround. Akadémiai Kiadó, Budapest.

BENKO, G. (1998): The Impact of Technopoles on Regional Development. A Critical Review. Draft Paper, International Conference on “”Building Competitive Regional Economies: Up-grading Knowledge and Diffusing Technology to Local Firms”, Modena, Italy.

BRACZYK, H-J., COOKE P., & HEIDENREICH, M. (eds.). (1998): Regional Innovation Systems. The Role of Governances in a Globalized World. UCL Press. London.

BUND, E., HUBRICH, D., SCHMITZ, B., MILDENBERGER, G. & KRLER, G. (2013): Report on Innovation Metrics. Capturing Theoretical, Conceptual and Operational Insights for the Measurement of Social Innovation. University of Heidelberg, Centre for Social Investment.

CAMAGNI, R. P. (1995): The concept of innovative milieu and its relevance for public policies in European lagging regions. Papers in Regional Science: The Journal of the RSAI, 74, 4: 317-340. http://dx.doi.org/10.1111/j.1435-5597.1995.tb00644.x

CHILD, J., GANTER, H.-D. and KIESER, A. (1987). Technological Innovation and Organizational Conservatism. In: J. M. Pennings and A. Buitendam (eds.), New Technology as Organizational Innovation. Cambridge, MA: Ballinger.

CLAR G., CORKAPIS D., LANDABASO M. (2001): Mobilizing Regional Foresight Actors to Strengthen the Strategic Basis of the European Research Area, IPTS Report, No. 59, pp. 38-45.

COOK P. & DI MARCHI B. (2002): Generative Growth, Knowledge Economies und Sustainable Development: Implications for Regional Foresight Policy, EC STRATA ETAN Working Group Papers.

EC (1992): Towards a Europe of solidarity: Intensifying the struggle against social exclusion, furthering social integration. COM (92) 542

EC (1993): The Future of European Social Policy: Options for the Union. A Green Paper. COM (93) 551.

EC (1995): Green Paper on Innovation. European Commission, Brussels.

EC (1996): Assessment of the Regional Innovation Support Infrastructure. Methodology in Design, Construction and Operation of Regional Technology Frameworks. Volume I. EIMS Publication No. 19, DG XIII. Brussels.

EC (2001): Commission Staff Working Paper. 2001 Innovation Scoreboard (SEC-2001-1414) Brussels, 14/09/2001

EC (2002): EU’s innovation performance still needs improvement, but there are encouraging signs for the future. Brussels, 16 December

EC (2005): Communication from the Commission on the Social Agenda. COM (2005) 33.

EC (2006): Innovative strategies and actions. Results from 15 Years of Regional Experimentation. European Commission Working Document, Brussels.

EC (2010): Europe 2020 is the EU's growth strategy for the coming decade, 03/03/2010 Brussels

EC (2012): Strengthening social innovation in Europe, Journey to effective assessment and metrics.

EGGER, W. HRSG. (2014): Gabler Wirtschaftslexikon. Springer Gabler Verlag, Berlin.

EP (2006): COUNCIL REGULATION (EC) No 1084/2006 of 11 July 2006 establishing a Cohesion Fund and repealing Regulation (EC) No 1164/94.

EVANGELISTA R., JAMMARINO S., MASTROFESTANO V., SILVANI A. (2000): The Regionalisation of Data on technological Innovation: Lessons from the Innovation Survey. (European Commission) http://pascal.iseg.utl.pt

EWERS, H. J. & BRENCK, A. (1992): Innovationsorientierte Regionalpolitik. Zwischenfazit eine Forschungsprogramms. In: Birgh, H., Schalk, H.J., (Herausgeber.), Regionale und sektorale Strukturpolitik, Münster, pp. 309-341.

FOREN (2001): A Practical Guide to Regional Foresight, Foresight for Regional Development Network, Brussels: European Commission, Research Directorate General, Strata Programme.

FRASCATI MANUAL (1963): OECD, Párizs. Frascati kézikönyv. OMFB. Bp. 1996

GILLWALD, K. (2000): Konzepte Sociale Innovation. WZB, Berlin.

HOWALDT, J., SCHWARZ M. (2010): Soziale Innovation im Fokus. Skizze eines gesellschafts-theoretisch inspirierten Forschungskonzepts. Transcript Verlag, Bielefeld.

INZELT, A. (ed). (1996): A kutatás és kísérleti fejlesztés mérésére szolgáló főbb meghatározások és konvenciók. A ”Frascati Kézikönyv“ összefoglalója. OMFB, Bp.

KOCZISZKY, G. (2004): Az Észak-magyarországi régió innovációs potenciáljának vizsgálata. Észak-magyarországi Stratégiai Füzetek. No..1. pp. 5-39

LEWIN, A.Y, LONG, C.P. and CARROL, T.N. (1999): The Coevolution of New Organizational Forms. Organization Science, vol. 10. no. 5. pp. 535-550. http://dx.doi.org/10.1287/orsc.10.5.535

MOULAERT, F., MACCALLUM, D., MEHMOOD, A. & HAMDOUCH A. (eds.) (2013): The International Handbook on Social Innovation: Collective Action, Social Learning and Transdisciplinary Research. Cheltenham, Northmapton.

MULLER, E., GUNDRUM, U., KOSCHATZKY, K. (1996): Analysis of SME Needs Methodology in Design. Construction and Operation of Regional Technology Frameworks. Volume I. EIMS Publication No. 18, EC DG XIII.

OECD (1994) Frascati Manual: Proposed Standard Practice for Surveys of Research and Experimental Development, Organisation for Economic Co-operation and Development, Paris.

OGBURN, W. F. (1957): Cultural lag as theory. Sociology and Social Research, 41. pp. 167-174.

OGBURN, W. F. (1964): On Culture and Social Change. University of Chicago Press.

PFIRRMANN, O. (1991): Innovation und regionalie Entwicklung. Eine empirische Analyse der Forschungs-, Entwicklungs- und Innovationstätigkeit Kleiner und mittlerer Unternehmen in der Regionen der Bundesrepublik Deutschland 1978-1984. München.

PUPPE, F. (1991): Einführung in Expertensysteme. Springer Verlag, Berlin.

WHYTE, W. (1982): Social inventions for Solving Human Problems. American Sociological Review, 47 (1). pp.1-13. http://dx.doi.org/10.2307/2095038

ZAPF, W. (1989): Über soziale Innovationen. Soziale Welt, 40 H. 1-2 pp. 170-183

Social Accounting - In the Wake of the Sustainability

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SUMMARY

Not only the strenghthening of global competition and the acceleration of technological evolution, but also the social and governmental claims for sustainability draw up new challanges and expectations against the decision support and accounting, too. Whether would the decision support and accounting be able to perform these challanges and expectations nowadays? The aim of the authors is to present some segments of these changes to the reader by this study.
Keywords: social accounting, cost system, sustainability, non-financial indicator, GRI
Journal of Economic Literature (JEL) codes: M49, Q56
DOI: http://dx.doi.org/10.18096/TMP.2016.02.03

INTRODUCTION

It can be proved by the multitude of historical examples, that the economic, technical and IT changes incline, incite the decision support and also the accounting for continuous reformation. The aim of the authors is to present the two segegments of these changes to the reader by this study. In the first chapter of it an insight can be got into the world of the financial indicators. The phylogeny of the indicators can become known from the classical financial indicators to the Balance Scorecard. The second chapter represents the chronological and functional development of the cost systems. From the early cost- accounting systems to the lifecycle costing, from the financial statement oriented systems to the integrated decision support systems.

In the field of decision support and accounting there are many factors to be adapted to: in addition to increasing global competition and the ever more rapid evolution of technology, a relatively new factor is social and governmental demand for sustainability. How can decision support and accounting face these challenges and expectations? Whether would the To this question, authors hope, the third chapter can give an answer.

This special issue includes papers presenting research carried out on similar issues: sustainable enterprise models (Illés 2016); establishing and operating social enterprises (Várkonyi 2016); the SLEM model created to measure the market potential of local goods supplied by the entrepreneurs of the Cserehát region (Bartha & Molnár 2016); the place of public work in the employment model of the Cserehát region (G. Fekete 2016); and route-based tourism product development (Nagy & Piskóti 2016).

Trends 1 – The Rise and Fall of the Financial Indicators

Thanks to the advanced IT systems the undertakings, decision makers can meet with the mass of informations and data sets. The compression of informations, the determination of the indicators that have content can support the work of the management have become necessary. Compressing the informations has created more and more complex, labor- intensive and time-consuming solutions. The development of IT systems reduces the work- and time consuming, but the interpretation of the indicators is still and energy-intensive activity. (Szilágyi & Varga 2011)

The informations are compacted into indicators, because we would like to express the facts and contexts by one value. However, the excessive compression threatens with the loss of informations, i.e. the essential elements of the examined phenomenon may be lost. The hazard of information losing can be reduced by the resolution, substitution and expansion of the individual indicators. The resolution means the disaggregation of the numerator and/or the denominator of a fraction to pieces. In case of substitution the numerator and/or the denominator are substituted by an other values, e.g. instead of the revenue the multiplication of the sales volume and the unit price also can be applicable. At the expansion the numerator and/or the denominator of the

original indicator are expanded by the same values. Based on these three technics the indicators can be divided into 2 or 3 sub-indicators, resulting a hierarchical, well-structured indicator system. The most important factors at the formation of an indicator systems:

- the indicators have to be numerical, they have to take on values,
- there can be no contradictory relationship between the individual indicators
- the indicators have to be simultaneous,
- the structure of the indicator systems can not be changed arbitrarily,
- the cost- benefit principle has to be validated, i.e. the cost to get and process the informations has to be consistent with the benefits of the informations.

The traditional financial indicators provide informations about the porperty, financial and profitability state. They can give a view about the structure of the assets and the liabilities, the effectiveness of the assets, the amount of the debt, the liquidity, the profitabiliy relative to the various projection bases. (Zéman et al. 2016)

One of the most popular indicator system is the Du Pont system. It based on the idea that not the profit- as an absolute indicator- is in the center, but the Return on Investment- as a relative value-. The top indicator of the system is the ROI that can be definable as the ratio of the net outcome and the net asset value. The strength of the ROI that it is not an individual indicator, but an indicator system that elements have important content for the decision-maker. This indicator can be divided to the multiplication of 2 indicators: the profit margin and the turnover rate of the assets to the revenue. These two indicators can be further distributed by the outcome, cost, asset and liability datas belong to the responsibility of the leader of the given decentralised unit.

The advantages of the indicator system are:

- it takes into consideration the return aims of the undertaking,
- it can be usable in case of decentralized organizational units,
- it can give a chance to the analysis of factors and the comparison of the performance of subfields and units.

The disadvantages of the system can be:

- it can not provide information on whether the numerator or the denominator has changed,
- the ROI calculation refers to the units and subfields can lead to the suboptimums instead of the optimum of the total company,
- the short- term tendencies of the profit maximization can be amplified. (Anthony – Govindarajan 2014, Horváth 2009)

Nowadays the economic environment of the companies has significantly changed, the former permanence was replaced by the variability, the marketing was coming into the focus of the operation instead of the production, and the knowledge-focused approach was appeared beside the capital-centered one. The flexible adaptation to the environmental changes implied the alteration of the management methods, which claimed different kind of corporate governance including different kind of management information system. This reliable, well-structured information system can insure continuous reference for the company's leaders about the:

- processes at the enterprise,
- resources,
- realization of the management decisions,
- environment. (Böcskei et al. 2015; Veresné 2010 2013)

As a recognition of the change Robert S. Kaplan and David P. Norton developed a balanced, strategy-based indicator system, which can assist the management's work effectively.

The traditional financial indicators were applied at the benchmark of the enterprises can not provide appropriate informations to the management bacause of the following reasons:

- The traditional financial indicators inform about the companies' past achievement, they do not have connection with the future,.
- They are unsuitable for the prevention of problems, namely they take into account the effects of the already happened organizizational actions and consumer choices.
- They are short- term approach, that is why they can not serve the aims of the company strategy.
- They are not diagnostic featured, show the problems, but can not to give an answer for the root cause.
- Due to the terms of the money they are not used for displaying the qualitative factors, in turn the achievement of undertakings consits of quantitavie and qualitative elements connected to the performance of the tasks assigned by the company.

In today's highly competitive environment the financial indicators alone are not able to give direction for the future, typically they can give view about some actions of the past so are retrospective, post factum indicators. Based on the theoretical and practical experimences in the benchmark both the financial and non- financial indicators are necessary. The balance between them has to be created and they have to be united in a complex indicator system. This is achieved by the Balanced Scorecard (BSC). The viewpoints of the basic model (financial, customer, operational processes, learning and development) are looking for answers for 4 questions:

- What are the expectations of the stakeholders?
- What kind of achievement is expected by the cuostumers?
- In which processes is it necessary to provide outstanding performance?
- How may the change and developmental ability be maintained in the future? (Kaplan & Norton 1992, 1996, 1998)

However, the basic model was not regarded as a definite model by the model creators. Over the last two

decades different types of further considerations of the basic model have revealed. The range of the stakeholders has expanded; the supplier, the future, the social responsibility and the sustainability have become independent viewpoints. (Batler et al. 2011, Figge et al. 2002a, 2002b, Maltz et al. 2003, Veresné 2013, Zingales – Hockers 2003; Hágen & Borsós 2015)

Trends 2 – One System is not enough – the Multilevel Cost Systems

The achievements, the usage of sources, and through it the follow-up of the cost were always depended on what kind of devices- including the stage of development of the punctuation characters and numerals- were available for the decision supporters in the given age. Clay tablets and papyrus were already used by the early river valley- sociates to measure the inventory. Nevertheless, the advanced accounting techniques that are suitable for the shadowing of value beside quantity and are the basis of present-day accounts had been formed only in the year 1400s. In this time the primary target of the trade accounting was the register of claims and liabilities. The usefulness of accounting was recognized by the executives only with the increase of the complexity of corporate sizes and production processes. The geographical separation of the site, the factory and the central office of the owners demanded new types of information. The headquarter needed informations that were capable to:

- motivate the managers of the remote sites,
- judge the performance of the workers and leaders,
- account the expenses of the labor and conversion process,
- follow-up and compare the productivity.

By the authors dealing with the history of cost systems the birth of the modern cost accounting is traced back in the middle of the 1800s year, when the textile industry, the railway companies of the United States of America, and then the chemical and steel industry had been boomed. By the textile factories the financial datas primary were used for the determination of the real costs of the end products and for the shadowing of the productivity of the labor and consumption of the commodity. The engines of the development of the cost systems were the railway companies in the middle of the 19th century. To the pricing, to the harmonization of the divisions – sometimes with large geographical coverage- and activities, to the assessment of their achievements there was need for cost informations in an environment characterized by few market participants, growing organizational dimensions and complex production process. So scales and indicators were developed (for example costs per tonne kilometer, expenses per passenger kilometer, operation expense ratio) by which the leaders may have formed a judgement on the economicalness of the operation processes. The ideas of the railway companies were taken over, adapted and improved by the steel industry enterprises.

The appearance of undertakings dealing with complex metal elaboration brought up new problems and questions to be solved of. The metal converter, chopping up firms were manufacturing the wide choice of the products while the single end-products were using the resources in a different proportion up. Therefore, the cost per unit of product was not appropriate indicator to characterize the economicalness of the conversion process.

The innovations of the scientific managerial movement connected to the name of Frederich Taylor and his engineering partners leaded to the emergence of the standard cost accounting systems. The work- and industrial engineering solutions contributed to the development of the cost accounting. In the first decade of the 20th century sophisticated systems were already used for the fixing and analysis of the differences of the fact expense and the norm expense, in the analysis of the productivity it was possible to compare the actual norms with the norms which can be reached under ideal conditions.

First the delegates of the scientific managerial movement dealt with how can be the overheads assigned to products. The high expenses of the information collection, processing and the relatively low proportion of the overheads resulted simple and cheap methods. The direct work- (working hour, wage cost) based overheads' distribution onto products can be led back to this period. The election of the appropriate projection basis is still an object of the discussions. (Chandler 1995, 1997, Kaplan & Atkinson 2003, Kaplan & Cooper 2001. Loft 1991)

Beside the scientific managerial school the German business management school played an outstanding role in the creation of the theoretical bases of the expense accounting. At the beginning of the last century the evolving of cost centers and the organizational questions received an emphasized role beside the assignment of the resource consumption to product in the cost accounting of the German business management school. The application of more hundred cost collectors resulted informative, but slow and costly system. The central management between the two world wars, the many regulations and directives of the period of National Socialism, and the strong state influence had been led to the spread and integration of the terminology and methodology. (Lázár 2002, Weber 2001)

By the end of the 19th century and the beginning of the 20th century developed cost systems primary concentrated to the accounting of fact costs and the determination of production costs. Both schools' delegates dealt with the question of the assignment of operating overheads to products, however, the treatment of capital costs remained unfinished.

The company union wave of the first decades of the 1900s created huge, vertically and regionally articulated firms. The company leaders were faced with the problem that in this case, how enforceable the total corporate

interests against the sometimes contrary aims of the individual departments. The previous organizational frameworks, the centralized functional management increasingly proved to be inappropriate to synchronize the individual interests.

The management accounting with responsibility principle and the divisional organizational form linked to the name of Alfred Sloan, Pierre du Pont and Donaldson Brown meant the solution. The assignment of the units' aims to the total corporate targets, the control of the achievement of those parts of the company that can not be supervised continuously were regarded to solvable so, that the organizational units were developed into responsibility and settlement units. These units can be characterized by predetermined responsibility, the result of their operation can be measured and evaluated by itself, relatively independently from the other units. Three types of the responsibility and settlement units were distinguished based on which operational areas are under the responsibility of the division leaders:

- cost center responsible for the formation of the operating costs,
- profit center responsible for the establishment of the result,
- investment center responsible for the operational earnings beside the financial earnings.

One of the largest innovations being effective until today of the DuPont Company was the elaboration of the scale of the return on invested capital, i.e. ROI (Return on Investment) already mentioned in the Chapter 1 and the related scorecard. With the help of ROI the top managers may have head the capital for the more profitable divisions, this indicator was able to convey the corporate objectives to the divisions and to give feedback to the top management from the efficiency of operational areas. The division leaders became responsilbe for the efficiency of their own division and for the render of the capital invested in their division.

The ROI scale, the spreading of the divizional organisations created the management accounting with responsibility principle in the 1920s and '30s. So management systems were created that allowed the activities of the corporate entities operating relatively autonomously to be consistent with each other and with the overall corporate goals as well. The tasks of the central leaders changed through decentralization. In addition to the efficient internal allocation of capital the activites of division leaders had to be coordinated, they had to be motivated and evaluated. (Bodnár 1997, Horváth 2009, Loft 1991)

Starting with the 1980s - both in the Anglo-Saxon and German literature - the criticism of the earlier cost accounting systems can be observed. At the early capitalism, the cost accounting systems developed together with the technical and economic evolution as a result of dicussion between the state and the technical and economic experts. The cost accounting focused on the determination of the product expenses. The production technologies were simple, the products went through wel.defined manufacturing processes, the ratio of overhead costs was low, and determining the costs of labor and material consumption was also not a special problem. (Ashton et al. 1991, Musinszki 2016)

However, the cost accounting systems developed in the 19th century and early 20th century from the 1920s and 1930s did not changed, they did not keep a step with the changes of environment. The European and North American companies were placed at competitive disadvantage opposite their Japanese competitors the 1970s and 1980s. Flexible manufacturing technologies used by the Japanese were able to produce a wider range of products at lower cost and with better quality. While the production has become continually more automated, specialized and flexible – consequently more capital-intesive – the expense accountaning and controlling has lived henceforward with the assumption that the created products are homogeneous and labour intensive. Beside the advanced technologies outdated accounting and controlling techniques were applied. According to the approach of several economists dealing with managerial accounting, the companies saw the obstacle to the development in the financial accountaning. The management accounting – including the cost accounting also –was subordinated until decades for financial accounting fulfillling the informational claims of external stakeholders in the form of financial reports. (Bhimani & Bromwich 1992)

Johnson and Kaplan drew the conclusion in ther study of Relevance Lost: The Rise and Fall of Management Accounting, that the management accounting systems applied in the 1980s are not equal to the new challenges of the changing environment. Organisations' cost accounting sticked on the level of the 1920s, diverts the attention of the leaders from the major things, incapable to display the organizations' processes, products, technologies and competitive enrivonments on an undistorted way. Johnson and Kaplan summarize the criticisms of the management accounting, cost accounting in the undermentioned ones:

- cost accounting does not fit the market and technological environment. The expense construction was modified as a result of the modern production technologies, the direct labor cost takes only a little part of the production expense and the represent of the overhead costs take an increasingly bigger proportion, while in the management reports continue pay a great attention to the direct labor costs and labor productivity.
- the traditional calculation methods are misleading, and the so defined expense and first cost datas are unsuitable for the decision preparation and to inform the decision makers. The traditional costing systems we developed when the management was characterized by the dominance of narrow range of products and direct labor and material costs. However, the changes in the cost structure and the

grounds of too simplly cost allocation methods can not be verified.

- the management accounting was subordinated to the needs of financial accounting, the accounting informations used in managerial decisions meet the expectations against financial accounting.
- the management accounting focuses almost exclusively on the activities within the company, only little attention is paid to examine the external environment of the company. (Johnson & Kaplan 1987)

The strengthening of global competition, the acceleration of technological evolution formulated new challenges and expectations. The claim of interconnection of strategy and controlling arose, the strategic controlling and the strategic management accounting appeared. More, decision-making, long-term profitability and value creation capability supported (costing) procedures were developed.

The life-cycle costing does not examine the expenses only in a – relevant for the financial accounting –period, but it idenfies the costs emerged at various stages during the product life-cycle. The considerable part of the expenses can be ordered to the product occur in the planning section, and they have an essential effect on the expenses of the production section. The assignment of the costs to thestages of product life-cycle creates the possibility that the whole life-cycle can be the time horizon of the profitability calculations instead of/beside the business year. (Molnár 2016)

The target costing developed in Japan similarly to the life-cycle expense calculation is a device used in the planning section. The costs are not assigned to the calculation units, but to the benefit perceived by the consumers. The price the consumer is willing to pay for the product which is at the expected quality and functions is the starting point of the target costing. This target price reflects the range of the functions of the products rated by consumers. The target price minus the target profit can get the target cost. If the planned cost exceeds the target cost, the process continues as long as the planned cost does not match the target cost.

Like the target costing the kaizen costing is also driven by goals, but the kaizen costing is focused engageengage on the manufacturing process instead of the product, and on the production instead of the planing. The main pillar that employees are involved into the development of the processes and thus into the enhancement of the efficiency and the reduction of the cost.

It was recognized that there is a large proportion of the costs of that change is not a function of the amount of emissions. Consequently, the methods by which the overhead cost is loaded onto the individual products in the proportion of the production volume or an indicator can be traced back to this - such as direct material costs and direct labor hours- will necessarily result in a distorted cost data.

To solve this problem techniques applying more projection bases were born that charges the overhead costs onto the products only in the proportion that the products utilized de facto the resources. This method is called as Activity Based Costing in the Andlo-Saxon literature, and as Prozesskostenrechnung in the German literature. The two concepts is based on the same principle, and in the last time the continuos approach of the two theories can be observed. (Drury 2008, Horváth 2009, Kaplan & Atkinson 2003)

As mentioned above, the flexible adaptation to environmental changes implied the change of management methods, which needed other type of corporate governance including another kind of management information (and cost) system. This obviously had an impact also on the functions expected from the cost systems. According to Kaplan and Cooper (Kaplan 1988, Cooper & Kaplan 1988, Kaplan & Cooper, 1997) the cost accounting systems have to meet three main functions:

- the evaluation of stocks in the financial reports (as well as presentation of the impact on profit from stocks),
- the monitoring of the activities, products, services and costs of customers,
- a feedback on the effectiveness of processes for managers and persons responsible for the processes.

Kaplan and Cooper distinguish four levels of the cost accounting systems. In the first-level systems the recordation of the economic events is incomplete or incorrect, closing the books is time- and resource-intensive, the system is unsuited to the compilation of the financial report. The system is opaque, its maintenance is cumbersome.

Surveys suggest that most businesses are second level and have a financial report focusing system. The system complies with the requirements of financial reporting, suitable for inventory valuation, for the determination of the outcome, and to compile the report. It builts on responsibility units, manufacturing, assembly, maintenance and other activities supporting cost centers during the collection of expenses. The system deficiency is mainly in the allocation of indirect costs to products. Only the operating and other manufacturing costs are allocated to the products, which is noermally based on the direct labor, or the cost of materials or machine hours.

The third-level systems are customized and provide the assignment of indirect costs to product, but non-integrated systems. Both of the traditional financial accounting systems, the activity-based costing system and the operational feedback system appear in the third level-systems. The third-level systems are suitable for the determination of the activities, processes, products, exact costs of customers and for the operative feedback promoting the financial and non-financial informations, the learning and the development. The system includes a traditional financial system that provides the financial accounting and management functions, evaluates the

stocks, prepares the financial statements, complies with external stakeholders' - such as investors, creditors, tax authorities - information needs. The system includes at least one activity-based costing system that utilizes the datas of the traditional financial system and other existing enterprise information systems for the determination of the exact costs of activities, products and customers. The third element of the system provides the operative feedback. It provides actual and accurate financial and non-financial informations about the quality, transit time and efficiency of processes for the leaders, decision-makers and, employees working in first-line (who have direct contact with the customers). At this level, companies retain their traditional - second level - financial accounting systems and the existing informations are converted into useful informations for managers. The second and third elements of the third-level system can be established without the construction of new computing background, the financial system, as well as other information systems of the company typically contain the datas are required for the other elements of the system (activity-based costing systems, operative feedback system). The significance of the third level precisely resides in that the decision supporters can access datas-with little additional effort- to their work that already have been collected in the company.

In the third-level systems more systems are operating side by side. Tempting to reduce the number of systems, merge the activity-based costing systems and operational feedback system, but it entails dangers. The activity-based cost accounting systems suitable for the development of processes, the preparation of strategic decisions, however, inadequate to support the operational control and decision-making. The two systems treat differently the variability of expenses, the frequency and accuracy of reports, and estimation of future costs. The fusion would result a system that no one of the objectives can be achieved. The leaders, whose disturbing is that the systems contain contradictory informations such as product profitability, it is advisable to recognise the fourth level costing systems.

At the fourth level appear the activity-based costing systems and operational feedback system linked to each other, and the preparation of the financial reports can be built on the two systems. The methodology of the activity-based costing can be used for the allocation of the overheads properly to the standards of financial accounting. The costs are ordered to product by activity-based costing, but are not a part of the cost according to the accounting standards, the system automatically ignores them. The operative feedback system continuously collects datas about actual operation. The extraction of the financial datas of the system make the financial preparable. In this way, the managerial aims serving learning-feedback system and the financial system making financial reports for the external stakeholders linked. However, the focus will shift compared to the past. The focus is on the financial reports at the second level, but at the fourth level it is on the informing of the leaders, decision-makers. Thus the role of financial statements, informations and indicators transform. In addition to the financial, production, economic roles get more and more space the social responsibility and sustainability. Therefore the former protagonist will be a minor player of a multi-player game. The Chapter 3 wishes to call the attention for one of the projections of this role is being presented through Global Reporting Initiative (GRI).

In the Wake of the Sustainability – Global Reporting Initiative (GRI)

Since the millennium, the demand is constantly increasing for the knowledge of non-financial performance of companies, which claims reflected in the number of non-financial reports as well. For the comparison of the informative reports with real data content a well-functioning support systems and applicable guidelines are needed. The activity of a company can not be assessed on the basis of "slices", with a method should give a full, transparent image about it. One of the most widespread means of it is the sustainability report, which describes in addition the datas concerning the environment protection the economic, social role of the company. Therefore the sustainability report is an individual and aggregated data transmission, which can present the performance concerning a specified period fairly and balanced.

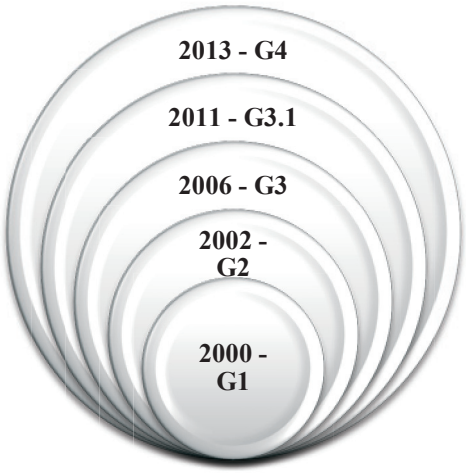
Before 2014, the Directive 2013/34/EU had regulated the disclosure of non- financial information. It had expounded, that the management report (consolidated management report) are important elements of financial reporting. In this report the informations hadn't been restricted to the financial aspects of the business activities, it had been also necessary to analyze the environmental and social acpects of the business methods. The small and medium- sized organizations had got dispensation from this commitment. The Directive 2014/95/EU – which published in the Official Journal of the Europen Union on 22nd October 2014 –modified the previous guideline from some aspects. The basic provisions of the Directive, that all companies -whitin the scope of guideline /the scope of the Directive is detailed below/- have to prepare a non-financial report for the financial year starting on 1 January 2017 or during the calendar year 2017. The most important ordinations of the Directive are detailed below.

- The Directive's aim. The cardinal purpose that the environmental and social informations provided by organizations become transparent, besides the sustainable operation turn the essential principle. This consist in the foundation and dissemination of the integrated benchmarking: the sustainable global economy can be realized by combining long-term profitability with social justice and environment protection. Furthermore the Commission expects the

supplied informations increase investor and consumer trust, and identify sustainability risks.

- The scope of the Directive. The content of the Directive related to companies that correspond to at least one of the following succeeding three criteria:
  - they are large undertakings according to the Directive 2013/34/EU Chapter 1.,
  - on their balance sheet dates the average number of employees during the financial year more than 500;
  - they are Public Interest Entities (PIEs) /all entities that are governed by the law of a Member State and listed on a regulated market, all credit institutions, all insurance undertakings and entities appointed by Member State as PIEs/.
- The report's form. The non- financial statement should be included in the management report. Memeber States may exempt those undertakings from the obligation, that prepare a separate non- financial report corresponding to the same financial year, provided that such separate report is published together with the management report; or not exceeding six months after the balance sheet date, on the company's website.
- Group of enterprises. The parent company of a large group shall include in the consolidated management report a consolidated non- financial statement in case of exceeding on its balance sheet dates- on consolidated basis- the criterion of the avarage number of 500 employees during the financial year. Memeber States may exempt those parent undertakings from the obligation, that prepare a separate non- financial report corresponding to the same financial year, referring to the whole group, provided they observe the deadlines.
- The content of the statement. The non- financial/ consolidated non- financial statement shall contain informations to the extent necessary for understanding of the company's/ group of enterprises' development, performance and its activities' impact, for at least the following topics:
  - environmental matters (impacts on the environment; the use of renewable and non-renewable energy; greenhouse gas emissions; water and land use; air pollution; and the use of materials);
  - social and employee-related matters (the actions taken to ensure gender equality; implementation of fundamental conventions of the International Labour Organisation; working conditions; social dialogue; the insurance of workers' right to be informed and consulted; respect for trade union rights; health and safety at work; dialogue with local communities and the actions taken to ensure the protection and the development of these communities);
  - respect for human rights (the prevention of human rights abuses); and
  - anti- corruption and bribery matters (instruments of the fight against corruption and bribery).
- Audit, supervision. Statutory auditors or audit firms should check that the non- financial statement or separate report has been provided, and its information content corresponds to the regulation. Furthermore, they shall disclose an opinion about the results of applied policies, the identified risks and the way how companies try to manage these. In addition, the Member States can require the published informations be verified by an independent assurance services provider.
- Applicable guidelines. In providing the prescribed informations, companies which are subject of the Directive can rely on the following frameworks: national, Union- based (e.g. EMAS /Eco-Management and Audit Scheme/) or international, e.g.:
  - United Nations (UN) Global Compact;
  - OECD Guidelines for Multinational Enterprises;
  - the International Organisation for Standardisation's ISO 26000,
  - Global Reporting Initiative (GRI).
- Member States' task. Member States shall bring into force the laws, regulations and administrative instructuions, that are necessary to provide the appropriate reporting, and to comply the Directive by 6 December 2016.

The Global Reporting Initiative is one of the leading systems on the area of the sustainability. GRI's idea was built on the thought of sustainable global economy, which should unite long term profitability with ethical behaviour, social justice and environmental care. With an other word, companies should integrate sustainability into their operation, and control their performance and effects from four viewpoints: economic, environmental, social and governance. For this reason, GRI has developed its Sustainability Reporting Framework, that enjoys synergies with other relevant international initiatives, frameworks and guidance. This reporting system helps the companies to measure, analyze and communicate their information, which are important from the aspect of sustainability. It is used by thousands of organizations of all sizes and sectors, all around the world. The Framework contains the Guidelines and sector guidance. The Guidelines help for the organizations in the preparation of their sustainability reports, independently from their size, sector or location. Figure 1. shows the evolution and interdependence of the Guidelines.



Source: the authors own editing

Figure 1. The evolution of the GRI Guidelines

GRI accepts reports based on G3 or G3.1, but those disclosed after 31 December 2015 should be managed in accordance with the G4 Guidelines. The sector guidance makes the different sector's reports more accurate and understandable. (www.globalreporting.org; GRI's G4 Guidelines: the impact on reporting 2013)

The G3 Guideline - launched in 2006-consists of two major part:

- Part 1: Reporting Principles and Guidance- answer the question how to report (the most important principles are materiality, stakeholder inclusiveness, sustainability context and completeness);
- Part 2: Standard Disclosures- answer the question what should be reported. The Standard Disclosures define informations are relevant for organizations and stakeholders. The Disclosures are structured in three main topic: Strategy and Profile, Management Approach and Performance Indicators.
  - The section of Strategy and Profile contains the informations to understand the background of the organization's performance, such as its strategy, profile and governance. The most senior decision-maker of the company make a statement about why sustainability so important for the company and its strategy. Also have to present the key impacts, risks, opportunities and the relevant information about the organizational profile. It is necessary to expound the parameters of the report (its profile, scope and boundary; GRI content index and assurance); the governance structure; the sustainability charters, principles or other initiatives are subscribed or endorsed by the company; and the types of stakeholders have connection with the organization.
  - The section of Management Approach illustrates how the company approaches the different type of topics.
  - The Performance Indicators give comparable information about the company's performance in the areas of Figure 2.

Source: the authors own editing

Figure 2. The categories of G3's Performance Indicators

The Economic Indicators try to exemplify the flow of capital, and companies' economic impacts all of the society. The Management Approach is presented from the succeeding Economic Aspects: Economic Performance, Market presence and Indirect Economic Impacts, that data content expands on the following:

- the generated and distributed direct economic value (revenues, operating costs, employee compensation, donations, and payments to capital providers and governments);
- the climate change's effects on the organization's activities (financial implications, other risks and opportunities);
- coverage of the benefit plan obligations;
- the financial assistance from the government;
- the ratios of standard entry level wage compared to local minimum wage;

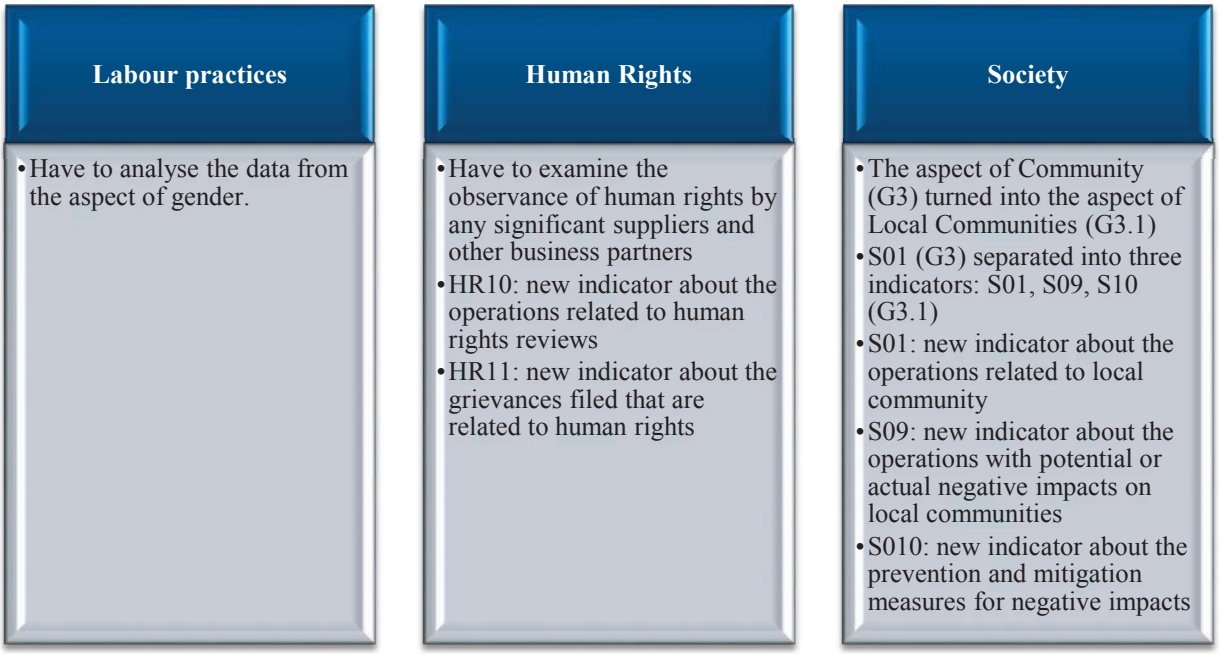
- the features of the supplier contacts (policy, practices and proportion of spending);
- procedures for mthe local workforce's application;
- development and impacts of infrastructure investments and services; and
- the significant indirect economic impacts.

The environmental dimension means the company's influences on the living and non- living natural systems (ecosystems, land, air and water). The Environmental Indicators embrace the performance related to inputs (e.g. material, energy, water) and outputs (e.g. emissions, effluents, waste). On the other hand, they also measure the environmental expenditure, and impacts of product and services. Organizations have to disclosure their Management Approach from the succeeding Environmental Aspects:

- materials (used and recycled input metarials);
- energy (direct and indirect energy consumption; improvements to save energy; application of renewable energy; reduction of the indirect energy consumption);
- water (total water utilization by source; relation of water recycled and reused);
- biodiversity (location and size of land owned or managed in protected areas; the activities' significant impacts on biodiversity; protected or restored habitats; strategies and actions for the protection of biodiversity);
- emissions, effluents and waste (total direct/ indirect greenhouse gas emissions and the initiatives to reduce them; emissions of ozone-depleting substances and NOx, SOx, other significant air; total water and waste discharge);
- products and services (initiatives to modify environmental impacts of products and services; the proportion of sold and reclaimed packaging materials);
- compliance (monetary value and non- monetry sanctions of significant fines);
- transport (environmental influences of transporting products, materials or workforce); and
- overall (total environmental protection expenditures).

The Social Performance means the company's effect on the social systems. It has four focuspoint: Labor Practices, Human Rights, Society, Product responsibility. (GRI G3 Guidelines Including Technical Protocol 2006)

The G3.1 Guidelines- launched in 2011- are an update and completion of G3 Guidelines. G3.1 comprise extended guidance for reporting on human rights, local community impacts and gender. (GRI G3.1 Guidelines Including Technical Protocol 2011) The changes can see in Figure 3.



Source: the authors own editing

Figure 3. The G3.1 Guidelines' extended indicators

The G4 Guidelines- launched in 2013- are the newest generation of GRI Guidelines. There are six significant changes in G4.

- The structure. The Guidelines are published in two parts:
  - Part 1: Reporting Principles and Standard Disclosures;
  - Part 2: Implementation Manual.

The first part contains Reporting Principles, Standard Disclosures (General and Specific), the criteria to be employed by any company to create its sustainability

report 'in accordance' with G4, and the key definitions. The second part includes supporting guidance on the first.

- 'In accordance' criteria. The former Application Levels (A, B and C) reflect the extent to which GRI Framework has been applied in the report. It has been replaced by 'in accordance with GRI' criteria, which offer companies two options to complete their report based on the Guidelines:
  - Core option: includes the essential elements of a report;
  - Comprehensive option: builds on the Core option, and requires some additional disclosures.
- Materiality. Everything is about materiality. According to G4, the only relevant performance indicators that companies should report related to their material issues. First the companies collect those specific issues that will be material during their reporting period. For the "Core", organizations should report at least one of the relevant performance indicators for a given material aspect. For "Comprehensive," companies should published all of the relevant performance indicators for a given material aspect.
- General Standard Disclosures. There are some new elements have to be reported:
  - company's material aspects;
  - the description of organization's supply chain;
  - 10 new disclosures inside Governance section (mostly about the board oversight /e.g. of sustainability - related impacts/ and the remuneration ratios);
  - section of Ethics and Integrity; and
  - some other existing sections were comleted with additional requirements.

  All together, the sections of General Standard Disclosures are the following: Strategy and Analysis; Organizational Profile; Identified Material Aspects and Boundaries; Stakeholder Engagement; Report Profile; Governance; Ethics and Integrity.
- DMA (Disclosures on Management Approach) /part of Specific Standard Disclosures/. The new DMA reporting framework focuses on three areas:
  - why a given aspect is material;
  - how can manage the aspects; and
  - how can management improves its approach.
- Performance Indicators /part of Specific Standard Disclosures/. Some new Performance Indicators were added, which connected to the following areas:
  - intensity of greenhouse gas emissions;
  - energy use in company's supply chain;
  - supply chain impacts related to environment, labor practices, human rights and society;
  - some other existing indicators were reviewed; and
  - everything focus on the materiality.

(GRI G4 Part1 (Reporting Principles and Standard Disclosures) 2013, GRI G4 Part2 (Implementation Manual) 2013; GRI's G4 Guidelines: the impact on reporting 2013; www.greenbiz.com)

RESULTS AND CONCLUSION

As it was described in Chapter 2, according to Kaplan and Cooper the importance of the third level precisely lies in that the decision supporters can use – with little additional effort – datas for their work, which already have been collected. At the exploration of the relationship between the 2014/95/EU Directive and the GRI G4 Guidelines (the new generation of the GRI Guidelines) the following key issues are: are the GRI G4 Guidelines based report abe to meet the related EU Directive? The answer is important, because in the world from year 2014 to 2016 there are 9014 companies have made a GRI-based sustainability report, in which system – from the end of 2015 the conversion onto the G4 Guidelines is highly recommended.

In the Tables 1-4. are summarized the identified synergies between the expectations of the EU Directive and G4 Performance Indicators. The classification is based on that the EU drew up in all priority areas the scope of informations to be presented, which were coupled to the reporting promoter Performance Indicators for each category.

Table 1
The linkages between the environmental matters of Directive 2014/95/EU and the G4 Guidelines Performance Indicators

EU	***impacts on the environment***	***the use of renewable and non-renewable energy***	***greenhouse (GHG) gas emissions***	***water and land use***	***air pollution***	***the use of materials***
G4	*Economic* ➢ impacts of infrastructure investments ➢ indirect economic influences *Environmental* ➢ impacts on biodiversity ➢ emission, effluents and waste ➢ effects of: ➢ products and services ➢ transport ➢ supply chain *Social- Society* ➢ impacts on local communities ➢ influences of supply chain	*Environmental* ➢ energy consumption ➢ energy saving improvements ➢ renewable energy application ➢ energy use in supply chain	*Environmental* ➢ greenhouse gas emission ➢ intensity of emission ➢ emission reduction	*Environmental* ➢ water consumption ➢ water recycled and reused ➢ land use in protected areas ➢ protection of biodiversity and habitats	*Environmental* ➢ emissions of harmful substances ➢ GHG gas ➢ ozone depleting substances ➢ NOx, SOx and other air pollutants	*Environmental* ➢ used input materials ➢ recycled input materials

Source: the authors own editing

Table 2
The linkages between the social and employee-related matters of Directive 2014/95/EU and the G4 Guidelines Performance Indicators

EU	***ensuring gender equality***	***implementation of conventions of ILO***	***working conditions***	***social dialogue***
G4	*Social- Labor Practices* ➢ new employee hires and employee turnover by gender ➢ participation in trainings by gender ➢ employees' carrier development reviews by gender ➢ composition of governance bodies ➢ ratio of basic salary and remuneration of women to men ➢ return to work and retention rates after parental leave	*Social- Labor Practices* This Indicator category based on - among other things- the International Labour Organization (ILO) Declaration (Declaration on Fundamental Principles and Rights at Work, 1998), which builds upon eight core Conventions of the ILO.	*Social- Labor Practices* ➢ fluctuation of total workforce ➢ minimum notice time period in case of operational changes ➢ rates of injuries, occupational diseases and work- related fatalities ➢ labor practices ➢ at the company ➢ in the supply chain	*Social- Labour Practices* This Ondicator category based on bipartite (labor and management) and tripartite (government, labour and management) social dialogues.

	Social- Human rights ➢ discriminative incidents and corrective actions ➢ grievances about human rights and their solution		*Social - Human rights* ➢ discriminative, detrimental incidents and corrective actions ➢ situations which have had a risk for incidents of child or forced labor ➢ respect for human rights in the supply chain	
EU	***workers' right to be informed and consulted***	***respect for trade union rights***	***health and safety***	***local communities***
G4	*Social- Labor Practices* ➢ employee s' participation in trainings ➢ programs for skills management and lifelong learning ➢ employees' carrier development reviews ➢ minimum notice time period in case of operational changes	*Social- Human rights* ➢ operations and suppliers in which employee rights to exercise freedom of association	*Social- Labor Practices* ➢ composition of health and safety committees ➢ rates of injuries, occupational diseases and work- related fatalities ➢ risk program regarding diseas	*Social- Socety* ➢ the operations related to local communities ➢ development programs ➢ the potential and actual negative impacts on local communities ➢ the prevention and mitigation measures of negative influences

Source: the authors own editing

Table 3
The linkages between the human rights- related matters of Directive 2014/95/EU and the G4 Guidelines Performance Indicators

EU	***the prevention of human rights abuses***
G4	*Social- Human rights* the investment agreements which include human rights clauses employee training on human rights policies discriminative incidents and corrective actions situations which have had a risk for incidents of child or forced labor the operations related to human rights reviews the grievances related to human rights filed suppliers and partners that have passed screening on human rights actual and potential negative human rights impacts in the supply chain

Source: the authors own editing

Table 4
The linkages between the anti-corruption and bribery- related matters of Directive 2014/95/EU and the G4 Guidelines Performance Indicators

EU	***instruments of the fight against corruption and bribery***
G4	*Social- Society* ➢ operations assessed for risks related to corruption ➢ identification of significant risks ➢ communication and training on anti- corruption policies ➢ reactions for the incidents of corruption ➢ analysis of business units for risk of corruption ➢ participation in public policy

Source: the authors own editing

Table 5
The linkages between the additional information required by the Directive 2014/95/EU and the G4 Guidelines Part 2.- Implementation Manual

EU	***business model***	***policies applied***	***outcome of policies***	***capital risks and their management***	***non- financial performance indicators***
G4	*General Standard Disclosures* ➢ Strategy and Analysis ➢ Organizational Profile	*Specific Standard Disclosures* ➢ Aspect-specific Disclosures on Management Approach	*Specific Standard Disclosures* ➢ Aspect-specific Disclosures on Management Approach	*Specific Standard Disclosures* ➢ Aspect-specific Disclosures on Management Approach	*Specific Standard Disclosures* ➢ Performance Indicators for the different Aspect

Source: the authors own editing

It's also described in the Directive, that wihtin the topics should be detailed any further infomations. The Table 5. illustrates where can be found these information service obligations in G4 Guidelines.

Based on the foregoing, the G4 generation of GRI includes all test areas and elements that are relevant for the European Union. Clear links can be found among the elements of information content considered relevant, as well as in the field of data content detailing and the structure. Following the recommendations of the G4 every business is able to take turn the relevant elements and risks in terms of its activity, and to make them measurable after providing the necessary systems. It is timely to start the task, namely the preparation of the reports - according to the present knowledges - will become due to 2017.

As a final thought get acquainted with the situation in Hungary. Examining Hungary indispensable to take the initial steps, namely 56 non-financial reports has made in total since the year 2014, and only 14 of them applied the G4 Guidelines, which significantly falls short of the number of companies will be subject of the EU requirements. (GRI Sustainability Disclosure Database)

Therefore, the problem is twofold. The companies should develop their existing reports keeping in mind the G4. The other range of businesses (which do not prepare sustainability report at this time) should recognize the obligation of making statements and start the process as soon as possible to meet the requirements of the relevant information services. To this can give a hand the theory of multi-level (cost) systems and the GRI Framework.

REFERENCES

ANTHONY, R. N. – –GOVINDARAJAN, V. (2014): Management Control Systems, McGraw Hill,

ASHTON, D. – HOPPER, T. – SCAPENS, R. W. (1991): Introduction. In. Ashton, D. – Hopper, T. – Scapens, R. W. (ed.): Issues in Management Accounting. Prentice Hall, New York, pp. 1-16.

BARTHA, Z. – MOLNÁR, L. (2016). The SLEM model as an assessment method for local goods' competitiveness. Theory, Methodology, Practice, 12(special issue), pp. 5-13. http://dx.doi.org/10.18096/TMP.2016.02.01

BÖCSKEI, E. – FENYVES, V. – ZSIDÓ, K. – BÁCS, Z. (2015): Expected Risk Assessment—Annual Report versus Social Responsibility, Sustainability, Volume 7, Issue 8, pp. 9960-9972.

BHIMANI, A. – BROMWICH, M. (1992): Management Accounting: evolution in progress. In. Drury, C. (ed.): Management Accounting Handbook. Butterworth – Heinemann Ltd., Oxford, pp. 14-35.

BODNÁR, V., (1997): Menedzsment kontroll, controlling, vezetői számvitel: nemzet-közi elmélet és gyakorlat – haza tapasztalatok – A controlling vezetési megközelíté-se. Vezetéstudomány. XXVIII. évf. 5. sz. pp. 3-12.

BUTLER, J. B. – HENDERSON, S. C. –RAIBORN, C. (2011): Sustainability and the Balanced Scorecard: Integrating Green Measures into Business Reporting, Management Accounting Quarterly, Volume 12, Issue 2, Winter 2011,

CHANDLER, A. D. (1995): The visible hand. 13. Kiadás, Harvard University Press, Cambridge, Massachusetts, London,

COOPER, R. – KAPLAN, R. S. (1988): Measure Costs Right: Make the Right Decisions. . Harvard Business Review. September-October 1988. pp. 96-102.

DIRECTIVE 2013/34/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings,

amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC
Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013L0034&from=EN

DRURY, C. (2008): Management and Cost Accounting, 7th edition, Thomson Learning,

FIGGE, F. − HAHN, T. – SCHALTEGGER, S. – WAGNER, M. (2002a): The Sustainability Balanced Scorecard – Theory and Application of a Tool for Value-Based Sustainability Management, Greening if Industry Network Conference, Gothenburg

FIGGE, F. − HAHN, T. – SCHALTEGGER, S. – WAGNER, M. (2002b): The Sustainability Balanced Scorecard − Linking Sustainability Management to Business Strategy, Business Strategy and the Environment, September/October 2002, pp. 269-284.

G. FEKETE, É. (2016): A postmodern employment model on the peripheries. Theory, Methodology, Practice, 12(special issue), pp. 41-54. http://dx.doi.org/10.18096/TMP.2016.02.04

GRI SUSTAINABILITY DISCLOSURE DATABASE Available at: http://database.globalreporting.org/search

GRI G3 GUIDELINES INCLUDING TECHNICAL PROTOCOL (2006) Available at: https://www.globalreporting.org/resourcelibrary/G3-Guidelines-Incl-Technical-Protocol.pdf

GRI G3.1 GUIDELINES INCLUDING TECHNICAL PROTOCOL (2011) Available at: https://www.globalreporting.org/resourcelibrary/G3.1-Guidelines-Incl-Technical-Protocol.pdf

GRI G4 PART1 (REPORTING PRINCIPLES AND STANDARD DISCLOSURES) (2013) Available at: https://www.globalreporting.org/resourcelibrary/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf

GRI G4 PART2 (IMPLEMENTATION MANUAL) (2013) Available at: https://www.globalreporting.org/resourcelibrary/GRIG4-Part2-Implementation-Manual.pdf

GRI'S G4 GUIDELINES: THE IMPACT ON REPORTING (2013) Available at: http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/g4-the-impact-on-reporting-v2.pdf

HÁGEN I. ZS. – BORSÓS E. (2015): BSC modellel a kereskedelmi tevékenységet végző vállalkozások versenyképességéért, Controller Info, 2015/1., pp. 42-47.

HORVÁTH & PARTNER (2009): Controlling, Út egy hatékony controllingrendszerhez. Complex Kiadó, Budapest,

ILLÉS, M. (2016): Enterprise Models from Terms of Sustainability. Theory, Methodology, Practice, 12(special issue), pp. 55-67. http://dx.doi.org/10.18096/TMP.2016.02.05

JOHNSON, H. T. – KAPLAN, R. S. (1987): Relevance lost. The Rise and Fall of Manage-ment Accounting. Harvard Business School Press, Boston,,

KAPLAN, R. S. (1988): One Cost System Isn't Enough. Harvard Business Review. January-February 1988. pp. 61-66.

KAPLAN, R. S. – ATKINSON, A. A. (2003): Vezetői üzleti gazdaságtan, Haladó vezetői számvitel. Panem Könyvkiadó, Budapest,

KAPLAN, R. S. – COOPER, R. (1997): Cost & Effect, Using Integrated Cost Systems to Drive Profitability and Performance. Harvard Business School Press,

KAPLAN, R. S. – NORTON, P. D. (1992): The Balanced Scorecard – Measures that Drive Performance, Harvard Business Review, 92/1-2, pp. 71-79.

KAPLAN, R. S. – NORTON, P. D. (1996): Using the Balanced Scorecard as a Strategic Management System, Harvard Business Review 96/1-2. pp. 75-85.

KAPLAN, R. S. – NORTON, P. D. (1998): Balanced Scorecard – Kiegyensúlyozott stratégiai mutatószám-rendszer, KJK

LÁZÁR, L. (2002): Értékek és mértékek. A vállalati erőforrás-felhasználás leképezése és elemzése hazai üzleti szervezetekben. Ph.D Thesis, BKÁE, Budapest,

LOFT, A. (1991): The History of Management Accounting: Relevance Found. In. Ashton, D. – Hopper, T. – Scapens, R. W. (ed.): Issues in Management Accounting. Prentice Hall, New York, pp. 7-38.

MALTZ, A. C. – SHENHAR, A. J. – REILLY, R. R. (2003): Beyond the Balanced Scorecard: Refining the Search for Organizational Success Measures, Long Range Planning, Volume 36, Issue 2, April 2003, pp. 187–204. http://dx.doi.org/10.1016/s0024-6301(02)00165-6

MOLNÁR, V. (2016): Nem termelési folyamatok kontrollja Six Sigma megközelítésben, Controller Info, 2016/2., pp. 37-44.

MUSINSZKI, Z. (2016): Ipar 4.0 – költségrendszer 4.0? Innovációk a költségrendszerekben, Controller Info, 2016/3., pp. 2-9.

NAGY, K. − PISKÓTI, I. (2016): Route-based tourism product development as a tool for social innovation – history-valley in the Cserehát region. Theory, Methodology, Practice, 12(special issue), pp. 75-86. http://dx.doi.org/10.18096/TMP.2016.02.07

SZILÁGYI, R. – VARGA, B. (2011): Kvantitatív információképzési technikák. Nemzeti Tankönyvkiadó, Budapest,

VÁRKONYINÉ JUHÁSZ, M. (2016): Challenges of establishing and operating social enterprises. Theory, Methodology, Practice, 12(special issue), pp. 68-74. http://dx.doi.org/10.18096/TMP.2016.02.06

VERESNÉ SOMOSI, M. (2010): The Self-Evaluation Model of Organizational Behaviour. European Integration Studies, 2010/1., pp. 227-237.

VERESNÉ SOMOSI, M. (2013): A szervezeti kompetencia- és képességépítés néhány sajátossága, Controller Info, 2013/11., pp. 21-30.

WEBER, J. (2001): Cost Accounting Systems Design and SAP-learning from German History. Journal of Cost Management. July/August 2001. pp. 33-36.

ZÉMAN, Z. – BÁCS, Z. – BÁN, E. – FENYVES, V. (2016): Hiteles vagy "félrevezető" számviteli információk értékelése a nemzetközi és magyar gyakorlat összehasonlításában, Controller Info, 2016/3., pp. 52-57.

ZINGALES, F. – HOCKERTS, K. (2003): Balanced Scorecard and Sustainability: Examples from Literature and Practice, https://flora.insead.edu/fichiersti_wp/inseadwp2003/2003-30.pdf

https://www.globalreporting.org/information/about-gri/gri-history/Pages/GRI's%20history.aspx

https://www.greenbiz.com/blog/2013/05/23/9-new-things-about-g4-you-need-know

A Postmodern Employment Model on the Peripheries

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SUMMARY

A new employment model has been evolving in the advanced economies since the 1980s. A change in labour and labour force management has led to an extreme rise in unemployment and, hence, social exclusion. In order for labour to retain its function as a value driver, a societal organiser and an engine of individual development a new (let us say "postmodern") employment model should be developed and strengthened.

In Hungary, the most marked change to the employment model is an increase in the importance of the role of the state and local governments as employers and a growing reliance on public work as a means of employment. The question is how public work can be incorporated into a sustainable postmodern employment model and channelled towards for- and non-profit undertakings. While seeking to find an answer to this question, we also provide an outline of the characteristics of the employment situation in Hungary.

Keywords: postmodern employment model, public work employment, social economy
Journal of Economic Literature (JEL) codes: J21, L31
DOI: http://dx.doi.org/10.18096/TMP.2016.02.04

INTRODUCTION

A global increase in unemployment cannot be deemed a transient crisis phenomenon. Taking the form of mostly hired labour, employment based on a slow return on physical capital and the irreversibility of capital investments used to be stable in industrial societies – so much so that besides being a value driver, it was also a fundamental pillar of societal organisation. A radical change in that situation started to materialise in Europe in the 1980s, when mass production based on extensive growth and economies of scale and its related employment first encountered barriers. Technological development has also altered demand for labour, which has, in turn, reduced direct human contribution. Accordingly, for many paid work could no longer be a means of social integration, recognition and acceptance. Traditional employment in capitalist economies in the traditional sense functioned properly. In new economies, however, employment of a new kind, different from the traditional type, needs to be developed and adopted widely.

One option is atypical employment.[1] In today's globalised world the actual performance of work in a number of jobs is independent of time and space; thanks to the rapid spread of information communication technologies, services can be provided from any part of the world. The above triggering factors not only encourage, but also require atypical employment such as part-time, fixed term or self-employment. It is inevitable that companies intending to hold ground in an increasingly tough competitive environment should manage their labour force flexibly, which also brings with it a sharp rise in temporary employment, another atypical form of employment (Ékes 2009).

Nevertheless, the emergence and functioning alongside each other of the new (atypical) forms of employment is not sufficient for ending of joblessness or resolving the resulting social problems. The practice of confining work to paid work should also be abandoned. According to Offe (1998), when employees think of work as an opportunity to earn money, their personal attitude to work changes. As a result, work ceases to function as an organiser of society. Robertson's model (1985) includes voluntary work, as opposed to paid work, performed of

[1] *Atypical employment is a special form of employment different from traditional full-time employment; it differs from the well-known model in terms of the time, location and time schedule of work (De Grip et al. 1997).*

one's own free will, for the satisfaction of personal needs. Rimler (1999) proposes that changing working conditions also suggest that work plays a more important role in individual development than in social integration.

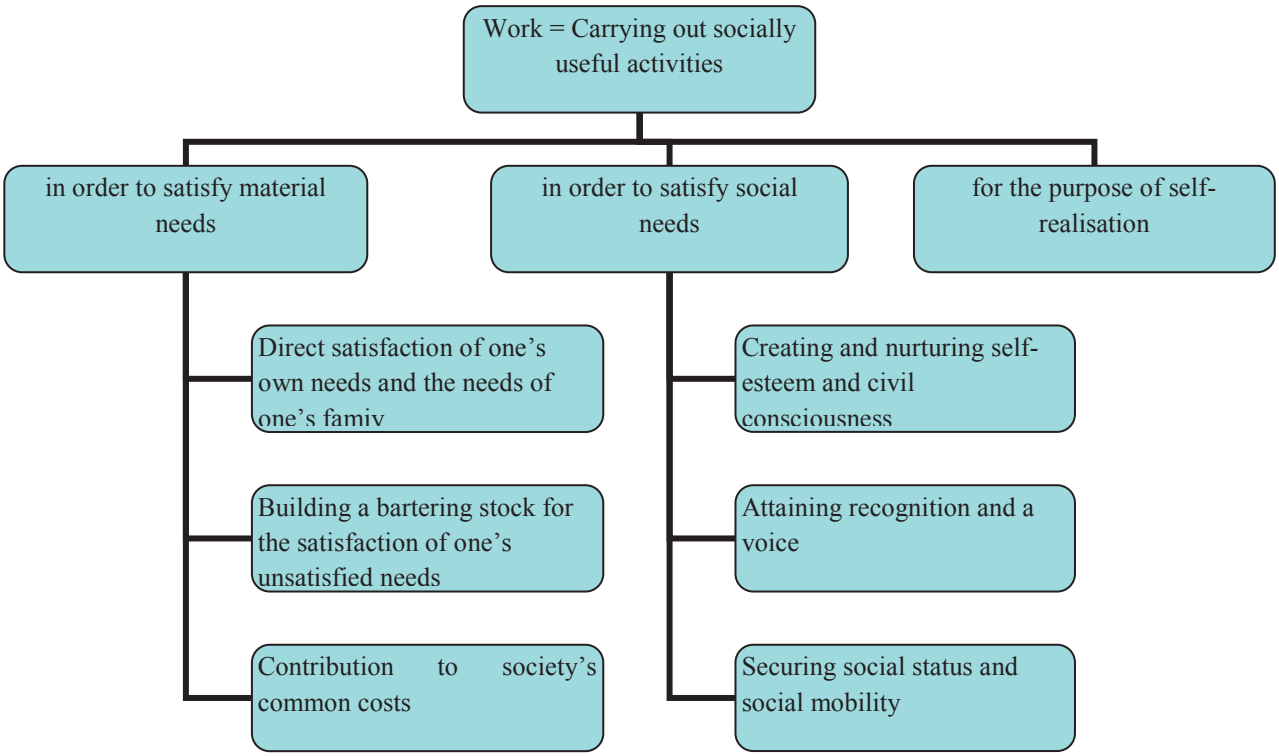
Although full employment in profit-oriented capitalist economies has turned out to be an illusion, work and its related achievements continue to have (or rather, we would like them to continue to have) a determining role in the hierarchy of society, the redistribution of goods, social integration and perception by others. This contradiction can be resolved in two different ways. We either find a new foundation other than work on which to base society, and thus share in goods and be perceived by others along distinctly different values (e.g. property, abilities, relationships and need) or – and this is what we prefer – change the concept of work, confined to hired labour since the industrial revolution, and expand it to include the ability to play its role as a value driver, an organiser of society and developer of individuals again. The re-evaluation of the concept of work will lead to the emergence of new goals, new contents and new types of employers, which will further fine-tune the post-industrial/postmodern employment model. (If, however, the concept of work remains unchanged, we will likely to be able to speak of work-based societies only if we factor in further social polarisation and a more extreme variant of social exclusion, which will, sooner or later, lead unstoppably to a new social era.)

This special issue includes papers presenting research carried out on similar issues: sustainable enterprise models (Illés 2016); sustainable accounting (Demény & Musinszky 2016); the SLEM model created to measure the market potential of local goods supplied by the entrepreneurs of the Cserehát region (Bartha & Molnár 2016); establishing and operating social enterprises (Várkonyi 2016); and route-based tourism product development (Nagy & Piskóti 2016).

A Model of Postmodern Employment with Special Regard to Peripheries

The most important characteristic of the employment model of post-industrial societies is that it comprises building blocks that are hierarchically structured and reinforce each other (Szabó & Négyesi 2004). I wish to highlight five fundamental characteristics of the model:

(1) *It is based on a changed concept of work:* contrary to the paradigm under which work is closely linked to the place where it is actually performed, work under the new concept is not restricted to hired labour, rather, it is a socially useful activity that contributes to the satisfaction of both material and social needs as well as self-realisation. (Török 2006) (Figure 1).



Source: drawn by the author

Figure 1. A broader-based concept of work from the perspective of the private individual

In order to keep the role of work as an organiser of society, the new concept shifts focus from the place of work to work and income. This change in paradigm is an especially pressing issue in regions where employment is unusually low and where there are only limited opportunities for the business sector to expand. The capacity of the business sector to create jobs varies within these regions: the for-profit sector is more likely to create jobs in some sectors than in others. However, this does not mean that there are no job opportunities or socially useful activities to be performed in the latter regions. On the contrary, there is more to be done there than elsewhere on account of the very backwardness of these regions. There is no denying, however, that the workforce the workforce lacks the skills and education for performing the above activities only to a limited extent, or only if their abilities are developed.

(2) Its fundamental assumption is mixed economies: mixed employment and income-earning models may be able to offer a solution particularly in areas of permanently high unemployment and with low business potential (G. Fekete 2011b).

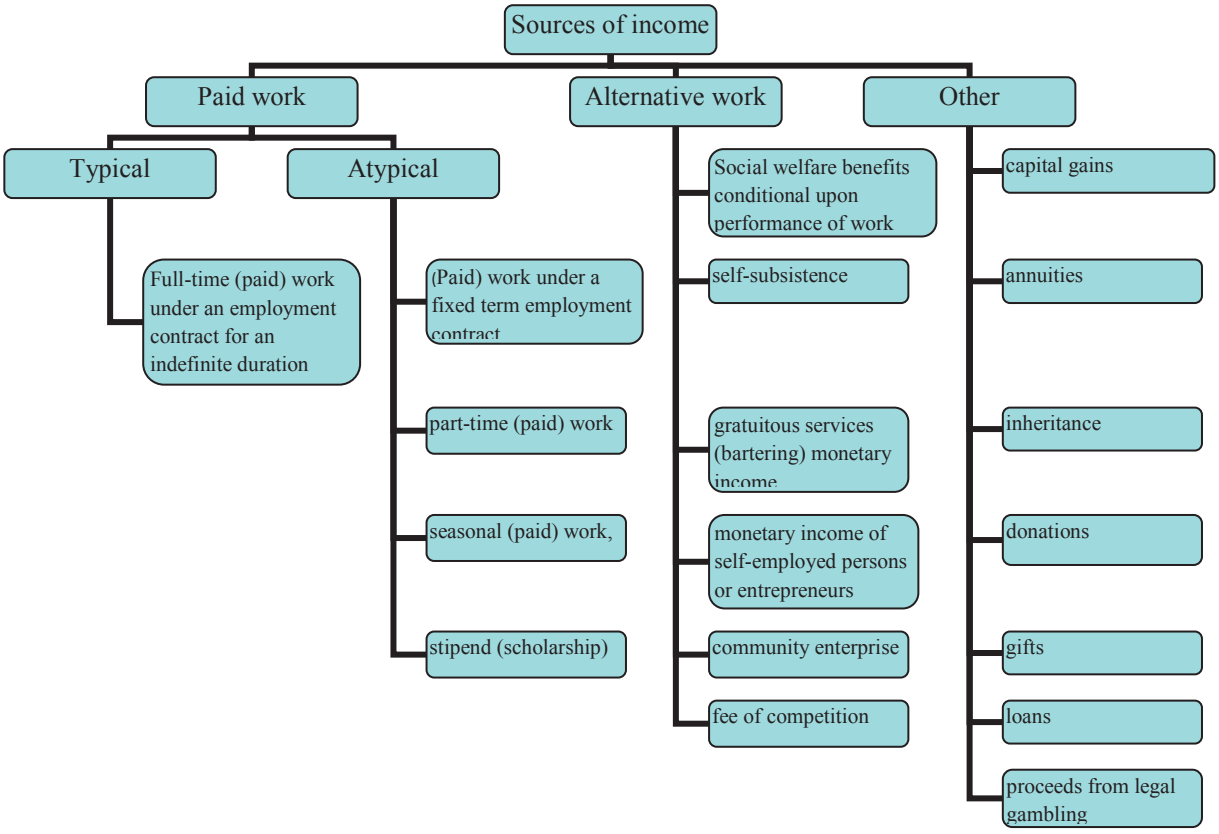
Likely sources of income under a mixed economy model:

1. *Full-time employment (hired labour) under a contract of indefinite duration:* jobs in the traditional sense of the work in the primary labour market. Only excessive underpayment can justify its combination with other forms of employment.
2. *Employment (hired labour) under a fixed-term contract:* a great drawback to it is unpredictability. Unless there are other sources of income, it leads to permanent "ups and downs", i.e. periods of sudden uncertainties in income security alternate with better-off periods.
3. *Part-time employment (hired labour):* its advantages are predictability and adaptability to the abilities of workers and employers, while its disadvantage is lower available income. It should be combined with other types of income in order to ensure a livelihood and an adequate pension in old age.
4. *Seasonal employment (hired labour):* unpredictable and highly uncertain, it is often offered in the grey or black economies. Although under applicable laws the informal economy can be transformed into a formal one without any punitive measures taken against those involved, the relevant procedure is still rather convoluted, and prohibitive social taxes and contributions and the fear of becoming ineligible for steady and predictable social security benefits hold employee and employer back from going legal. The administrative burden on employee and employer is likely to be reduced if non-profit organisations operating as temporary employment agencies could enter the market. Such organisations could also bring currently hidden labour demand into the open. Guaranteed basic benefits up to a certain level of income and lower social taxes and contributions could facilitate the transformation of a shadow economy into a formal one and help identify new opportunities for work.
5. *Social benefits conditional on the performance of work:* it is not a social allowance proper but, rather, it is a social security benefit which, though granted on the basis of intrinsic eligibility, is conditional on the performance of a socially useful activity if total income is permanently below a certain level. Work is performed for a fixed number of hours and in jobs specified in the employment plan of local councils.
6. *Self-subsistence:* this means production mainly of food for personal consumption, but this category also includes e.g. sewing one's clothing, performing traditional cottage industry activities and producing goods which would otherwise have to be purchased to satisfy one's personal needs. Consumer societies have long forgotten about this solution, which – for this very reason – many find archaic. On the other hand, however, faltering trust in food safety, allergies, the need for self-realisation and, of course, the lack of pecuniary income all boost efforts at self-subsistence. Self-subsistence is not full-scale from the perspective of the individual or his family; nevertheless, the re-evaluation of the concept of work has also led to a rise in the social usefulness of self-subsistence-related activities.
7. *Gratuitous services (bartering):* a higher level of self-subsistence where one can satisfy an even higher proportion of one's needs through an exchange of the goods and services produced by oneself without earning pecuniary income. In order for the exchange to work, a person co-ordinating the exchanges is needed. If the scheme is transparent, the turnover (the income earned) by gratuity service providers or voluntary co-operative workers can also be measured. Imposing VAT on turnover, however, stifles the very idea of the whole scheme because in order for VAT payment liability to be fulfilled, pecuniary income is required, which frightens off the users of the services or confronts them with an impossible task.
8. *Monetary income of households:* this stems from the utilisation of the surplus capacity of households, e.g. village tourism (accommodation in private homes), family homes providing day care for children or the elderly, village "home restaurants", repairs with one's own tools, and personal care services. In fact, the goods or services produced or provided on a scale lower than that of commodity production, i.e. produced or provided for self-subsistence, but not consumed or used by the family, are "marketed". Households earning non-monetary income cannot afford the current statutory taxes, social contributions, administrative charges, accounting fees, "expected" taxes, etc. payable on the minimum wage because they are not businesses proper. Their aim is not profit-generation but, rather, the supplementation of the income needed for livelihood with what is received in return for goods and services. Currently, only self-sufficient farmers and, under the most recent statutory regulations, small-scale producers can engage in such

activities legally. This category does not include personal services or cottage industry and maintenance activities.

9. *Monetary income of self-employed persons:* commodity production at a scale that is higher than that of households, but whose aim is not profit generation but, rather, income for farmers, craftsmen and professionals earning their own wages. The reasons for the creation of and lower taxes and social security contributions for this separate category of employment are the self-employment function and national employment objectives.
10. *Social enterprises:* non-profit enterprises striving to satisfy the needs of local communities offer not only work. Employees are often owners and also consumers of the goods produced, which reinforces the sense of security. Wages that are in general lower than in the for-profit sector are likely to be counteracted by in-kind benefits and responsibility for one another. Participation in social enterprises is also possible through voluntary work. Although no wage income is generated, the reimbursement of costs, available benefits and the hope of gaining social capital generated by being part of a network can still make work under this scheme attractive.
11. *Capital gains and annuities:* return on savings inherited or put aside – for the purpose of self-reliance – during active employment helps in survival during "workless" periods. However, savings can be made only if income is not capped, i.e. there is no ceiling over which the unemployed lose eligibility for social benefits.

Although most of the above options are still available, they rarely feature as parallel sources of income. In fact, such a scenario is often not possible. For the unemployed, the greatest obstacle is the threat of losing eligibility for regular benefits and, hence, a cap on income "allowed" to be earned. The cap on earnable income nullifies motivation for work or even nips it in the bud, even if the combination of sources of income is legitimate.



Source: drawn by the author

Figure 2. Sources of income under the mixed economy model

(3) It comprises multiple sectors and actors: all three sectors of the economy are present, which follows from the very existence of a mixed economy. Besides the actors of the business sector, those of the public sector and civil society have also emerged as employers and co-ordinators of employment. Compared with the situation earlier, the social economy has gained in importance.

The primary labour market operated by business enterprises is characterised by the productivity needed for remaining competitive, which is maintained by a reduction in the numbers of those employed who are replaceable by technology and by efforts to increase skills and competences .

In parallel with a reduction in public finances, the public sector is also compelled to cut down on the numbers employed and can become a large-scale employer in public work programmes only rarely and temporarily in areas outside of traditional public administration and public services. Rather, it facilitates access to work and income indirectly with regulatory means, assistance and co-ordination.

The social (civic) sector entered the economy in the 1980s. Civil sector organisations bridged the unfilled gap of the other two sectors in order to satisfy the basic needs of citizens (e.g. healthy food, housing, preservation of health, social care, education, leisure, access to information, assertion of human rights and interest advocacy). In order to provide the funds needed for their operation, they are also engaged in commercial activities; in addition, they also rely on voluntary work and fund raising. Their operation is based on the principles of democracy (Kuti & Marshall 1991). The fundamental value cherished by social economy is that it operates in the interest of a community rather than its individual members and it strives to promote the establishment of communities on a territorial basis or along shared interests. Persons active in the social economy work in co-operation in the interest of shared benefits. Social ventures serve communities. Their aim is not to maximise profit. Rather, they are aimed at the permanently unemployed as their target group. In Hungary, the social land scheme is one of the wellsprings of social ventures (G. Fekete & Solymári 2004; Bartal 1998). Social ventures prioritising social goals over earning profit are employers themselves while they also participate in co-ordination between the individual forms of social ventures and in setting up a local model of employment.

(4) It is territorially differentiated. Based on the varying employment capacities of the regions, a map can be drawn showing the regions relying on the business sector, those relying on the public sector and the ones relying on the social sector. The mixed employment model with its components arranged in different configurations is likely to be desirable in areas with differing capabilities. The components focused on by employment policy related to territorially differentiated employment also vary from one region or settlement to the next.

A. Strengthening for-profit and non-profit enterprises creating jobs (for hired labour), facilitating the spread of the alternative forms of employment and supporting related labour market services are likely to be key considerations in settlements with strong employment potential in the primary labour market. The tools used so far are likely to be successful, as there are already the institutions necessary for their application.
B. Strengthening the idea of having more than one source of income, supporting individual non-viable sources of income and co-ordinating them seem to be the most important tasks for settlements with medium to high employment potential in both the primary labour market and in public work employment. Willingness and motivation are likely to be available for this locally.
C. The main tasks in settlements with weak employment potential in the primary labour market, but strong employment potential in public work employment (an employment scheme of the Hungarian government within which authorities – e.g. local councils or government bureaus – create jobs for the unemployed) and some track record in the social economy include improving employment potential in the public sector and the social economy and strengthening alternative sources of income as soon as reasonably possible.
D. Settlements with weak employment potential in both the primary labour market and public work employment are likely to lack conditions (e.g. motivation and institutions) for organising employment locally. The main task there is to establish the entire system and to increase the local skill base.

(5) Strong local determination: A mixed economy, territorially differentiated employment and the co-ordination of the various sources of income require well-thought out, deliberate actions on the part of all the parties involved, such as employees, employers, local councils, civil society actors in employment and labour organisations. Accordingly, one can plainly see that attention must also be focused on, and tasks must be carried out at, a local/small regional level in employment policy. Whether new jobs and new sources of income will be created depends on the successful development of local economies (Birkhölzer 2000).

AN "ACHIEVEMENT" OF OUR AGE: PUBLIC WORK EMPLOYMENT

The central government and local councils may use public funds to create – mostly temporary – job opportunities for the unemployed. One established method is public work, which is a compromise between welfare benefits and jobs proper (G. Fekete 2011a). Originally, public work employment was a scheme for substituting with work the tasks and development to be

carried out by the state and local councils and related shared costs serving the interest of the public. Employment through public work, which dates back to the Middle Ages in Europe, has undergone a number of major changes. It gained in importance when the earlier forms of economies and employment were undergoing transformation and the state had to intervene due to a lack of equilibrium between labour market demand and labour market supply and the resultant scarcity of income. One of its functions is to reinforce the rules governing the distribution of goods in work-centred systems, remind members of a community of their obligations associated with belonging to the community, and create a scheme under which public work has to be done for eligibility for social security benefits. A second function is to reduce the loss of income faced by those no longer in the labour market in a fashion that spares public finances, i.e. by limiting the number of individuals drawing social security benefits and the amount of benefits. A third function remains social control over the poor and transforming the societal causes of poverty into individual causes (Csoba 2010b).

In modern Hungary, public works was rediscovered before the regime change. All the usual purposes of public works employment featured among the objectives of public benefit employment[2] launched in 1987, public works[3] re-introduced into employment policy in 1996 and public purpose work[4], the third pillar of employment through public works. Following a slow take-off, public purpose employment has been dominant among active employment policy tools since 2000[5]. The underlying reason for this is an amendment to the law pursuant to which local councils have to provide employment for the means-tested unemployed from among those who are beyond the period of eligibility for unemployment benefits, and only individuals agreeing to do public works will receive regular social benefits.[6] In the years to come, the funds earmarked for employment and the capacity of local councils to organise and provide work were a barrier to mandatory work by the individuals on benefit. In 2006, the regular social benefit was transformed into family benefit, which, however, turned out to be less motivating for working age recipients of benefits in terms of job-seeking. As a result, the amount of the family benefit was capped in 2007, and recipients were required to co-operate with labour offices.[7] 2008 saw the commencement of the development of the "Road to Work" Programme. In that same year legislative preparation began.[8] The programme launched in 2009 "made a series of complex measures in order to enable permanently unemployed individuals capable of work to participate in some form of public work employment in order that they may earn a steady income."[9] The objectives of the programme included helping the groups concerned re-enter the labour market, increasing the number of projects supporting job creation and, concurrently with this, curbing employment in the black economy. All this was aimed at reducing reliance on benefits and its detrimental impacts. The target groups of the programme were the economically inactive population, registered job-seekers and recipients of social security benefits. The programme was operational for nearly two years.

In 2011 the system of public work employment changed again. Pursuant to a new government decree[10] on support available for public work employment and the Act[11] on the amendment of acts on social, child protection, family support, disability and employment issues, the system of public work employment as it had been until 2011 was replaced by the Programme of

[2] *Joint communication no. 8.001/1987. (MUK.15.) ABMH-PM on public benefit work: local councils and the institutions thereof and civil society organisations can provide employment for "individuals who cannot find employment for reasons beyond their control".*

[3] *Minister of Labour Decree no. 6/1996. (VII.6.) on support available for the promotion of employment and on support funded by the Labour Market Fund for the management of crisis situations: the goal is to invigorate the government's employment policy to prioritise active means of employment over social security benefits as a passive means of employment. Individuals eligible for participation in the scheme are permanent job-seekers and working age individuals no longer eligible for job-seeking benefits, who are employed - for a fixed period of time - in jobs realising community objectives or the goals of the settlement concerned.*

[4] *Act XXII of 1996 on the amendment of acts related to the individual social security benefits: the Act enables local councils to require – in a scheme regulated by them– individuals drawing social security benefits to co-operate with organisations providing services and participate in work.*

[5] *In addition there is public benefit work, which is one of the three main forms of punishment specified in the Criminal Code, also features in Hungarian practice. Offenders sentenced to perform public benefit work serve their sentence by working for an economic entity appointed by penitentiary institutions. No employment relationship is established with the appointed place of work for the term of public interest employment (Article 61(1) of Act on Prison Service) despite the fact that convicts do work.*

[6] *Act CXXII of 1999 on the amendment of certain employment and social legislation*

[7] *Act CXXVI of 2006 on the amendment of certain acts on social issues. Amendment of Act III of 1993 on social administration and social security benefits.*

[8] *Act CII of 2008 on the amendment of certain acts on social issues. Amendment of Act III of 1993 on social administration and social security benefits.*

[9] *State Employment Services, 2009*

[10] *Government Decree no. 375/2010 (XII. 31.) on the support available for public work employment*

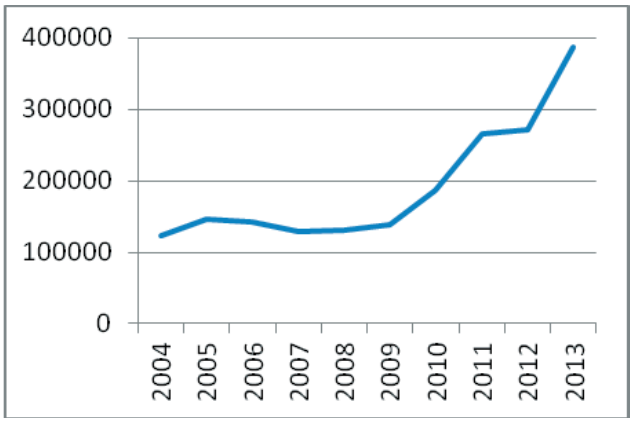
[11] *Act CLXXI of 2010 on the amendment of acts on social, child protection, family support, disability and employment issues.*

National Public Work Employment. The focus was shifted from social considerations onto the labour market integration of an increasingly large proportion of inactive groups. The Hungarian Labour Plan set as its main goal to provide state-subsidised employment rather than social security benefits for individuals for whom the open labour market does not offer any realistic employment opportunities.[12]

With the forms of public work employment having been transformed, taking effect from 1 January 2011, public purpose employment, public benefit employment and traditional centrally-organised public work programmes were terminated and stand-by support available for working age unemployed individuals was replaced with wage substitute benefits. The START Public Work Employment Programme was launched in 2011 as part of the system in predominantly rural settlements in the most disadvantaged position from a labour market perspective. (Altogether 980 pilot programmes were launched in 13 of 19 counties, 28 small regions and 493 settlements.) In 2012, small regional START programmes were launched in another 66 disadvantaged regions. The number of settlements participating in the programme rose to over 1,500, which means that approximately half of the Hungarian settlements are involved in the programme.

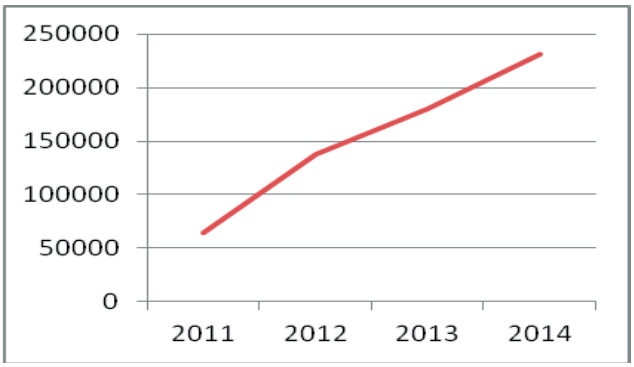
A quantitative change in the number of the participants in the public work employment and public expenses on public work employment aptly illustrate the changes illustrated above. The number of participants involved in public work employment varied between 270,000 and 300,000 in 2003 and started to rise steeply in 2009 (Figure 3). The monthly average headcount in public work employment was significantly lower. Nevertheless, based on 10 to 11 months' employment, it exceeded 250,000, accounting for 6- 7% of the total numbers employed.

There was also a sharp rise in money spent on public work employment (Figure 4). Public expenses set aside for this purpose have nearly doubled over the past three years. Approximately HUF 500,000 is spent from public money on a public work employee annually, translating into 9-month employment in 2012 and 11-month employment for 2014.



Source: Edited by the author, based on data of Map of Resources, HAS (2001-2010); State Audit Report (2011); vg.hu (2012-2013)

Figure 3. Trends in the numbers employed in the public work programme (2004-2013, persons)



Source: Edited by the author, based on data of Map of Resources, HAS (2001-2010); State Audit Report (2011); vg.hu (2012-2013)

Figure 4. Public expenses on public work employment (2011-2014, HUF million)

The aim of the programmes were to to create value, satisfy real needs, provide for the possibility of continuous work, be feasible in all areas of the country and reach out to several target groups (BM 2013). Along with employment, other objectives also feature. They include (1) the protection of the natural and built environment, (2) the improvement of the quality of mass catering by using local produce and, in connection with this, the establishment of self-sustaining and self-sufficient settlements, (3) the establishment of tidy community spaces and liveable settlements through heavier reliance on the co-operation of civil society organisations and (4) increased involvement of those in public work employment in water regulation, flood damage prevention and water utilisation for agricultural

[12] *Approved by the Government on 19 May 2011.*

purposes.[13] Accordingly, the main areas of activities include agricultural projects, drainage of excess water, repairs to agricultural roads, bio and renewable energy production, repairs to public roads, clearing of illegal waste dump sites and the winter employment of those in public work employment, complemented with programme elements based on local characteristics in 2013. The most common small regional START pilot programme type is agricultural pilot programmes.

Under a theoretical approach, public work employment is a system regulated in detail which offers a wide range of opportunities and responds to local characteristics and individual differences without affecting market competition and with its viability proven by daily practice.

Public work employment may be useful for both communities and their members. Firstly, in addition to efficient organisation, settlements become tidier, healthier and more liveable, supporting stable employees and, hence, community morale. Secondly, the benefits that those employed enjoy is that they can receive wages that are higher than social security benefits, acquire work experience that improves their chances of re-entering the primary labour market, set an example to their children, and consider themselves as useful members of society, which boosts self-esteem and helps them rise in public esteem as well.

The importance of public work employment from the perspective of the labour market is that, without it the financial crisis would have affected employment more adversely. The rate of employment, which peaked in autumn 2013, is also attributable to the high numbers and rates employed under this scheme. The government intends to transform public work employment in a way that turns it from a social policy pool into an economic policy tool.

That said, expert analyses (Bass 2010) and our own case studies reveal that public work employment is a trap with no way out If poorly organised, it fails to create value or improve recognition at the level of both local communities and individuals. It may even fail to provide income higher than the amount of the benefits received. There are also macro-economic barriers to public work employment. Neither the state nor local councils can become large-scale employers because this would lead to a rise in the public deficit, a fall in productivity, a laggard workforce, distorted local competition and the crowding out of opportunities for permanent employment. Further objections to public work employment include its (1) temporary nature, (2) inability to help those concerned re-enter the primary labour market, (3) inability to improve employability and (4) effect of turning the social causes of poverty into individual causes (Csoba 2010a).

The above corroborates the need for both solutions complementing the employment potential of business enterprises and a simultaneous search for possible forms of exiting public work employment and stepping onto a higher level. The direction to move in when public work employment is exited is either a business or a social economy. A business economy is not ideal for regions with few business enterprises. (This option should not be discarded, though.) A version of the latter also prioritised by the government is the transformation of START public work projects into social co-operatives. The following section discusses a few issues related to this.

SOCIAL ECONOMY IN HUNGARY

A. Social enterprises

There are three definitions in Hungary of social enterprises serving as building blocks of the social economy.

1. NESsT definition: Social enterprises (1) offer innovative solutions to social problems, (2) have a dual purpose: improving financial sustainability and exerting a significant impact on society and (3) sell high quality products and services in a consistently responsible manner. Social enterprises can operate as non-profit, public or commercial organisations. They prioritise social goals connected to disadvantaged people (Tóth et al. 2011).
2. Definition in the Project Guide of Social Renewal Operative Program of Hungary (based on the EU's White Paper): 1) non-governmental entities, (2) primarily market-based production, commercial and service activities aimed at helping self-employment, (3) basic values: volunteering, co-operation, solidarity and responsibility, (4) prohibition of profit sharing, (5) social commitment. Their main purpose is to reduce unemployment and ease the burden on the social security system (Petheő et al. 2010).
3. Definition by the Concise 4 research programme: A social enterprise (1) is a non-profit organisation; (2) seeks to meet social goals through carrying out business activities; (3) does not allow private individuals to distribute assets, but serves the good of those people who are targeted by the social aims, (4) possesses an institutional structure in which the participation of the members is voluntary; (5) supports mutual cooperation with other organisations within the sector concerned (Petheő 2009).

Nevertheless, the use of the term "social enterprise" without any definition whatsoever or the absence of awareness of the operation of social enterprises as such is the most common phenomenon.

[13] *Government Decree no. 1044/2013. (II.5.) on certain issues related to public work employment requiring decisions*

Under the European Commission's definition the following qualify as social enterprises: Enterprises (1) for which the social and societal objective of the common good is the reason for the commercial activity, often in the form of a high level of social innovation, (2) where profits are mainly re-invested to achieve this social objective, (3) where the organisation or the ownership system reflects their mission and (4) which use democratic or participatory principles or focus on social justice. Thus, typically, they provide social services or other goods and services (housing, health care, support for the elderly and the disabled, shelters for disadvantaged groups, child care, access to work and training, addiction management, etc.), or they produce goods and services for some special social purposes. The latter includes employing disadvantaged persons having a particularly low level of education or facing social and employment problems leading to social exclusion. Social enterprises comprising the social economy employ over 11 million people in the EU, accounting for approximately 6% of the total number employed (EC 2011).

In Hungary, there are no uniform statutory regulations applicable to social enterprises. (By contrast, there are acts on social enterprises in most European countries.) In Hungary the Act on social organisations[14], the Act on the management of non-profit organisations[15] and the Act on social co-operatives[16] provide a legal background.

B. Social co-operatives

Social co-operatives are one of the types of social enterprises. They are engaged in a business activity; however, social objectives are overriding priorities, and there is no profit-sharing among members. They are a special form of social enterprises, as the basic principles of co-operatives apply to them (ICA 1995).

Not all co-operatives are social enterprises (the literature is divided over the applicable criteria) and, conversely, not all social enterprises are co-operatives (they may operate as associations, foundations or companies based on shared benefits).

Social co-operatives first feature in Hungarian regulations in 2006, after after a change in political leadership.[17,18] As defined by them, co-operatives are legal entities incorporated with a specified amount of capital comprised of membership shares operating in accordance with the principle of open membership and a changing amount of capital whose aim is to facilitate the satisfaction of the economic and other societal (cultural, educational, social and healthcare) needs of their members. Social co-operatives seek to create employment for disadvantaged members and improve their social situation in other ways. Co-operatives may be engaged in any activity that is not at variance with the law.

The alignment of the rules applicable to social co-operatives with the rules governing public work employment started in 2012.[19] On 1 September 2013 a new form of social co-operative emerged in Hungary.[20] Its key features are:

(1) new actors among its members. In addition to natural persons, local councils or ethnic minority self-governments and their partnerships and entities with a public benefit status engaged in charity activities specified in the applicable law may also become members. Entities with a public benefit status may also be investor members. In the case of loan for use contracts, the minister in charge of public work employment may appoint a person representing the government until the maturity date of the loan.

(2) conditions for membership that are easier to meet: prospective members may meet their obligation to subscribe membership shares by making a declaration of intent to purchase them from other members; they have to make the required capital contribution within a period of one year. The latter requirement can also be met by transferring the goods produced/manufactured by them in the course of their work for the co-operative and thus into the ownership of the members.

(3) establishment of a legal relationship intended to create employment for members: a legal relationship intended to create employment for members is an independent legal relationship that is outside the scope of the statutory regulations applicable to legal relationships established for the purpose of other employment where work may be remunerated – in proportion to the work contributed by members –by the in-kind transfer of the goods produced/manufactured, in part or in whole, jointly by members. Such a legal relationship is subject to special tax and social contribution regulations and it does not influence the eligibility of employees for in-work benefits and other support.

(4) transition from public work employment: If a number of disadvantaged persons have a public work

[14] *Act CLXXX of 2011 on the freedom of associations, the public benefit status and the operation of and support for civil society organisations*

[15] *Act IV of 2006 on business associations*

[16] *Act LXXXVIII of 2005 on voluntary activities in the public interest*

[17] *Act X of 2006 on co-operatives*

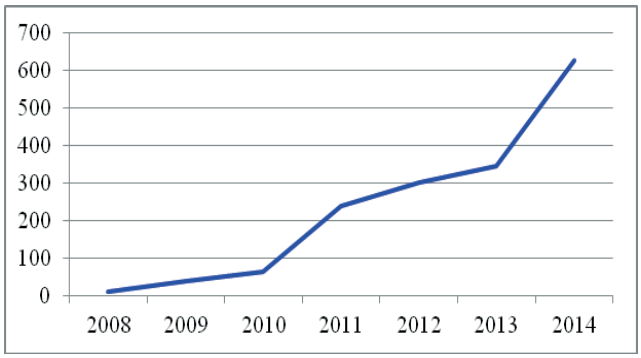
[18] *Government Decree no. 141/2006. (VI. 29.) on social co-operatives*

[19] *Act XXXVII of 2012 on the amendment of Act X of 2006 on co-operatives, Act XCIII of 1990 on duties and Act CVI of 2011 on public work employment and the amendment of acts related to public work employment and other acts.*

[20] *Act XLI of 2013 on the amendment of certain acts in connection with social co-operatives and on the amendment of certain acts related to public work employment.*

employment relationship with the same public work employer for no less than one year and undertake to work together as members of a social co-operative for at least two years, they may use some tangible tools typically used in public work employment free of charge on the basis of a loan for use contract.

In parallel with the applicable legislation, programmes supporting the establishment of social co-operatives also started. They received support from OFA (the National Employment Public Benefit Non-Profit Private Limited Company)[21] in 2007 and 2009, from the programmes of "Atypical Forms of Employment" of the Social Renewal Operative Programme of Hungary[22] in 2010 and 2011 and the Social Economy Programme of Social Renewal Operative Programme of Hungary[23] in 2012. Furthermore, the OFA Co-operation Programme[24], the Swiss-Hungarian Civil Fund[25] and NESsT – Citibank[26] also encouraged the strengthening of social enterprises and, among them, social co-operatives. A take-off in the number and regional distribution of the social co-operatives registered in Hungary amply reflects the operation of these programmes (Figure 5).



Source: Edited by the author on the basis of data of the Court of Registry and the OFA (National Employment Public Benefit Non-Profit Private Limited Company) and TÁMOP (Social Renewal Operative Programme of Hungary) tenders

Figure 5. Changes in the number of social co-operatives

TRANSITION FROM PUBLIC WORK EMPLOYMENT TO A SOCIAL ECONOMY

According to the government's plans, in agricultural pilot programmes public work employers will receive a state subsidy decreasing in proportion to any growth in their own income. If a programme becomes self-sustaining, participants may – as an alternative – establish social co-operatives. Local councils may participate as members in co-operatives, which may then use – free of charge – the machines and equipment that the councils purchased earlier using subsidies to cover investment and equipment costs. This process is in line with the principle of a three-pillared subsidy system, i.e. public work employees may enter the primary labour market by becoming self-employed, a co-operative member or a co-operative employee (Bagó 2014).

Besides fulfilling the joint requirement of spending less public money and creating more jobs, converting public work employment into co-operative employment is warranted by compatibility with EU programmes. The reason why the leading role of local councils should be kept (Table 1) is that – as a result of previous programmes – they have the means (land, buildings and machines) necessary for production/services and they have largest share in the local service market. They operate mass catering, health care, social and recreational systems. Through the public buildings in their possession they have interests in energy supply and in the cleaning and maintenance of public spaces. They are responsible for public safety and security and community transport. Due to a mistrust of civil organisations, they do not want other, independent actors to enter this market. There is hardly any practice of transferring public duties to local civil organisations, which are in many cases not prepared for this role.

[21] *Szövetkezz/2009 (Co-operate/2009) The development and the expansion of social co-operatives*

[22] *TÁMOP (Social Renewal Operative Programme of Hungary)-2.4.3.B-2/10, /11*

[23] *TÁMOP (Social Renewal Operative Programme of Hungary)-2.4.3.D-12.*

[24] *TÁMOP (Social Renewal Operative Programme of Hungary)-2.4.3.-B-1/09. COOPERATION*

[25] *Strengthening and increasing the capacity of civil society organisations active in the area of social and environmental protection issues in North Hungary and the North Great Plain Region (2012).*

[26] *NESsT-CITIBANK Social Enterprise Development Programme (2012): A grant of USD 10,000 to the enterprises submitting the two best business plans, mentoring, and offering of promotion opportunities http://www.nesst.org*

Table 1
Reasons for and conditions of converting public work employment into social co-operatives

REASONS:	CONDITIONS:
Contribution of the resources of local councils to the co-operative	*Assertion of co-operative principles*

➢ arable land, property
➢ technical equipment
➢ administrative staff
➢ management
➢ markets
  ➢ business-based: for their own tasks
  ➢ subsidised: for means-tested recipients
	➢ voluntary basis and open membership
	➢ democratic control by members
	➢ economic participation of members
	➢ autonomy and independence
	➢ training and education
	➢ cooperation between co-operatives
	➢ commitment to the community

Source: edited by the author based on co-operative principles (International Co-operatives Alliance, 1995)

However, the requirements for operation as a social co-operative (Table 1) can be met only if there a strong community background. The weak local communities, strong paternalism, corruption and social vulnerability typical of today's Hungary, especially in the provinces and the peripheries, suggest anything but a strong community background.

The two forms are fundamentally different. One carries out public duties and as such falls into the category of social care. The other is a business enterprise. Their convertibility into each other depends on a number of factors (Table 2), of which I highlight five:

(1) Objectives and activities: Some of the current public work objectives announced by the government are also social objectives. It seems that the objectives and the activities are no strangers to the social economy. However, a look at the political goals linked to public work employment, the control exercised over the poor and a decrease in the number of the recipients of social welfare benefits reveals that the problems facing the poor and the disadvantaged are managed in a more complex fashion in the social economy, and paid employment is only one of the not mutually exclusive forms of helping individuals to enjoy various benefits and is by no means merely a tool for exercising power.

(2) Fundamental principles of organisation and management: Under the current public work employment scheme, as we have seen so far, employees are in a deeply subordinate position and work according to strict schedules and under strict control. Management is autocratic. Local policy makers and the mayor have a say in whom to employ and whom to dismiss, and their decisions are often politically charged. The principle of performance may prevail in employee selection in both cases. Under the co-operative scheme members are equal and each member is entitled to one vote irrespective of their social status. This also means responsibility, which requires a responsible owner's attitude. No enterprise with an attitude of subordination or, at best, an employee's attitude will ever succeed.

(3) Fund-raising and commercial activities: Inherently, public work employment is based on one source of funds, i.e. state subsidies. Commercial activities are allowed only to a limited extent and reliance on donations in order to be reinvested in employment is not typical at all. Co-operatives have a wider selection of fund-raising opportunities to choose from. However, they need to prepare themselves for this appropriately, and have to be familiar with the rules of accounting for the funds raised.

(4) Nature of employment and income: Public work employment is only for a short period of time. Public work is poorly paid and no other employment is allowed during the term of public work employment. By contrast, under the co-operative scheme, membership or an employee status can be established for an indefinite duration and remuneration is also diverse (salary, participation, in-kind benefits, discounts and services provided to the charge of the community fund), while other employment is also allowed. The permanence of employment and income depend on the market reception of the joint performance of the management and employees of the co-operative. No arbitrary restriction is imposed on salaries.

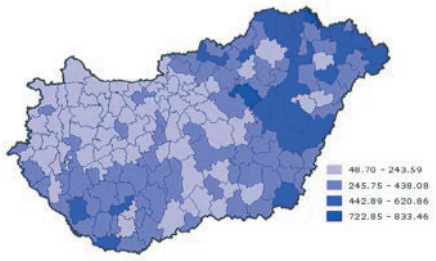
Table 2
A comparison of the fundamental characteristics of public work employment with those of the co-operative formation

	Public work employment (performance of public duties)	*Social co-operatives* (social enterprises)
Objective	Work replacing social welfare benefits	Social/community objectives
Task	Linked to the tasks of local councils	Satisfaction of market and community needs
Sales activity	None or indirectly	Basic condition
Management	Board of local councillors/mayor	Democratic/members' meeting
Attitude	Employee	Owner
Employer	Mayor	Chairperson
Term	Temporary (months)	Indefinite duration
Income	Guaranteed by the state	Income depending on market performance
	Support for means-tested recipients	No different minimum wage
		Members' interest – membership share
		Community fund
Obligation	No other employment is allowed.	Other employment is also allowed.

Source: Edited by the author

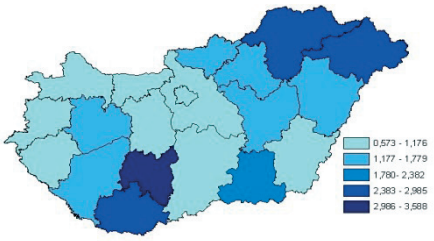
(5) Regional/local justification: It is in areas hit by massive unemployment where the application of both forms is justified. Both forms may pose a threat to local businesses if the activities carried out by these two forms are the same as the activities in which such local businesses are engaged.

Regional similarities between the two forms of employment are amply illustrated by correspondence between the 2010 regional density of public work employees and the 2014 regional density of social co-operatives (Figures 6 and 7).



Source: Map of Resources, HAS 2012

Figure 6. Numbers employed under the public work employment scheme per 1,000 unemployed persons (2010)



Source: Edited by the author on the basis of the data of the Court of Registry

Figure 7. Regional distribution of social co-operatives per 1,000 unemployed persons in a breakdown by county (2014)

The largest number of social co-operatives were formed in the counties where public work employment was the most prevalent. The only exception to that is Békés and Csongrád Counties. The density of registered (not necessarily operational) social co-operatives is lower in the former and higher in the latter than could be expected.

As regards the permeability of the sectors, we wish to point out three further threats. It follows from their mission that social enterprises intend to provide benefits for their respective communities and society, too, expects them to make sacrifices. If characterised by excessive charity and self-sacrifice, initiatives transforming themselves into social enterprises may easily burn out or perish – as did Prometheus. If it is the business profile that gains prevalence, social enterprises may – like the workings of a Trojan horse – ruin the businesses operational in the region concerned in addition to making social goals disappear into thin air. Alternatively, if they cannot detach themselves from local councils, they become an uncontrollable Frankenstein figure threatening the original community objectives (McMurtry 2013).

It follows that a "hybrid" solution merging the characteristics of the two sectors with a pronounced dominance of local councils carries serious inherent threats.

1. If exceptions start functioning as main rules, i.e. in our case local councils becoming members is not a rare exception but a mandatory element, then this maintains dependence on and subordination to local councils and elected political bodies over the long term and at a national level. This can easily lead to operationally hindering double management, or the fossilisation of social enterprises as institutions of local councils, and the hope of material benefits expected from local governments can prevent the evolvement of other forms of social enterprises.
2. "Cosy links" with local councils restrain the utilisation of market opportunities and, thus, make financial sustainability difficult.
3. The "re-regulation" of the markets under the control of local councils and the favouring of their "own enterprises" on these markets distort the market and competition alike.
4. One-sided closed membership, an "employee" attitude and autocratic management hinder the emergence of truly social enterprises and prevent the idea of alliances from becoming fully fledged.
5. Dependence on central and local politics distorts social goals and may abuse employment to establish political clientelism.

The infringement of the principles of co-operativism may set back the idea of alliances for further long periods. Under such a scenario we would lose an economic tool that is also suitable for mitigating regional disadvantages, and we would see the emergence of further social and regional differences.

SUMMARY

One of the toughest challenges of the 21st century is the reduction of joblessness and the resultant social exclusion and, with this, ever more extreme regional differences. In order to respond effectively, both the notion of work has to be re-evaluated and a new employment model has to be set up. As available paid work is no longer sufficient for a workforce whose number increases in parallel with an increasingly long life expectancy, in addition to encouraging the faster spread of atypical forms of paid employment, alternative activities (voluntary work, work around the house and work done in the interests of a community) should again be included in the category of work. The postmodern

employment model comprises building blocks that are hierarchically structured. It relies on the business, public and social sectors of the economy, i.e. a diversity of actors. It is territorially differentiated and, as a result, has strong local links.

Under this employment model, public work employment, which has quickly gained ground recently in Hungary in terms of both the number and the rate of those employed under this scheme, is only temporary and has its limitations. Although local councils can assert local needs and characteristics, have certain means of production (land, buildings, machines) at their disposal and exercise control over local markets (mass catering, energy supply, maintenance of public spaces, operation of (public) buildings, health protection, recreational facilities and community transport), they should not play a direct role in large-scale employment in these areas. Firstly, because, fundamentally, an elected body only has short-term goals. Financing is heavily dependent on equally volatile central programmes. Political or private interests may override social goals, as a result of which business neutrality disappears, i.e. both objectives and interests may drift away from the community's. Secondly, because local councils lack the skills, competence, management capacity and the working capital (and often the permits) needed for commercial activities and the management of production.

In Europe, social co-operatives possess well-established traditions and play an increasingly diverse role in employment. Nevertheless, they are not the only form of social enterprise. In Hungary, however, the concept of social enterprises is confined nearly exclusively to that of social co-operatives. Thanks to the programmes of the past five to six years, their registered number has jumped; the number of operational social co-operatives is much fewer, though. The number of those operating in line with the co-operative principle is even fewer.

The objectives and activities of the START pilot programmes launched under the current public work employment scheme are similar to potential co-operative objectives and activities. However, their current ability to earn income from commercial activities is weak (and this ability does not become stronger simply because state subsidies decrease). They lack independence, democratic management, an "owner's" attitude on the part of the members and the skills and competence on the part of the employees that are needed for employment in a mixed economy. We find subordination serving as a basis for paternalism, the lack of an entrepreneurial attitude and the current relationship with local councils to be an Achilles' heel hindering transition. The two problems meet when co-operatives enter the markets controlled by local councils. In our opinion, under the current circumstances, START pilot programmes can be resumed if they are in keeping with social goals, are in conformity with the intention of separation from the public sector and take the form of non-profit business enterprises capable of sustainable operation under business conditions. Insisting on the co-operative form or, in a worst case scenario, turning it inside out may carry significant risks and set back the development of this fragile form in the social economy, for which there has no alternative in the peripheries for decades in Hungary. In order for them to be introduced in a manner that ensures their viability, it is essential for them to help communities to grow stronger, to increase their social capital and to develop socially responsible entrepreneurial thinking.

The emergence and strengthening of social enterprises may bring about changes in disadvantaged regions with few businesses. Likewise, a shift towards the postmodern employment model based on a mixed economy is also marked in these regions. The resolution of the dilemmas of public work employment described in this study is the first step in this shift.

REFERENCES

BAGÓ, J. (2014). A közfoglalkoztatás régi-új dimenziói (Old and new dimensions of public emlpoyment). Munkaügyi Szemle 58 (1), 11.

BARTAL, A. M. (1998). Szociális+föld+program= szociális földprogram? (Social + land + program = social land program?) Valóság 41 (9), 37-48.

BARTHA, Z. & MOLNÁR, L. (2016). The SLEM model as an assessment method for local goods' competitiveness. Theory, Methodology, Practice, 12(special issue), pp. 5-13. http://dx.doi.org/10.18096/TMP.2016.02.01

BASS, L. (2010). Az „Út a munkához" program hatása – egy kérdőíves felmérés tapasztalatai. (Road to work – experiences of a qualitative survey). Esély 21 (1), 46-64.

BIRKHÖLZER, K. (2000). A szociális vállalkozások szektora Nyugat-Európában. (Sector of social enterprises in Western Europe) In: Szomszédsági gazdaságfejlesztés. (pp. 40-45). Budapest: Közösségfejlesztők Egyesülete.

BM (2013). Önkormányzati Hírlevél– A Belügyminisztérium elektronikus hírlevele az önkormányzati tisztviselők számára. (Local Government News for local administrators - edited by the Ministry of Interior) 1.

CSOBA, J. (2010a). A közfoglalkoztatás régi-új rendszere. Útközben az „Út a munkához" programban (Old-new system of public work), Esély 2010 (1) 4-24.

CSOBA, J. (2010b). „Segély helyett közmunka." A közfoglalkoztatás formái és sajátosságai (Public work instead of social aid). Szociológiai Szemle 20 (1), 26-50.

DEMÉNY, A & MUSINSZKI, Z. (2016). Social accounting – In the wake of the sustainability. Theory, Methodology, Practice, 12(special issue), pp. 26-40. http://dx.doi.org/10.18096/TMP.2016.02.03

EC (2011). Social Business Initiative - Creating a favourable climate for social enterprises, key stakeholders in the social economy and innovation. Communication from the Commission to the European Parliament. EC Brussels, 25.10.2011 COM(2011) 682 final

ÉKES I. (2009). Az atipikus munka és jövője (Future of atypical employment). Munkaügyi Szemle 53 (1), 66-71.

G. FEKETE, É., & SOLYMÁRI, G. (2004). A szociális gazdaság kiépítésének esélye és feltételei az Észak-magyarországi régióban (Chances and condition of building a social economy in North Hungary). Észak-magyarországi Stratégiai Füzetek 1 (2), 32-78.

G. FEKETE, É. (ed.) (2011a). Önkormányzatok és civil szervezetek helyi foglalkoztatási kapacitásainak növelési lehetőségei (Perspectives of development of local employment capabilities of local governments and civic organisations). Kutatási zárótanulmány. Miskolc: Észak-magyarországi Regionális Kutatásokért Alapítvány

G. FEKETE, É. (2011b). Elements of Social and Solidarity Economy (SSE) in the Hungarian Local Development. 'Club of Economics in Miskolc' TMP 7 (1), 17-27.

DE GRIP, A., HOEVENBERG, J., & WILLEMS, E. (1997). Atypical Employment in the European Union. International Labour Review 136 (1), 49-71.

ILLÉS, M. (2016). Enterprise Models from Terms of Sustainability. Theory, Methodology, Practice, 12(special issue), pp. 55-67. http://dx.doi.org/10.18096/TMP.2016.02.05

ICA (1995). A Szövetkezetek Nemzetközi Szövetségének állásfoglalása a szövetkezeti identitásról (About cooperative identity). Manchester: International Co-operatives Alliance. http://www.szoszov.hu/a-szovetkezes-nemzetkozi-alapelvei

KUTI, É., & MARSHALL, M. (1991). A nonprofit szektor fogalma – Egy definíciós vita és ami mögötte van. (Term of non-profit – debate on definition) Esély 3 (1), 61-69.

MCMURTRY, J.J. (2013). Prometheus, Trojan Horse or Frankenstein? The social and solidarity economy as community creation, market wedge, or state monster. 4th CIRIEC Conference: Social economy on the move… at the crossroads of structural change and regulation. October 24-26, 2013 Antwerp.

NAGY, K. & PISKÓTI, I. (2016). Route-based tourism product development as a tool for social innovation - history-valley in the Cserehát region. Theory, Methodology, Practice, 12(special issue), pp. 75-86. http://dx.doi.org/10.18096/TMP.2016.02.07

OFFE, C. (1997). A munkaerőpiac jövője. (Future of the labour market.) In: Andorka R. (ed.) Bevezetés a szociológiába. 419-430. Budapest: Osiris

PETHEŐ, A. (2009). Vállalati társadalmi felelősségen túl: a szociális vállalkozás. (Beyond the corporate social responsibility: the social entrepreneurship). Ph.D. dissertation, Corvinus University of Budapest.

PETHEŐ, A. I., GYŐRI, Z., NÉMETH, B., SIMON, F. & FEKE, N. (2010). A szociális szövetkezetek működési modelljének kidolgozása a foglalkoztatás elősegítése érdekében (Development of an operation model for social cooperatives in order to strengthen their employment function). Budapest: Budapesti Vállalkozásfejlesztési Kutató Intézet Nonprofit Kft. www.bvki.hu

RIMLER, J. (1999): A munka jövője. Új fogalmak, feltételek, forgatókönyvek (Future of work. New terms, conditions and scenarios). Közgazdasági Szemle 46 (9), 772–788.

ROBERTSON, J. (1985). Future work: Jobs, self-employment, and leisure after the industrial age, New York: Universe Books

SZABÓ, K., & NÉGYESI, Á. (2004). Az atipikus munka térnyerésének okai a tudásgazdaságban (Spreading atipical work in the knowledge economy). Közgazdasági Szemle 51 (1), 46-65.

TÖRÖK, E. (2006). Túlléphetünk-e a bérmunka társadalmán? (Can we overcome on the society of paid work?) Szociológiai Szemle 2006 (2), 111–130.

TÓTH, L., VARGA, É., & VARGA, P. (2011). A társadalmi vállalkozások helyzete Magyarországon. (Situation of social entrepreneurship in Hungary) NESsT Kézikönyv sorozat. Budapest: NESsT

VÁRKONYI, M. J. (2016). Challenges of establishing and operating social enterprises. Theory, Methodology, Practice, 12(special issue), pp. 68-74. http://dx.doi.org/10.18096/TMP.2016.02.06

Enterprise Models in Terms of Sustainability

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SUMMARY

The economy, with its driving forces, operating conditions and the consumers' motivation, plays the determining role in the forming of sustainability. The present paper examines a narrower issue within this: the structure of an enterprise model that can be operated in accordance with the requirements of sustainability. The examined model variants essentially differ in risk holder types. The paper discusses two very important criteria of matching to sustainability. On one hand, the smooth operation of the company should not require the existence of the natural rate of unemployment; on the other hand, the driving force related to the success of the enterprise should remain within the company. The model where these two requirements are met concurrently is the working people's enterprise basic model. When the two criteria mentioned above are met, various model variants may be viable. The presentation of the operating conditions and operating mechanisms of these models can build new aspects in the process of sustainability research.

Keywords: sustainability, globalization, natural rate of unemployment, enterprise models
Journal of Economic Literature (JEL) codes: D21, L22, Q01
DOI: http://dx.doi.org/10.18096/TMP.2016.02.05

INTRODUCTION

The term 'sustainability' is actually a concise expression of the capability to sustain human life on Earth. The complex issue of the circumstances threatening sustainability includes the growing tendencies in living standards differences and overpopulation, and the issues of food supply and healthcare provision, as well as environmental protection. It should be changed the complex system of conditions and circumstances of human life and man's cultural attitude also to the improvements. There is more and more definite recognition that economic driving forces and operating conditions have the most significant role in the formation of sustainability.

The sustainability research activities related to the economy can be sorted into two main groups. The first group consists of examinations focusing on companies or entrepreneurs. The examinations of the second group started from the general relationships of development and environmental protection and progressed to the economy. In case of the examinations of the latter group, enterprises do not have a significant role: they essentially focus on the over-dimensioned profit interests and the options to reform these.

Sustainability research focusing on the corporate sector can be divided into further sub-groups. Here the boundaries can sometimes be blurred. The three main subject areas:

1. Corporate social responsibility (CSR). This category includes companies that are taking voluntary responsibility for their impact on society. Here, beyond observing the legal regulations, the management integrates other social and ecological objectives into the company goals. The significant elements of the activities performed in this area may be communicated with remarkable emphasis. Such activities can also be well utilized as a marketing tool (Radácsi 2005). The extension of voluntary responsibility is limited by the competitive market itself. If a company, beyond that required by the legal regulations, spends much larger resources on "social responsibility" than the other competitors do, the company may become uncompetitive within a relatively short period. [In the context of CSR, markedly formulated materials of the EU's regulatory and support ideas as well as stakeholder expectations can be found in European Commission (2015) and Executive Summary (2015)]. Actually, the states would have significant roles in applying legal regulations with powerful social and ecological objectives by even overcoming lobbying and by seeking global unity. Of course, CSR would not solve the essential, system-specific problems but it would at least reduce the pace of destruction to some extent in several areas.

2. Sustainable enterprises. The publications belonging to this group examine the sustainability of the company

itself (often including CSR). The central issue is this: what the company should do to stay alive and developing in harmony with its environment. Researchers of this topic and companies see the possibility of advancement in adjusting the company's attitude within the current structure. That is, they wish to move towards sustainability within the established operating order. The target to create a social, environmental and economic harmony receives a prominent role. The paper of Parrish (2007) is a typical example for this. As a starting point, he analyses the question of what constitutes a sustainable enterprise. Then he explains and stresses that both sustainability and development are necessarily human-centered concepts. On this basis, he develops a model named the "concord model of sustainable enterprise design". In this model the concord of hierarchical values are as follows: stakeholder value, enterprise value and social-ecological value. (That is the basic of operating order does not change.)

It is obvious that the sustainability of a company, if it means the options for staying alive, is far different from the sustainability of human life on Earth. Málovics (2011) points out that sustainability cannot be interpreted at the company level. (In his opinion company sustainability is a paradoxical concept, in a certain sense.) According to Málovics, company sustainability is suitable only for structural adjustments. The real issue is which types of companies could be parts of a globally sustainable structure. In his view, it must be assumed that the achievement of sustainability requires a radical change in the structure. Furthermore, only an interdisciplinary approach is suitable to examine this.

3. Sustainable entrepreneurship, sustainability entrepreneurs. All the research activities related to this subject typically focus on smaller enterprises and they examine whether the entrepreneurship or the entrepreneur is able to, or might be persuaded to operate the enterprise in accordance with the general sustainability requirements (e.g. Shepherd & Patzelt 2011, or for a summary overview see Rajasekaran 2013). Also, the rational standpoint unfolds that the operation of the company must not break away from the business aspects. On this basis they state that new ways need to be found. In order to develop the directions of change, scientifically founded recommendations should be made. For instance, the paper of Tilley & Young (2009) examines the topic of "sustainability entrepreneurs". The paper concludes that "Sustainability entrepreneurship cannot be achieved within the current economic and regulatory frameworks and requires substantial incentives and rewards, such as 'tax haven' status" (Tilley & Young 2009:88).

Research focusing on the over-dimensioned profit interest: The papers urging the restraining of over-dimensioned profit interests are typically created based on the original interpretation of sustainability coming from sustainable development. A significant portion of the research activities related to environmental protection can be classified within this group of publications. These sources, directly or indirectly, consider the change of the economic operating order as the key issue. The final goal, requiring the most radical change,appears in Lux's (2003) often-cited paper. The author thinks that the whole economy should be converted to non-profit operation and a fundamental change in people's attitudes toward the world is necessary. He considers the restoration of human nature when the profit motive will be replaced by the common good motive.

Vida (2007) calls the evolved social and economic system social and environmental "unsustainability". The author seems to be realistically pessimistic regarding the possibility of changes. He points out that the order of global economic and political power is not interested in change. As a consequence of this, due to the global network of conditions there is not any chance that individual countries would introduce different operating models by choosing individual paths. In addition, a great change would be required in people's attitudes.

The present paper is based on the hypothesis that the driving forces and operating conditions of the economy play the determining role in the development of sustainability. Therefore, the most important scientific task is to carry out thorough research on these relationships and mechanisms of action. The radical transformation possibilities of the operating order of economy are not met. It seems to be reasonable to choose a way that would lead to sustainability by appropriate shepherding of an organic development. The change can be carried out only gradually, by taking a great number of small and big steps. These steps include guiding the direction of people's worldview, culture, consumer scale of values and consumer habits onto new paths. On the other hand, a new types of companies should be established in accordance with the requirements of sustainability, in addition to gradual transformation in the case of the majority of the existing companies.

It cannot be predicted when there would be real transformation options available in the operating mechanism of the economy. However, it would be quite reasonable to prepare for these changes by creating a science-based, comprehensive and versatile knowledge base. The process of change has probably begun, as social enterprises have already become economic factors.

This paper follows a dual goal:

1. to point out the main peculiarities of the modern market economy that cannot be harmonised in principle with the requirements of sustainability.
2. starting from the elements of the economic operating mechanism conflicting with sustainability, to outline the basics of an enterprise model that is in accordance with the requirements of sustainability and through which – if it gains enough weight ratios – the economic organisation background of sustainability can be developed, too.

I developed the basics of the sustainability-compatible enterprise model about three decades ago (Illés 1980, 1982, 1989). The present paper re-interprets the

conditions and relationships of this basic model by embedding them into the present day relation systems. To the best of my knowledge, so far there has not been any other economic research examining the different types of enterprise operating mechanisms from the aspect of sustainability requirements.

This special issue includes papers presenting research carried out on similar issues: sustainable accounting (Demény & Musinszky 2016); establishing and operating social enterprises (Várkonyi 2016); the SLEM model created to measure the market potential of local goods supplied by the entrepreneurs of the Cserehát region (Bartha & Molnár 2016); the place of public work in the employment model of the Cserehát region (G. Fekete 2016); and route-based tourism product development (Nagy & Piskóti 2016).

MAIN SUSTAINABLE PROBLEMS OF THE ENTERPRISE BASED ON PRINCIPLE OF PRIVATE CAPITAL

The Necessity of the Natural Rate of Unemployment

According to the literature, the natural rate of unemployment is the level at which the work force demand and workforce supply are in harmony. The remaining part is considered to be the highest sustainable level of employment.

When the term 'natural rate of unemployment' appears in economics, it seems to be as a theoretical category. The book of Samuleson & Nordhaus (1985) highlights the fact that it became clear for the US administration in 1982 that the existence of a natural rate of unemployment is necessary for functioning of the economy. The book shows the dark side of the natural rate necessity with unusual openness: "The high natural rate of unemployment, with the accompanying necessity to accept much involuntary unemployment, is a central flaw in modern mixed capitalism. And, indeed, the problem seems to be getting worse over time, as higher and higher unemployment rates are necessary to restrain inflation" (Samuelson & Nordhaus 1985:258).

Franz (1989) mentions it as an economic policy practice that the developed market economies build assurances into the system at the time of developing their economic policies to ensure that the rate of unemployment should not drop lower than the level estimated necessary. (The estimated rate of necessary unemployment differs by country and period.) Daly at al. (2011) estimate the current natural rate of unemployment for the United States to fall in the range of 5.6 to 6.9 per cent, and the preferred estimation is at 6.25 per cent.

To be more precise, it should be emphasized that the necessity of the natural rate of unemployment is a basic operating condition only of economic systems in which proportion of enterprises based on the principle of private capital is of decisive importance. In this system, the main features of the company operations are as follows: the working people get a labour market wage, the owner is bearing the risk for the equity the expense and the profit will be added directly or indirectly to the owner of the equity. The necessity for a natural rate follows from the fact that in this system the human resource appears as merchandise. Labour has its market price and its costs will be accounted for together with other costs. In order for the price of working force to develop in accordance with the standard achieved by a given economy, a real labour market will be absolutely required. In every kind of market some excess supply is needed to prevent the prices from increasing spontaneously. (It is generally known that any shortage drives the prices up.) This excess supply on the labour market maintains the economic balance between the prices and wages. When the level of unemployment falls below the natural rate, signs of labour market shortages are emerging, and the inflation-generating processes will start up. The companies are able to obtain the necessary work force only by promising increased wages.

The system itself was organized so that the unemployed automatically assure control over the wage levels. In fact, retaining unemployment status requires demonstrating the intention to work and appearing before the competent employment agency at regular intervals. Furthermore, the system of unemployment benefits, their decreasing amounts, and their withdrawal after a certain time urges unemployed people to select one of the offered jobs suitable for them as soon as possible. Consequently, the wage demands of unemployed persons will not exceed the average professional level of wages. Strictly speaking, the natural rate has the basic function of holding the wages "on a short leash" (Illés 1993). There may be a number of reasons why this relationship is rarely stated in a straightforward manner even in theoretical papers.

Since the fulfillment of the requirement ensures that a significant number of people willing to work should not find jobs, this system results in the growing rate of inactive groups of people in the long term. (This relationship seems to be evident based on what has happened in the United States.)

Separation of Corporate Ownership and Control

In the period when enterprises based on private capital became the dominant business entity, the owner himself directed the company. The entrepreneur was the owner and the manager in one person. The joint stock company, with its dispersed, individual investors, was created as a mutant of the enterprise of classical capitalism.

In the first half of the last century Berle & Means (1932) had already pointed out the two significant

tendencies developing due to the mutation of companies. One was the growing capital concentration forming due to the increase in the size of companies, the other was the separation of ownership and the power of disposal. They point out that the real power would wander into the hands of managers.

That early academic statement has been confirmed by the real trends of the economy. Based on the experiences of more than half a century, the business economics book of Old & Shafto (1990) highlights the contradictions. The authors explain that there are several arguments supporting the idea that the large joint stock companies are actually under the control of managers. The specially regulated system of general assembly does not give the shareholders a real chance to enforce their interests. The management groups have far more chances to enforce their interests than the shareholders do. The authors write that this is a threat, and in addition often it occurs that the managers enforce their own interests at the expense of the shareholders'. The latter problem is emphatically included in the book of Samuelson & Nordhaus (1985) as well. One of the most typical pitfalls of managers' dominance can be seen in the case of earnings. It is often experienced that while the shareholders' losses skyrocket, the managers earn astronomical sums (Hoós 2003).

The structure and operating mechanism of the joint stock company has established a special business structure that has been partly the basis and partly the driving force of the globalization process. The global world economy has unfolded on this basis. The international companies are enormous, and wield significant economic and political influence.

Turnabout of Operation Mechanism Logic of the Economy

Globalization is a process stemming from an economy that increases the permeability of boundaries between countries and cultures and decreases the significance of these boundaries. The formation of this process is determined basically by economic and political interests. After the turn of the millennium, globalization burgeoned into a complex combined process, which affects all elements of human life and the business environment. The opinions regarding its impacts differ greatly. Sometimes only the benefits are stressed, other times only on the disadvantages are focused upon. In fact, the world has become "a large village" thanks to globalization and this has opened a wide range of development possibilities. Mutual acceptance of different cultures has improved. Significant progress has been made in the development of information technology and acceleration of the flow of information. The standardization of technologies and products has accelerated. As a result of this, the microelectronic mass-produced tools are usable, interconnectable, and interchangeable everywhere in the world (personal computers, smart phones, and so on.) Not only the use of these products but also their production is "global". (For instance, components of a personal computer are manufactured in different parts of our planet via the coordinated activities of dozens of companies and tens of thousands of people.) Microelectronic mass-produced products are continuously becoming better quality and more affordable. However, the fact that uniform products are being sold in uniform big supermarkets in most large cities of the world is rather considered a detrimental consequence of globalization, since the world is becoming one-sided.

From the viewpoint of the economic mechanism, the main peculiarity of globalization is that it reversed the traditional logic of general market operation. According to the traditional market logic, the product market is the primary one and the product market processes direct the movements of the capital market and the labour market.

By the turn of the millennium, the integration and globalization of the capital markets – that is, the financial globalization – had become the most complete. The system of speculative financial movements started by pressing keys on computers has resulted in gaining much higher yields than with investment in the real sector. The international foreign exchange markets have an annual turnover 26 times higher than the annual emissions in the world. The vast majority of this turnover has a speculative nature (Farkas & Losoncz 2011). The actual amount of money in the world-wide game of speculation is not known; it is not transparent. This process is unpredictable, non-controlled, and non-manageable. As a result of this, the financial market movements broke away from the real sphere, and began their own independent, self-sufficient life. The logic of the operation mechanism of the economy has turned over: the capital market directed by the real economy has been replaced by the real sector directed by money. The financial world controls the real sector with the contradiction that speculation is much more profitable than production. It is well known that in 2008 the global economic (financial) crisis was evoked by the specific operation of the US banking sector.

Uncontrollable Corporate Empires

An organic product of globalization is the internationally operating company. The functioning of states and international organizations allows establishing a type of corporate organization which workings is independent in expanding internationally; however, there is no general public power supervision. A sustainability perspective is problematic that a particular company can formed by so self-organization, which has its roots could not be mapped, effects areas can be unpredictable and enormous health and environmental dangers may include. (One example is the problem of genetically engineered crops.) Today, a significant portion of the transnational corporations operate as independent power centers. Because of their enormous financial power, they can

lobby very effectively. The larger a company is the more force it has in negotiations with representatives of the individual states. The largest companies have an annual sales revenue that exceeds the amount of an average country's annual gross domestic product.

At the turn of the millennium the international companies have been dominant players in the world economy. Their power can outpace governmental possibilities. It is partly due to this that the profit orientation is given stronger emphasis in global development than the anthropocentric approach. Many scientific works warn that the dominance of highly intensive and very short-term profit interests is making the safety of man's physical, natural and cultural environment extremely vulnerable.

Globalization also has a controversial compelling effect, the essence of which is forming almost everything into a unified shape (uniform products, uniform cultures and uniform democracies). Some consider this effect an advantage; others mention it as a drawback, because the benefits of diversity will be lost. The manageability of global systems throughout the world also requires a system of uniform joint stock companies and uniform firms. However, this powerful equality has a rather large risk from the viewpoint of sustainability. Ozsvald's (2013) paper is thought provoking and allows us to map out the way globalization impels the "modernization" of the classic Japanese company.

A well-known fact should also be noted here, that as a result of globalization the polarization of people's material conditions has increased, both within countries and between countries of the world.

In my opinion, it would be necessary to act not against globalization itself, but primarily against its disadvantages. Scientific pursuits which aim to reduce the disadvantages of globalization seem to be very weak. The organizations supposed to search for and explore the detrimental effects of globalization are still rather weak, vulnerable and underfinanced. There are many of them with a battle-cry-like, superficial approach.

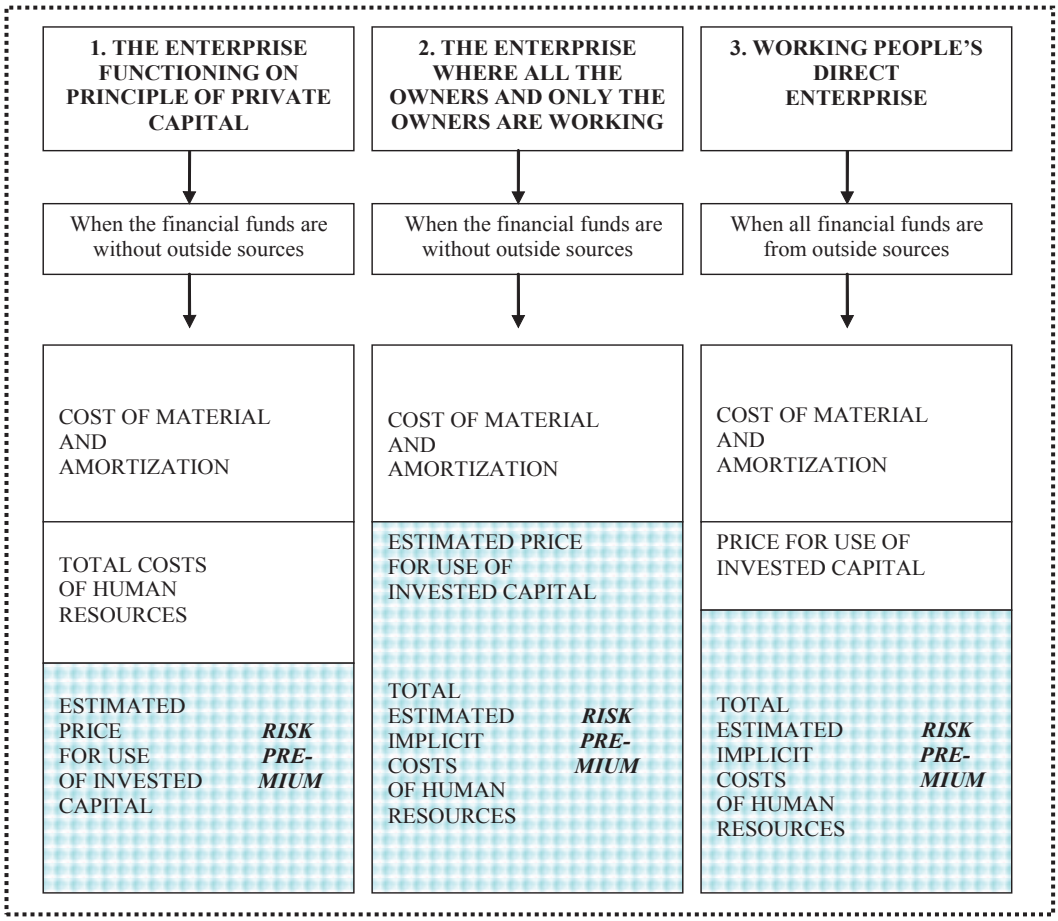
THE ENTERPRISE MODELS

The Three Basic Enterprise Models

The entrepreneurial motivation is the main driving force that basically determines the company's operation. The business entrepreneur is the risk holder and he earns the risk premium as a compensation for this. The expression of entrepreneur is often used in different and richer content. The paper uses this simplified interpretation for the purpose of model editing.

According to my experience and research results the terms and the mechanism of enterprise operations differing basically by the risk holders. Starting from this connection the main principle of the model editing is to determine who the risk holders are, and the method of risk bearing. According to the risk holders and the source for risk-financing, three basic enterprise models can be formed. They are shown with their revenue structure in Figure 1.

1. The first one is the model of enterprise functioning on principle of private capital. This kind of enterprise is dominant now in the developed world. The principle for the functioning mechanism of the state-owned enterprises is the same as the private ownership model (differing only in the driving force). The risk is charged primarily to the equity.
2. The second one is the model of enterprise where all the owners are working, and only the owners. There are two typical constructions of this in the real world: the classical individual proprietorship and the classical co-operative. The risk is charged primarily to the payment opportunities for working people and to the equity (or the whole property of owners).
3. The third type is the model of the working people's direct enterprise, where all the financial funds are from outside sources. This model is not a common practice yet. The essence of this is that the risk holders are all the people working at the enterprise. The risk is charged primarily to the payment opportunities for working people.



Source: Illés (1997:74)

Figure 1. Basic enterprise models according to the revenue structure

Estimation Variants of Risk Premium

The risk premium can be considered as the counter-value of the risk. The realized risk premium can be estimated by subtracting all the accounting costs and the estimated market value for the use of the entrepreneur's own resources from sales revenues. The remaining part is the realized risk premium itself.

The market value for the use of entrepreneur's own resources is called implicit cost. However, it shall be noted that the term "implicit cost" is occurring in the literature in another sense as well. The clear definition of microeconomics is suitable for the particular purpose of this paper.

Samuelson & Nordhaus (1985:470) say about this category: "… unpaid factors of production are often called implicit cost, which is a somewhat narrower concept than opportunity cost." The difference in content between the two categories indicated by the authors is very important in this paper. Namely, the difference between the opportunity cost and the implicit cost is the risk premium requirement. Furthermore, the difference between the realized risk premium and the risk premium requirement may show the adequacy of the level of management. (This approach is consistent with the business economics concept, but the business economics literature does not deal with these issues.)

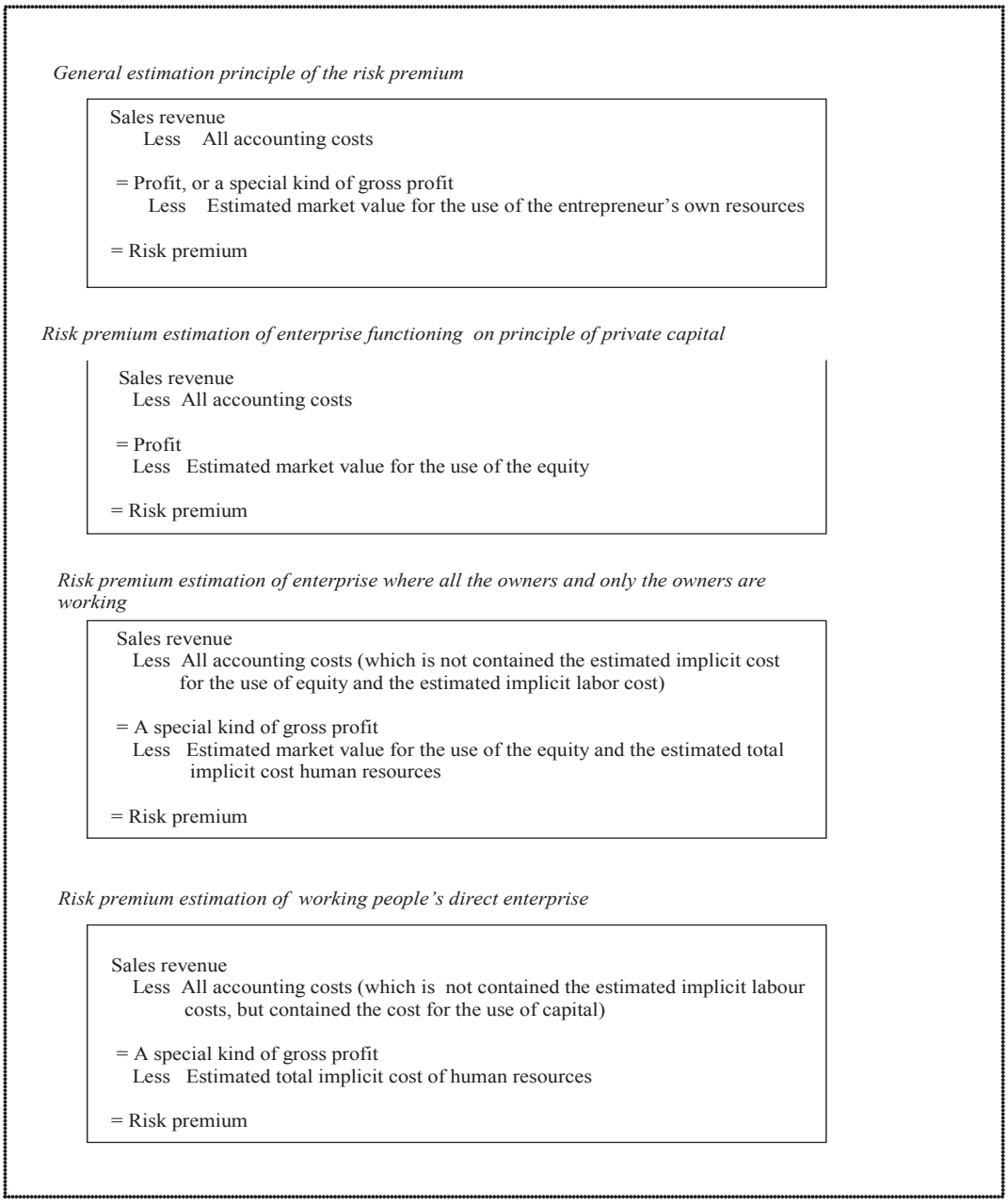
The implicit cost conception of Ekelund & Tollison (1986:851) is similar to the above. Accordingly: "Implicit costs: the value of resources used in production for which no explicit payments are made..."

As can be seen in Figure 1, the inside structure of sales revenue seems to be different only in the way the risk premium appears. The returns of implicit costs and the risk premium are not separated sharply from each other, and the implicit costs include different kind of returns. In the examined models, the basic implicit costs are as follows:

- In the first model, the typical element of the implicit costs is the estimated price for using equity. Most of the profit is this type in large corporations.
- In the second enterprise model, there are two characteristic elements of implicit costs together. These elements are the estimated price for use of the equity, and the total estimated costs of human resources.

- In the enterprise of third model, the risk premium appears primarily in combination with the total estimated costs of the human resources.

The methods for estimating the risk premium concretization according to the basic models are shown in Figure 2.



Source: edited by the author

Figure 2. Estimation variants of risk premium according to the basic models

The Relevance of Structural Uniformity

By comparing the three models it is visible that, despite the differences in their driving force, the structural return components of sales revenues virtually coincide in the various enterprise models. Even the estimated amount of the risk premium shows a global uniformity. This global coincidence is very important since it verifies that communication and even economic competition between different types of enterprises can really be equal in rank and free of disturbances in a fair economic environment. As a matter of course, the global uniformity of price structures should be understood in a static approach. Shifting dynamics in particular enterprise models as well as in the function of motivation schemes developed within these models may display major deviations which have a considerable impact on product

modernization, on the volatility of resource combination, and on the future scales of risk premium alike.

It must be stressed that the sales revenue structures show that the communication between various types of enterprises and the competition itself can be without disturbances. By adding the possibilities of reasonable mixed sources of financial funds to the model conditions, the models approach the reality without any significant alternation in the character of the original relationships.

GETTING RID OF THE NECESSITY OF THE NATURAL RATE OF UNEMPLOYMENT

As far as I have experienced and the model examinations have pointed out, the necessity of the natural rate of unemployment is not included in the general terms of enterprise operation. The necessity of this largely depends on the dominant types of the enterprises. In fact, if the balance between prices and wages can also be maintained by other natural and market-conform counterbalances, the basic function of natural rate of unemployment comes to an end. Consequently the main question is: whether this natural and market-conform counterbalance can be established in some other way. The answer is: yes, however the dominant model of enterprises based on principle of private capital needs to be restructured in a significant proportion by another type, and the primary regulatory role of the product market should be reinstated (in addition to operate a proper economic regulation). The transition can be relatively simple, through a kind of slow organic evolution.

There is no close-to-practice research examining the possibility of eliminating the natural rate of unemployment. From the economic theory point of view the Weitzman model (1984) has paramount importance. A separate subsection deals with this model.

Compatibility Conditions

As might be seen in Figure 1, the second and third models of enterprises do not need the market price of the work force therefore they do not need the basic function of the natural rate of unemployment. By these models, the working people are the entrepreneurs as well, and their incomes are controlled directly by the product market.

The restructuring of certain proportion of the enterprises functioning on principle of private capital is mainly possible in the third model. (The required ratio is not known.) In this case the main task is to place the working people in the risk-holder position, and to give the private capital the position of financial funds from outside sources. It must be stressed that this solution in many cases may represent an enormous step forward in respect of both the safety of private capital and the introduction of better motive power of the effectiveness.

It does not influence the general effect if certain enterprises do not function by the model of working people's direct enterprise. The determination of the critical rate of this can be subject to further research. In the case of presence of appropriate weight ratios of different enterprise models, the accidental high wage bidding by certain companies does not disturb the functioning of the economy. Namely, the working people's enterprises cannot become participants in an inflation-generating wage competition, because the payments are regulated by the product market.

The chance of producing certain products within the global cooperation of companies remains. In addition, the companies with huge capital needs and a low number of staff do not need to be operated according to the conditions of the sustainability compatible business model. It is possible that such workplaces have to pay higher than average salaries but this, if the number of such companies is kept within the allowed limits, will not induce inflation-growing processes. In this case, the product market controls movements on both the capital market and the labour market; consequently, the advanced product market is an operating condition of this economy.

When the working people themselves are the entrepreneur, they do not need the natural rate of unemployment keeping their payments between limits. Thus, the possibility of payments for working people, as entrepreneurs, will not be determined by external wage bargains (and the labour market) but by the value judgment of the product market. By the appropriate corporate structure the effective level of unemployment can be decreased (to any extent) below the level of the natural rate, without any risk of increasing the inflation rate. This, in turn, may result in lower labour costs (with wage level unchanged). The relatively low labour costs enable more work force to be reasonably employed (with other conditions unchanged). Consequently, this also allows the potential output level of national economy to be increased.

This unnecessary condition does not mean the automatic elimination of unemployment in the real world. It is only the "natural rate" that will not be necessary any more. Under these conditions, attending to the unemployed persons and the system of unemployment benefit can be built on new bases. As a conclusion of the above, it is not a conceptual precondition of the functioning of an economy that a considerable share of the labour force circulates from enterprise to enterprise permanently. A minor extent of the fluctuation of labour force between enterprises can be bound to a larger extent of shifting activities from one enterprise to another. It is not inevitable that the working people follow assignments but – after proper complex preparation and planning, and based on a long-term operation management strategy –

the assignment may be brought close to the employee as well.

The Problem of the Weitzman Model

According to Weitzman's (1984) viewpoint, a significant portion of wages should be handled depending on the business profit and this would eliminate the necessity of the natural rate of unemployment. His book about this problem evoked huge interest, and was followed by an unusually large theoretical debate. The cover of the book contains a quote from the New York Times, according to which this is the "Best idea since Keynes".

The most relevant features of the idea are:

- the wages should be given depending on the company's profit (they should be slightly flexible downwards),
- the traditional American business model should remain. One of its most typical features is that the workers should not have a say in the matters of the company.

As Weitzman's book is based on the correlations of economics and uses its categories, the debates are performed mainly on economics basis. Those debate partners who are standing on the practical ground emphasize the practical impossibility of this idea. (The tools and methodologies of economics are not directly suitable for searching for practical economic problem solutions; see Illés (2016).) Gábor (1993) provides a brief, yet professionally exciting overview from this debate.

From a practical aspect, a decisive characteristic of the model is that the private capital characteristics of the companies will not change and the worker's relationship toward the company and their freedom to change jobs will not change significantly, either. At the same time, the company will remain capable of raising the wages within a relatively wide range and even entering a tough competition of wages. This is the main reason that the necessity of natural rate cannot come to an end in Weitzman's model. According to the model structure, the function of the natural rate that ensures the balance of labour force supply and demand and thus eliminates the inflation of wages cannot cease to exist.

THE MODELS AND THE REALITY

Cooperatives and Individual Proprietorships

The classical cooperative and the classical individual proprietorship both belong to the category of working people's enterprise. The risk is charged primarily to the payment opportunities for working people and to the equity (or the whole property of owners).

The cooperatives can be organized in several areas and subjects and along various membership structures. From the aspect of the operation of economy, the relevant cooperatives are those which manufacture products or provide services for the competitive market. Due to the fact that those who perform the work are proprietors at the same time, the peculiarities of these enterprise models are less conspicuous. In classic cooperatives, the wages can be paid from the enterprise gross profit (Figure 2). It is a matter of joint decisions how much of the gross profit is spent on development or personal incomes. The basic economic limit of paying the personal incomes is the revenue surplus over the accounted costs. (The separate handling or the re-investment of the implicit costs of capital use can be a subject of several kinds of considerations.) So the payment opportunities are regulated by the product market in this case, as well.

In the Hungarian agriculture, for instance, the classical cooperative form of enterprises had dominated for about 30 years before the change of regime. (There were also state-owned farms.) The results achieved by this agriculture were appreciated throughout Europe, while secondary market effects did not regulate the labour and capital movements significantly. That is, there was no unemployment and the operation of the capital market was not characteristic. (The role of the wage regulatory system was secondary.)

In his book on sustainable development, Blewitt (2012) sees the expansion of the cooperative sector as one of the main safety factors of sustainability. The author emphasizes mainly those advantages of the cooperatives which are manifested in the greater security of the workplace, in the calmer working conditions which are free of anxiety and tension and as well as in the more humane version of workplace relationships. The advantages of cooperatives are described abundantly in the literature of cooperatives. However, their appearance in the sustainability literature is a novelty.

From the viewpoint of working people and the human relations of sustainability, the listed advantages are very relevant. From the aspect of the overall economic mechanism, the primary advantages are that the interests related to the survival of a profitable operation should remain within the company and should concern all the cooperative members, and the existence of the natural rate of unemployment is not a condition for the trouble-free operation of a company.

It is a relevant fact that some of the cooperatives operating in the competitive market do not belong to the category of working people's enterprise and are not compatible with sustainability. For example, in Hungary the model representing the largest share of cooperatives cannot be considered a working people's enterprise. This type is rather similar to a joint stock company than to a cooperative. The development of this peculiar variant can be traced back to circumstances of the change of regime around 1990, especially to the acquisition of lands used jointly by the cooperatives (Zsohár 2011). Nevertheless, the Hungarian scientific direction partially accepted a political conception according to which the classical

cooperatives are outdated. Szabó (2005) thinks that the "one member, one vote" rule in cooperatives is obsolete and it is connected to a cooperative concept which is unable to adapt to the environment. (This approach is far from being in accordance with the international concept related to the cooperative principle of one member, one vote.) In Hungary, the unfavourable judgment of the classical cooperative has become typical (Sebők 2013).

The revenues of classical individual proprietorship are also formed by the value judgment of the product market. Regarding the re-investment and the personal use, the entrepreneur makes decisions freely. The decision options are limited by the revenue surplus over the costs. (In case of such proprietorships, it is a frequent legal solution that the entrepreneurs are responsible for the proprietorship commitments with their own entire assets, i.e. liability is not limited.)

The Concept of Working People's Direct Enterprise

As previously mentioned, this model does not work in practice. If the personal sphere of entrepreneurs and of the people working in the organisation becomes the same, the conflict of immanent interests will disappear. To bring the driving force mechanism of interests in harmony, effective channels of interest enforcement are to be built out and operated. In the case of a working people's direct enterprise, as a matter of course, the risk takers are primarily all the working people at the enterprise on the one hand, and they will enjoy the risk premium generated by the business as well, on the other hand. (The estimation formula of the risk premium can be seen in Figure 2.)

As much payment can be distributed to the working people in this sort of enterprise as recognized in the product market prices above the costs (including the price for use of invested capital as a special debt cost) in the long run. This fundamental relation nevertheless, can be conveyed to practice after substantial tuning only. Several examples:

- accumulating of adequate reserves for relatively constant payments: incomes for disbursement should be made largely independent from the fluctuations of business, for instance, by the application of limited access accounts of working people;
- risk funds creating: acceptable circumstances should be created for funds for bearing the risk, for instance, holding back continuously a part of the income for this purpose;
- maintaining the proper payment ratios: the payment levels of working people with different qualifications should be adjusted to governmental labour policy objectives;
- managerial incomes: the remuneration systems for managers should reasonably be worked out as a function of special gross profit per capita, the average level of qualification and the staff size; and so on.

In this model the primary economic risks will basically be undertaken by the working people instead of the investors. In this case, the investor outside the scope of working people would not really risk his money but is only entitled to get the price for use of invested capital as a special debt cost only. This version of enterprise may bring about huge progress in terms of both the protection of private capital and the conveyance of driving force into the system.

The settling of the account between the capital owners and the company may work by a particular debt system as well. The capital owners lend a certain amount to the company. The company pays a using fee as a reduction of the profit. The capital owner prescribes the amount of the fee as a percentage regulated by the government. The percentage must regularly be adjusted to the viewpoint of resources and values, and with simultaneous attention being given to other regulatory goals of income possibilities.

The essential conditions of the model capable of working are as follows:

- The rate of the fee for using the capital should be in harmony with the given level of development of the given economy.
- The sum, which was a result of the use of human resources, should be passed on to the working people.

Social Enterprises

Social enterprises came into existence as a possibility to support the living of the poor people ousted from the profit-oriented employment sector. As a form ensuring the living of poverty-stricken people, social enterprises have also been playing a more and more relevant role in the developed market economies since the turn of the millennium. Since social enterprises are new participants in economic life, the literature still does not have a uniform terminology for them; the terms used often seem controversial.

The supporters of social enterprises initially assumed that a broader, more accepting definition of this enterprise form could contribute to an increase in popularity and simultaneously in social efficiency. Based on this, highly diversified activities were classified into this category. Later, the recognition that an efficient support system should be created to establish and strengthen social enterprise became stronger. In order to deliver the support more precisely to the recipients, a stricter definition became inevitable (Martin & Osberg 2007).

Regarding the sectorial classification, a decade ago the dominant view was that social enterprises should operate expressly as non-profit organizations. There are even EU documents in relation to this (Futó et al. 2005). However, conducting business activity in a non-profit form is rather controversial. Clearing up this matter was significantly impeded by the fact that there are significant differences regarding the use of non-profit activity as a

term between the literature of United States and Europe (Thomas 2004).

According to today's governing view, social enterprises are business enterprises. Social enterprises unite efficient production processes and social welfare goals in their activities. They seek to achieve a balance between the profit goal and the social goal while keeping financial sustainability and the social effects in mind (CIRIEC 2007; Martin & Osberg 2007; NESsT & Citibank 2012).

Nowadays, regarding both the activity area and the legal structures, several kinds of social enterprises can be established. From these, those variants can be clearly sorted into the practical variants of a sustainability-compatible model where the wages are directly regulated by the product market. Not all variants of the social enterprise are classified into this category. That is, the sustainability-compatible social enterprise does not operate on a private capital principle (not even formally). In this issue, the system of payment possibilities is determining factor.

A social cooperative is a variant of social enterprises. It belongs to the group of enterprises compatible with sustainability. This form can be effectively applied to improve the living conditions of people ousted from the labour market and of the population groups that are becoming poorer and poorer and to help their cultural development. Various types of social cooperatives can be established.

In Hungary, the possibility of organizing social cooperatives has a prominent importance concerning to the gypsy population. After the change of regime, a great number of jobs requiring the lowest level of skills were terminated. Very often gypsy people were among the first to be laid off. This tendency became even stronger as most of the agricultural cooperatives were liquidated (G. Fekete 2005, 2015).

There is a peculiarity that deserves attention. The main economic and social improvement ideas created in the decade after the change of regime suggested that the employment of gypsy population should have been improved mainly by turning them into entrepreneurs. Various research activities were conducted expressly with the aim of helping eligible gypsies to become entrepreneurs. A number of papers were written and many surveys were conducted in the subject (e.g. Krémer 1995, Gere 1997, Babusik 2004). Based on the research, it became clear that the classic enterprises are not suitable to really solve the employment problems of gypsies in Hungary. The main reasons for this are the gypsies' economic, social, educational and health handicaps (G. Fekete 2015). The lack of the necessary level of education creates further handicaps: people become more narrow-minded, their relationships become limited, their negotiation skills and level of acceptance are also reduced (Kállai, 2011). At the turn of the millennium, only 25% of the gypsy population above the age of 19 was actively employed. About 3% of these people were entrepreneurs (Babusik 2004). Social cooperatives would provide a chance for them to gradually get out of this condition. However, the progress regarding the use of possibilities is much slower than needed (Segesvári, 2014). The operation of a network of appropriately trained, creative consultants who are able to adapt themselves to various situations could help the process with the organization, the definition of activities in order to have more than one leg to stand on, as well as with finding the market possibilities coming from the local competence (Illés 2015).

It should be noted that the unfavourable social judgment of the classic cooperative form presented above affects the organization possibilities of social cooperatives unfavourably, as well.

MAIN QUESTIONS

The quest for the solutions of sustainability problems is one of the most important tasks of science. From this complex issue, the present paper essentially examines those operating factors of enterprise based on the principle of private capital which are not in accordance with the main requirements of sustainability, and furthermore, which type of enterprise model is capable of eliminating the lack of accordance.

The necessary existence of the natural rate of unemployment is listed among the operation conditions of enterprise based on the principle of private capital. However, this type of enterprise dominates in the developed market economy. This is the rate of people willing to work who must not find jobs in order to ensure the harmony of labour supply and demand. This requirement damages the quality of life in the short term and leads to the growing headcount of inactive layers of society in the long run.

The separation of the ownership and management functions within companies and the resulting growing concentration of capital have laid the foundations of globalization. Corporate empires have emerged that can organize their own activities independently, without public power supervision and on an international level. By having become global, the financial power reversed the operation logic of economy. The capital market took over the organizing role of product market. It would be advisable to reverse this.

One was to transform this situation may be increase of the proportion of working people's enterprises. By doing so, the profit interest would return to its place, that is, within the company. The personal income potential of these enterprises is directly regulated by the product market, so the existence of a natural unemployment rate is not necessary for their operation. If the weight ratio of the working people's enterprises exceeds the still unknown critical level, the natural rate of unemployment will cease to be one of the operating conditions of the

economy. (Unemployment will not disappear automatically, but its necessity would disappear.)

The organic transformation will also require more detailed and fine-tuned economic policy tools enriched with new elements. As is proved, the functional ability of the economy is not necessarily conditioned by the existence of the natural rate of unemployment. By considering it unnecessary, the need for revision of theoretical schemes is also raised.

REFERENCES

BABUSIK, F. (2004): Roma vállalkozások Magyarországon (Roma enterprises in Hungary). DELPHOI Consulting, Budapest

BARTHA, Z. & MOLNÁR, L. (2016). The SLEM model as an assessment method for local goods' competitiveness. Theory, Methodology, Practice, 12(special issue), pp. 5-13. http://dx.doi.org/10.18096/TMP.2016.02.01

BERLE, A. A. & MEANS, G. C. (1932): 'The Modern Corporation and Private Property. Macmillan Company, New York.

BLEWITT, J. (2012): Understanding Sustainable Development. Routledge, Abingdon

CIRIEC (A Köztulajdonú, Szociális és Szövetkezeti Gazdaság Nemzetközi Kutató- és Tájékoztatóközpontja) (2007): A szociális gazdaság az Európai Unióban (The Social Economy in the European Union). (Az Európai Gazdasági és Szociális Bizottság részére készített jelentés összefoglalása.) DI CESE 96/2007 Gr. III EN-LM-AGN-AP/MG/am

DALY, M., HOBIJN, B. & VALLETTA, R. (2011): The Recent Evolution of the Natural Rate of Unemployment. IZA Discussion Paper No. 5832 July 2011.

DEMÉNY, A & MUSINSZKI, Z. (2016). Social accounting – In the wake of the sustainability. Theory, Methodology, Practice, 12(special issue), pp. 26-40. http://dx.doi.org/10.18096/TMP.2016.02.03

EKELUND, R. B. & TOLLISON, R.D (1986): Economics. Little, Brown and Company, Boston.

EUROPEAN COMMISSION (2015): Commission Stab Working Document on Implementing the UN Guiding Principles on Business and Human Rights - State of Play Brussels, 14.7.2015 SWD(2015) 144 final. Ref. Ares (2015)3138902 - 27/07/2015

EXECUTIVE SUMMARY (2015): EU Multi Stakeholder Forum on Corporate Social Responsibility 3-4 February, 2015. Brussels, Belgium. Ref. Ares(2015)580495 - 11/02/2015

FARKAS, P. & LOSONCZ, M. (2011) Nemzetközi pénzpiacok (International Financial Markets). Széchenyi Isván Egyetem, Győr.

FRANZ, W. (1989): Munkanélküliség és inflációs stabilitás: a NAIRU koncepciója és alkalmazási lehetőségei (Unemployment and inflationary stability: The Concept of NAIRU and its Application Opportunities). Gazdaság, Vol. XXIII, No. 4, pp. 134-148.

FUTÓ, P., HANTHY, K., LÁNYI, P., MIHÁLY A. & SOLTÉSZ, A. (2005): A szociális gazdaság jelene és jövője Magyarországon (The Present and the Future of Social Economy in Hungary). Kutatási zárótanulmány (Final Research Study). Nemzeti Felnőttképzési Intézet, Budapest.

GÁBOR, R. I. (1993): Részesgazdaság a` la Weitzman – panacea, medicina vagy placebo? (The Share Economy a` la Weitzman - Panacea, Medicine or a Placebo?) Közgazdasági Szemle , Vol. XL, No. 4, pp. 285-310.

GERE, I. (1997): A cigány nők vállalkozási esélyei (The Entrepreneurial Chances of Roma Women). Esély: társadalom- és szociálpolitikai folyóirat, Vol 8, No. 2, pp. 62-74.

G. FEKETE, E. (2005): Cigányok a Cserehát-Hernád-Bódva vidéken : Tájegységi elemzés. (Gypsies are in the Cserehát-Hernád Bódva Countryside: Landscape area analysis). In: Roma szegregációs folyamatok a csereháti és dél-baranyai kistérségekben. Gondolat-MTA Etnikai-nemzeti Kisebbségkutató Intézet, Budapest. 53-83.

G. FEKETE, E. (2015): A vidéki munkanélküliség tömegessé válásától az új foglalkoztatási modellekig (From Massive Rural Unemployment until the New Employment Models). Herman Ottó Intézet, Miskolc.

G. FEKETE, É. (2016). A postmodern employment model on the peripheries. Theory, Methodology, Practice, 12 (special issue), pp. 41-54. http://dx.doi.org/10.18096/TMP.2016.02.04

HOÓS, J. (2003): A vállalatirányítás "válsága" (The "Crisis" of Corporate Governance). Cégvezetés , Vol. 11, No 6, pp. 132-140.

ILLÉS, M. (1980): A vállalati bérpolitika mozgásterének állami szabályozása (State Regulation of the Corporate Wage Policy Elbow Room). Kandidátusi értekezés (PHD thesis).

ILLÉS, M. (1982): A vállalati gazdálkodáshoz illeszthető kétpólusú keresetszabályozás (Bipolar Wage Regulation fit for the Enterprise Functioning). Közgazdasági Szemle, Vol. XXIX, No. 5, pp. 585-602.

ILLÉS, M. (1989): A vállalat, mint vállalkozás (The Enterprise as an Undertaking). Közgazdasági Szemle, Vol. XXXVI, No. 6, pp. 612-622.

ILLÉS, M. (1993): A munkanélküliségről – kísérőjelenség, vagy működési feltétel? (Unemployment – Accompanying Phenomenon or the Operating Condition of the Economy?) Napi Gazdaság, October 1. p. 11.

ILLÉS, M. (1997): Vezetői gazdaságtan (Managerial Economics). Kossuth Kiadó, Budapest.

ILLÉS, M. (2015): A szociális szövetkezet, mint a Csereháti roma lakosság egyik célszerű foglalkoztatási formája (The Social Cooperative as a Preferred Employment Form for the Cserehat Gypsy Population). In: „Társadalmi Innovációk generálása Borsod-Abaúj-Zemplén megyében" TÁMOP-4.2.1.D-15/1/KONV-2015-0009. pp. 1-12.

ILLÉS, M. (2016): Vállalati gazdaságtan (Business Economics). Miskolci Egyetemi Kiadó, Miskolc.

KÁLLAI, E. (2001): Magaura cigányok (Own master of Gypsies). Beszélő, III. Vol. VI, No. 2, pp. 66–74.

KRÉMER, B. (1995): Cigányutak a vállalkozások kalandos világában (Gypsy Roads in Adventurous World of Enterprises). Esély: társadalom- és szociálpolitikai folyóirat, Vol. 6, No. 1, pp. 46-61.

LUX, K. (2003): The Failure of the Profit Motive. Ecological Economics. Volume 44, Issue 1, February, pp. 1-9. http://dx.doi.org/10.1016/s0921-8009(02)00270-7

MÁLOVICS, GY. (2011): A vállalati fenntarthatóság értelmezéséről (About the Interpretation of Corporate Sustainability). JATEPress, Szeged.

MARTIN, R. L. & OSBERG, S. (2007): Social Entrepreneurship: The Case for Definition. Stanford Social Innovation Review, Spring pp. 29-39

NAGY, K. & PISKÓTI, I. (2016). Route-based tourism product development as a tool for social innovation – history-valley in the Cserehát region. Theory, Methodology, Practice, 12(special issue), pp. 75-86. http://dx.doi.org/10.18096/TMP.2016.02.07

NESsT & CITIBANK (2012): Pályázati felhívás - társadalmi vállalkozásfejlesztő program társadalmi vállalkozások számára (Call for Proposals - Social Entrepreneurship Development Program for Social Enterprises). 2012-FPSE-IV-Call,tsd.vállalk.pdf

OLD, J. & SHAFTO, T. (1990): Introduction to Business Economics. Stanley Thornes (Publishers) Ltd. England

OZSVALD, E. (2013): A japán vállalatirányítás (corporate governance) átalakulása (Transformation of Japanese Corporate Governance). Műhelytanulmányok (Studies Workshop), MT-DP – 2013/7. Magyar Tudományos Akadémia, Közgazdaságtudományi Intézet, Budapest.

PARRISH, B. D. (2007). Designing the Sustainable Enterprise. Futures (39) 7. pp. 846-860. http://dx.doi.org/10.1016/j.futures.2006.12.007

RADÁCSI, L. (2005): Felelősség vagy marketing? (Responsibility or Marketing?) Available on World Wide Web: http://www.uzletietika.hu/cikk.php?article=16

RAJASEKARAN, B. (2013): Sustainable Entrepreneurship: Past Researches and Future Directions. Journal of Entrepreneurship and Management. Volume 2, Issue 1 (February) pp. 20-27.

SAMUELSON, P. A. & NORDHAUS, W. D (1985): Economics. Twelfth Edition. McGraw-Hill Book Company, New York.

SEBOK, O. (2013): Szövetkezet: nem átkos, hasznos! (Cooperative: not damned but useful!) Piac & Profit, július 05. (July 5).

SEGESVÁRI C. (2014): Milliárdokat öntenek a szociális szövetkezetekbe (Billions are Poured into the Social Cooperatives). Délmagyarország, június 25. (June 5).

SHEPHERD, D. A. & PATZELT, H. (2011): The New Field of Sustainable Entrepreneurship: Studying Entrepreneurial Action Linking "What Is to Be Sustained" With "What Is to Be Developed". Entrepreneurship Theory and Practice. Volume 35, Issue 1 (January) pp. 137–163. DOI: 10.1111/j.1540-6520.2010.00426.x

SZABÓ, G. G. (2005): A szövetkezeti identitás – egy dinamikus megközelítés a szövetkezetek fejlődésének gazdasági nézőpontú elemzésére (The Cooperative Identity – a Dynamic Approach to the Economic Point of View Analyzing Cooperatives' Development). Közgazdasági Szemle, Vol. LII, No. 1, pp. 81–92.

THOMAS, A. (2004): The Rise of Social Cooperatives in Italy. International Journal of Voluntary and Nonprofit Organizations Vol. 15, No. 3, September, pp. 243-263.

TILLEY, F. &YOUNG, W. (2009) Sustainability Entrepreneurs - Could they be the True Wealth Generators of the Future? Greener Management International, 55, pp. 79-92. Published version: http://www.greenleaf-publishing.com/greenleaf/jour...

VÁRKONYI, M. J. (2016). Challenges of establishing and operating social enterprises. Theory, Methodology, Practice, 12(special issue), pp. 68-74. http://dx.doi.org/10.18096/TMP.2016.02.06

VIDA, G. (2007): Fenntarthatóság és a tudósok felelőssége (Sustainability and Responsibility of Scientists). Magyar Tudomány (168) 12. pp. 1600-1606.

WEITZMAN, M. L.(1984): The Share Economy. Harvard University Press, Cambridge, Mass.

ZSOHÁR, A. (2011): A szövetkezeti törvénytervezet magyarázata a Ptk. jogi személyekre vonatkozó részében. (Explanation of Draft Law on Cooperatives in the Civil Code, Section of Legal Persons). Gazdaság és Jog, Vol. 19, No. 9, pp. 3-6.

Challenges of Establishing and Operating Social Enterprises

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SUMMARY

A social enterprise is an organisation that is financially self-sufficient, like a conventional commercial enterprise. However, its primary objective is to achieve the set social purposes and goals that it considers to be important rather than maximizing profits This definition implies that social enterprises show similarities with both civil organisations and for-profit enterprises. Consequently, there are specific challenges related to their foundation and accounting. Since maximizing profits and social and environmental benefits are equally important during the operation of these enterprises, the profits they generate are used to achieve further social goals and are not distributed to individual shareholders. Thus, income from supplying goods and services constitutes the major source of their income. Successful social enterprises generate profit which is reinvested to subsidise the social mission they have defined. Their assets can often be used for community purposes exclusively.

Keywords: financial statements, social enterprises, establishing, rules on civil society organisations
Journal of Economic Literature (JEL) code: M410
DOI: http://dx.doi.org/10.18096/TMP.2016.02.06

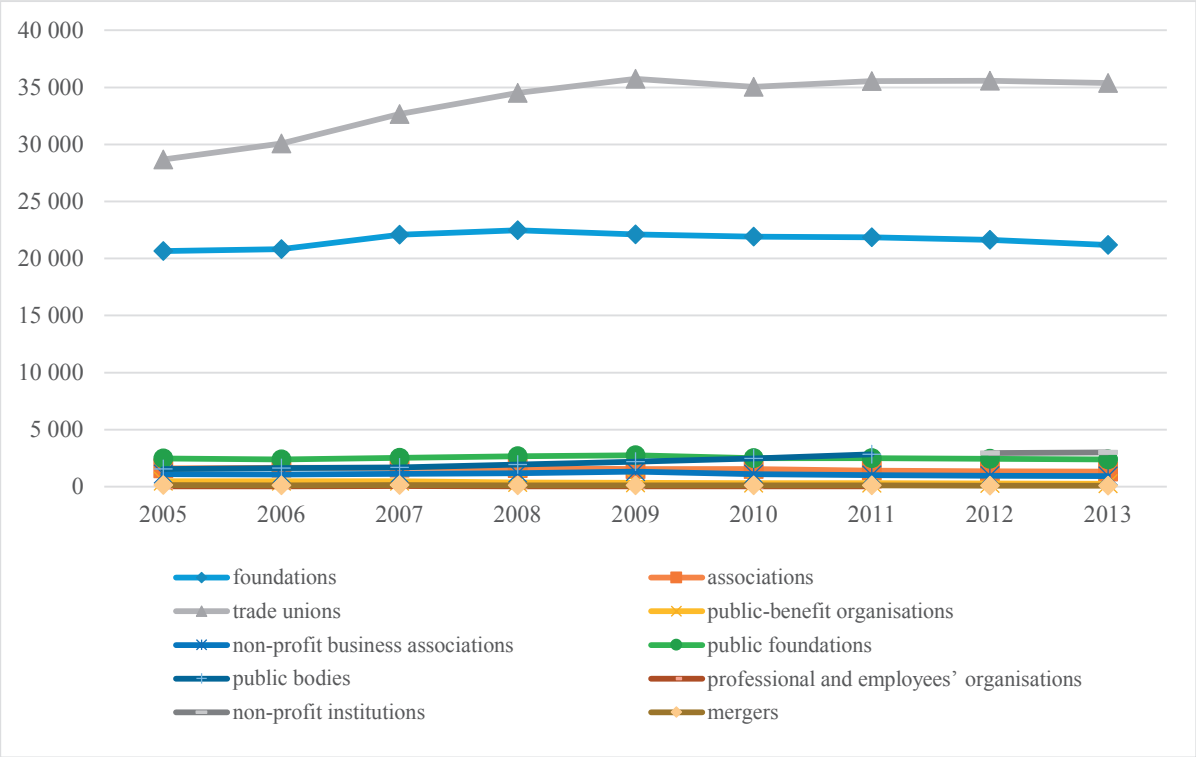
INTRODUCTION

In this paper I present the establishing and operating social enterprises. It was created within the framework of the T-model project, concentrating on the social entrepreneurship opportunities of deprived regions. This special issue includes papers presenting research carried out on similar issues: sustainable enterprise models (Illés 2016); sustainable accounting (Demény & Musinszky 2016); the SLEM model created to measure the market potential of local goods supplied by the entrepreneurs of the Cserehát region (Bartha & Molnár 2016); the place of public works in the employment model of the Cserehát region (G. Fekete 2016); and route-based tourism product development (Nagy & Piskóti 2016).

There are two legal forms for social enterprises. They can be founded in the form of a non-profit business organisation or in another organisational form (a foundation or an association). Figure 1 shows the number of non-profit organisations in Hungary by structure.

The figure clearly illustrates that social enterprises operating in the form of non-profit business organisations that are considered to be entrepreneurships are rare. Thus, keeping books and reporting is governed by the principles formulated in the Act on Accounting. Other types of business organisations (especially foundations and associations) are more popular. Apart from accounting standards, other legal acts to be applied are as follows:

- Government Decree 224/2000 (XII.19.) on the reporting and bookkeeping obligations of other organisations as provided in the Accounting Act
- Act CLXXV of 2011 on Right of Association, Non-Profit Status and the Operation and Funding of Civil Society Organisations
- Act CLXXXV of 2011 on the Court Registration of CSOs and the Relative Procedural Rules
- Government Decree 350/2011 (XII.30.) on Certain Issues of CSO Financial Management, Fund Raising and Public Benefit Status
- Act V of 2013 on the Civil Code.



Source: author's own elaboration based on the data from www.ksh.hu

Figure 1. Number of non-profit organisations in Hungary by structure (2005-2013)

Reporting and bookkeeping obligations of other types of organisations as provided in the Accounting Act (foundations, associations, public benefit organisations and other types of organisations established under the right of association) – authorised by law – are stipulated by Government Decree 224/2000 (XII.19.), which has been amended several times, and by other government decrees. The aforementioned government decrees govern specific regulations - obligations of other types of organisations - that cover particular organisations and differ from the rules for entrepreneurs, whilst not being contrary to the fundamental principles of the Accounting Act. Issues not stipulated in government decrees are regulated by the principles of the Accounting Act. Consequently, reporting and bookkeeping obligations of organisations (in addition to particularities defined in government decrees) must also comply with the (amended) principles of the Accounting Act not specified in government decrees.

LITERATURE REVIEW – FUNDAMENTAL RULES ON CIVIL SOCIETY ORGANISATIONS

The term civil society organisations has the following meaning (Act CLXXV of 2011):

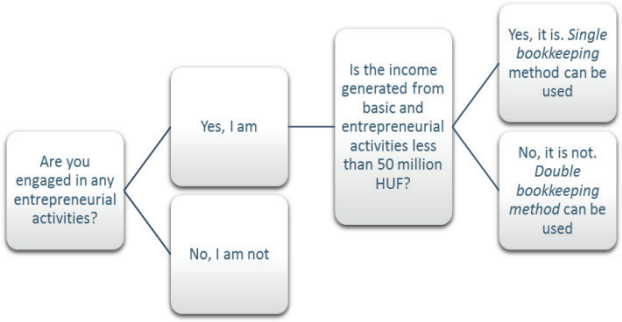
- civil societies that
  - can be established by natural entities
  - are established to promote common purposes of non-economic interest and to harmonise activities meeting community-related purposes
  - are established without capital contribution
- associations, other than parties, registered in Hungary
- foundations.

A civil society organisation may not be established for the sole purpose of carrying out economic-entrepreneurial activities. This is an organisation formed for primarily economic-entrepreneurial activity if its total annual income from this activity amounts to or exceeds 60% of the total income. Economic-entrepreneurial activity is an activity that is performed in a businesslike manner, aims at or results in acquiring income or property, except for (Act CLXXV of 2011):

- donations to social organisations – for the purposes stipulated in the instrument of constitution – are an instrument (products or assets) or service provided to a donor without requesting any financial compensation providing that services and goods given to a donor are not considered to be financial compensation whose value does not exceed the limit of 25% of the minimum wage;
- monetary or non-monetary contributions provided within the framework of fundamental purpose-related (public benefit) activities defined in the instrument of constitution and generating income for civil society (public benefit) organisations (llegislation stipulates the classification of associations, foundations and other organisations by purpose of their activities. Under the law, the performed activities may be

cultural, information, communication, religious, sports, recreation and hobbies, educational, research, healthcare, social, civil protection, fire extinguishing, environmental protection, protection of human rights, public security, donation distribution, non-profit association, international, political and others);

- public benefit activities, defined as activities that serve the public directly or indirectly, are stipulated in the instrument of constitution and contribute to meeting the common needs of the society and individuals.



Source: author's own elaboration

Figure 2. Provisions on bookkeeping obligations of civil society organisations

Activities performed by other types of organisations are as follows:

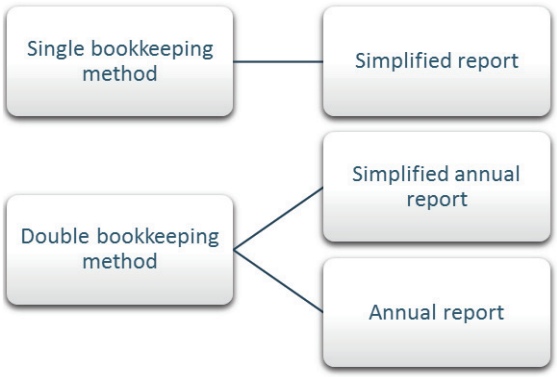
- basic activities that include any kinds of activities that are necessary for realising purposes formulated in the instrument of constitution and purpose-related activities (activities) indicated in the governing documents as well as support, contributions and membership fees related to this activity (these activities). (These activities may also generate income but this income shall be in balance with expenditures, because the activities are not conducted with the aim of generating profit).
- entrepreneurial activities aiming at generating income and assets, as well as economic activities resulting in this, which are not classified as income coming from performing basic activities. (Apart from conducting purpose-related (public-benefit) activities, civil society organisations may perform economic-entrepreneurial activities which are not directly related to the purpose of the organisation set in the governing documents if these activities do not directly jeopardise the set purpose).

Only other types of organisations performing entrepreneurial activities need to consider the threshold set on the total income. Organisations not performing entrepreneurial activities produce simplified reports or simplified public benefit reports. The threshold is set at the total income (from entrepreneurial and non-entrepreneurial activities) level of 50 million HUF for organisations carrying out entrepreneurial activities. This means that the annual income deriving from both entrepreneurial and purpose-related activities does not permanently exceed the annual limit of 50 million HUF in two consecutive calendar years. The aim of this limitation is to allow other small and medium-sized organisations pursuing entrepreneurial activities to prepare simplified reports and exclude large ones (Pál, 2003).

The bookkeeping methods are as follows:

- single bookkeeping method
- double bookkeeping method.

Foundations and civil organisations awarded public benefit status may apply only double bookkeeping method.



Source: author's own elaboration

Figure 3. Reporting obligations of civil organisations

Pursuant to Government Decree 224/2000, the types of reports chosen by other types of organisations can be grouped as follows:

- simplified report (a simplified balance sheet specified in Annex 1 to the Government Decree and appropriation of profit and loss under Annex 2 of the same decree) in the case of the single bookkeeping method,
- simplified annual report (a balance sheet as specified in Annex 4 to the Government Decree and a profit and loss statement complying with Annex 5 of the same decree and supplement to the law) in the case of the double bookkeeping method.

Organisations can prepare annual reports Simultaneously with approving the report, public benefit organisations must prepare a public benefit report that is approved by their highest bodies. Organisations complete and electronically submit a Public Benefit Annex in a special format and the minister in charge of social and civil relationships discloses this.

The Public Benefit Annex shall contain the following data:

- a list of public benefit activities pursued by the organisation
- target groups and results
- data and indicators required for winning the public benefit status
- the way assets are used
- grants for a public benefit purpose

- the amount of benefits granted to officers and the list of chief officers receiving the grant.

Public benefit organisations must deposit and publish their reports approved by the competent body, the public benefit report and the auditor's report no later than the last day of the fifth month following the balance sheet date of the current fiscal year.

If a civil society organisation has its own website, the reports must also be published on the organisation's website and made available to public until the publication of the data related to the second fiscal year. If the organisation fails to comply with publication provisions or remedy the publication deficiencies within a period of one year, the court may notify the prosecutor's office in order to conduct an inspection.

Other types of organisation must hire a chartered accountant or a certified auditor to perform activities related to accountancy services if the organisation conducts entrepreneurial activities and generates income of over 5 million HUF from these activities and the income has been on average more than 10 million HUF in the two business years prior to the current business year (if this condition is missing, then the expected income in the current business year is taken into account) (Kántor, 2006).

In the event that the annual income of a public benefit organisation exceeds the annual limit of 50 million HUF, it is mandatory to establish a supervisory body separate from the governing body, even if such obligation is not prescribed by other laws. The supervisory body determines its own internal procedures and order of business, which is described in the instrument of constitution. No person shall be a chairperson or a member of the supervisory body who is a chairperson or a member of the governing body, is a relative of theirs, is employed by it or stands in another legal relationship aimed at employment, receives targeted grants from a public benefit organisation, except non-financial services available to anyone without limitation and targeted grants corresponding to the founding document granted on the basis of the relationship between civil society organisations and their members. (Government Decree 224/2000)

All public benefit organisations must employ an independent auditor, as must all other types of organisations that generate average income of over 300 million HUF in the two business years prior to the current business year. In cases where audit is not mandatory by virtue of some other legal regulation, other types of organisations have the right to decide whether to employ an auditor in order to review the reports or not. Several acts with similar or different contents stipulate provisions on performing audit activities, which make interpretation difficult (Füredi-Fülöp, 2014). Although the Public Benefit Annex does not constitute part of the report, the rules stipulating report compilations and governing report publications clearly declare that reports of these organisations comply with legislative requirements only if a Public Benefit Annex is prepared and approved simultaneously with the report. The Public Benefit Annex is compiled on the basis of the register. The information kept at the register must coincide with the data in the report. Consequently, the auditor reviewing the report shall assess the annex content and establish if the annex content complies with the data disclosed in the report.

Public benefit organisations are no longer classified into two public benefit categories. An organisation registered in Hungary may obtain public benefit status if it meets the following criteria (Act CLXXV of 2011):

- The registered organisation contributes to meeting the common needs of individuals and society, that is to say, the data on target groups indicated in the Public Benefit Annex compiled in the previous year clearly show that the public benefit services provided by the organisation are available not only to the members of bodies, employees and volunteers of the organisation, but also to other people.
- The organisation has adequate resources, which means that it meets one of the following criteria regarding two business years prior to the current business year:
  - the generated annual average income exceeds 1 million HUF or
  - the aggregated after-tax results of two years (current year) are not negative or
  - the personnel costs – without benefits granted to senior officers – amount to at least one-fourth of the total expenses.
- If there is some evidence that the company has sufficient support from society, which means that it meets one of the following criteria regarding two business years prior to the current business year:
  - The received 1% of income tax donated by individual citizens is as high as 2% of the adjusted gross income indicated in the Public Benefit Annex or
  - costs and expenditures occurring in the interest of public benefit activities amount to half of the total expenditures of the average of the two preceding years or
  - at least ten public benefit volunteers permanently (in the average of two years) contribute to performing public benefit activities.
- The founding document shall include:
  - a description of the sort of public benefit activities, what public duties these activities are related to and the jurisdiction stipulating public benefit duties;
  - a statement that apart from the members of the organisation, other people may also receive public benefit services;
  - a statement that the organisation performs business activities only in the interest of realising its targeted objectives or public benefit objectives, without jeopardising them.

An organisation that qualifies as a public benefit organisation acquires its public benefit status after registration as a public benefit organisation. When the

report of the organisation is deposited, the court examines whether the conditions for retaining the public benefit status stipulated in the public benefit legislation are still fulfilled by the organisation. If the public benefit organisation fails to fulfil these conditions, the court cancels the public benefit status of the organisation and deletes the organisation from the register (Gottgeisl, 2012).

SPECIFIC FEATURES OF INCOME AND EXPENDITURES OF PUBLIC BENEFIT ORGANISATIONS

Civil society organisations continuously supply information about their operation to the general public throughout the year or at least once a year. For information purposes the legislation requires public access to the following:

- a report submitted to public registries;
- information about organisation operation and the use of donations by means of different information tools, especially organisation websites or newsletters.

Table 1
Incomes, costs and expenditures of civil society organisations

Incomes	Costs and expenditures
Income directly related to pursuing a purpose-related (as a part of public benefit) activity	Expenses directly related to pursuing a purpose-related (as a part of public benefit) activity
Donations	Operational costs of the managing body or organisation
Income derived from an economic-entrepreneurial activity	Expenses directly related to an economic-entrepreneurial activity
Other resources	Other expenses

Source: author's own elaboration

In order to ensure a long-term sustainable provision of services, civil society organisations follow the 'reasonable management' principle. They elaborate an annual budget in which revenues (donations and bequests, budget support, income derived from economic-entrepreneurial activity, non-monetary contributions and other resources) are equal to expenditures. They record and itemise incomes, expenditures and costs according to accounting standards as illustrated in Table 1.

Income Sources of Civil Society Organisations

Income by basic purpose:

- membership fees,
- contribution from founders and assets donated to organisations by founders,
- payments for pursuing activities listed in the public service contract,
- donations.

Grants are provided to organisations on the basis of an individual decision and can be used for a specific purpose. Monetary or non-monetary benefits are granted not primarily in return for payment, but to support specific projects or to cover operational costs of the supported organisation over a specific period of time. In contrast to benefits, donations to civil society organisations – for the purpose stipulated in the founding document – are financial tools that are not provided in return for payment. Sources of funding are as follows:

- state budget,
- local government budget,
- EU structural and cohesion funds,
- normative support,
- 1% of the personal income tax to a non-governmental organisation selected and stipulated by the taxpayer.

The received support can be used with limitations:

- targeted support can be used without requirements,
- the support provided to cover operational expenses cannot exceed the limit of 50% of the amount used for specific purposes (for instance, personnel costs or communications costs),

The amount of subsidy may be spent until the last month of the second year following the year of money transfer. (Lakatos, 2015)

Forms of support by method of financing:

- non-repayable grants,
- repayable grants.

Civil society organisations may receive loans and repayable grants if their debt obligation does not exceed the value of their assets. For the purposes of this provision, the balance of accounts payable and receivable as well as the value of the budgetary support is set in the decision made.

Support by purpose

- for development purposes

  The amount of any financially settled grant non-repayable received for development purposes was shown as extraordinary income in 2015, but from 2016 it must be shown as other income, may be carried forward and should be shown as deferred income in compliance with changes in Act C of 2000 on Accounting. The termination of this and the depreciation of the asset are performed parallel and proportionally. In cases where assets are removed from the books, the grant shall be cancelled from accrued expenses and deferred income.
- for offsetting costs and expenditures

  Any financially settled non-repayable grant which was received to offset costs (expenditures) and was not used to offset any costs or expenditures during the financial year shall be shown under accrued expenses and deferred income. Such a grant must be cancelled from accrued expenses and deferred income as soon

as the contract or financing agreement is performed or the costs or expenditures are actually realised (Musinszki, 2006). If the grant has not been settled financially, it cannot be shown as income. Thus, it may occur that costs, expenditures and income are shown in the balance sheets of different financial years. The financially performed advances received by the civil service organisation can be shown in the balance sheet as income only if the organisation has paid off the balance and supported this by invoices.

- for subcontracting purposes

  Grants for subcontracting purposes are grants received by other types of organisations from founders or other organisations either via grants or in other ways and transferred further to organisations that directly perform the duties in line with the purpose of grants. Thus, the supported organisation shows the assets (liquid assets and other assets) received from other types of organisations as income. Other types of organisations must show such items (grants for subcontracting purposes, grants transferred further) as separate items in the profit and loss statement and in the profit and loss account. The amount shown as income for subcontracting purposes in the current accounting period but not yet transferred is to be shown under deferred expenses and incurred income by economic entities keeping double-entry books and under liabilities by economic entities keeping single-entry books. Other types of organisations shall show the grant for subcontracting purposes under other income if they keep double-entry books and under financially settled income in the case of keeping single-entry books. The transferred amount of such grant – depending on the bookkeeping system – shall be indicated as other expenses or shall be indicated and claimed as expenses. The transferred or forwarded grant is not recognised as a grant awarded to offset costs or grant for development purposes or financial equity transferred permanently.

The support that is due and applied for to tax authorities and to organisations stipulated by law shall be shown as income irrespective of its financial settlement status. If support related to the current year is applied for in the following year, before the balance sheet closing date at the latest, it should be recognised for the current year as deferred expenses and accrued income against income in the following year. The support received from resident or non-resident economic entities, natural persons, or from foreign organisations based on intergovernmental agreement or other contractual agreement shall be recognised as income when it is financially settled.

The support related to the current year and financially settled between the date of the balance sheet and the date on which it is drawn up must be shown as deferred expenses and accrued income against income. The expenses and income are released at the time of financial settlement in the year following the current year. The grant related to the current year cannot be deferred if it is not settled between the date of the balance sheet and the date on which it is drawn up. If the support is financially settled after the balance sheet preparation date, the support is to be shown against the results of the year following the current year.

The economic-entrepreneurial income of civil society organisations includes of the interest on liquid assets in deposits and securities received from a financial institution, the issuer of the security and a part of the return of the securities issued by the government, which represents the income generated from economic-entrepreneurial activities in the total income. This means that the income in both cases shall be recognised without interests or returns.

Other income shall be recognised as other income under Accounting Act (income generated from selling tangible assets) or other targeted revenues.

Costs and Expenditures of Civil Society Organisations

Indirect costs and expenditures shall be divided between basic purpose activities (within these public activities) and economic-entrepreneurial activities in proportion to the incomes of different activities every year.

Targeted grants are financial or non-financial services provided by a civil (public beneficiary) organisation within the framework of its basic activities.

As for public beneficiary grants, the amount is tax exempt if it is paid to an individual entity from public benefit foundations and public foundation funds for public benefit purposes stipulated and in line with their charter or is allocated to cover studying expenses at educational institutions, research or studies abroad (scholarships), is allocated in the form of social assistance to entities in need, or is paid to participants of youth and recreational sports programs in the amount of maximum HUF 500 per occasion.

The tax-exempt public benefit grants encompass non-momentary benefits allocated for public benefit purposes from funds of public benefit commitments, public benefits associations, foundations and public benefits foundations to private individuals as stipulated in their founding documents, non-monetary benefits (excluding non-wage benefits as defined by the Act) allocated to individual entities by interest groups of employees, monthly monetary benefits not exceeding 50% of the prevailing minimum wage and professional awards and prizes established after 1 January 2008 and awarded after public nominations to private individuals for their outstanding work and exceptional achievements in Hungarian culture, science, art, and sports and then made publicly accessible.

The income is taxable if it is allocated to founders or donors or any private individuals employed or standing in

another legal relationship aimed at employment, irrespective of their title.

Particular benefits of some associations and foundations (public benefit foundations) are not taxable and are as follows: representation if provided by them, total value of business gifts whose value per item amounts to 25% of the minimal wage. In some associations and foundations (public benefit foundations) particular benefits mean representation if provided by them and business gifts whose value per item amounts to 25% of the minimal wage. Their total value is tax free. Organisations not performing entrepreneurial activities do not pay taxes if 10% of their expenses on public benefit or targeted activities shown in the report of the tax year does not exceed 10% of their total annual income.

The operational costs of organisations and bodies of civil service organisations include administrative costs, other incurred direct costs and a depreciation description of immaterial assets and tangible assets used for several activities. Under the Act on Public Interest Voluntary Activities, in cases where the value of voluntary work per hour is calculated, one hundred and sixtieth of the current amount of the compulsory minimum wage shall be taken into account. The wages and salaries of voluntary workers are shown as income and their benefits are shown as staff costs.

CONCLUSIONS

If a civil society organisation is established as another type of organisation and not as a non-profit organisation, special attention should be paid to the fact that this sector lacks a single legal background. However, there are several laws stipulating both the operation and accounting duties of such organisations. Excellent knowledge of legislation is mandatory not only to manage accounting of economic events but also to properly perform everyday activities.

REFERENCES

BARTHA, Z. & MOLNÁR, L. (2016). The SLEM model as an assessment method for local goods' competitiveness. Theory, Methodology, Practice, 12(special issue), pp. 5-13. http://dx.doi.org/10.18096/TMP.2016.02.01

DEMÉNY, A & MUSINSZKI, Z. (2016). Social accounting – In the wake of the sustainability. Theory, Methodology, Practice, 12(special issue), pp. 26-40. http://dx.doi.org/10.18096/TMP.2016.02.03

FÜREDI-FÜLÖP, J. (2014): An Empirical Study of Audit Expectation Gap in Hungary, SZAK-MA, 10, pp. 483.

G. FEKETE, É. (2016). A postmodern employment model on the peripheries. Theory, Methodology, Practice, 12(special issue), pp. 41-54. http://dx.doi.org/10.18096/TMP.2016.02.04

GOTTGEISL, R. (2012). „Amit a civilekről tudni lehet, kell és érdemes" Aktuális kérdések alapítványok, egyesületek adózási és számviteli szabályozásával kapcsolatban https://www.mkvk.hu/szervezet/tagozatok/adotagozat/eloadasok

ILLÉS, M. (2016). Enterprise Models from Terms of Sustainability. Theory, Methodology, Practice, 12(special issue), pp. 55-67. http://dx.doi.org/10.18096/TMP.2016.02.05

LAKATOS, L. (2015). Accounting of Civil Society, HVG Különszám, 2015/4. pp. 15-23.

NAGY, K. & PISKÓTI, I. (2016). Route-based tourism product development as a tool for social innovation – history-valley in the Cserehát region. Theory, Methodology, Practice, 12(special issue), pp. 75-86. http://dx.doi.org/10.18096/TMP.2016.02.07

PÁL, T., KÁNTOR, B. (2006). Systems of accounting, Accounting of other types of organisations, Economix Kft., Miskolc

PÁL, T., MUSINSZKI, Z. (2006). Special accounting methods, Accounting of donations, Economix Kft., Miskolc

PÁL, T. (2003). Systems of accounting and special accounting methods, Accounting of other types of organisations, Economix Kft., Miskolc

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Route-Based Tourism Product Development as a Tool for Social Innovation: History Valley in the Cserehát Region

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SUMMARY

Route-based tourism product development is known worldwide, and can be particularly advantageous for less developed areas, which are less familiar in the tourism market. By mixing the phenomena of tourism, the economy, innovation and social difficulties, certain types of tourism routes can be tools for social innovations, if they are combined with spatial development, support of local communities and integration of local products. The first part of this study gives a literature review regarding route-based tourism products, alongside the explanation of conceptual differences. In the second part, we introduce the so-called "History Valley" in the Cserehát region, with a multi-view analysis.

Keywords: route tourism, thematic routes, rural development, social innovation
Journal of Economic Literature (JEL) codes: M31, O22, O31, Z32
DOI: http://dx.doi.org/10.18096/TMP.2016.02.07

INTRODUCTION, RESEARCH QUESTIONS

Tourism is the most important service sector of the global economy. The economy of services, however, becomes the economy of experiences. Consumers do not buy simple products, rather complex experiences, and are willing to pay higher prices for products with value added. The general characteristics of the experience economy are essential in the case of tourism, as "tourism is the experience itself". Tourists are looking for local, authentic and meaningful experiences, which are intrinsic values of the visited places. One of the main challenges is that the demands are moving towards intangible culture and heritage. Thus, it is very important to find a balance between "new" and "different", or "typical", "specific" and "authentic". According to Boswijk et al. (2005), meaningful experiences are determinant, where innovation has an outstanding role, and have the following features: concentration and focus, all five senses are engaged, emotional touch, uniqueness, contact with reality, activity, playfulness, balance between a challenge and one's own capacities and a clear goal. Considering intangible heritage, the main goal should be to build (back) the identity of local communities and continuity (Pedersen 2004, cited in Schlüter 2012). Being proud of the local culture and identity is important element of a destination's value, and it is an essential condition of long-term survival. As opposed to tangible heritage and monuments, intangible heritage goes through constant and dynamic change due to its close relationship with a community's lifestyle. It has to become a living part of the community to fulfil its social, political, economic and cultural roles (Aikawa 2007, in Schlüter 2012). Innovations become more and more important to a tourism destination's competitive ability (Piskóti 2014). Therefore, culture, innovation and spatial development go hand in hand in creating tourism experience, and route-based product development is one of the best examples.

We have focused on a peripheral Northern Hungarian micro-region, the Cserehát, where a good concept, the History Valley thematic route, was created a few years ago. However, in spite of several developments and events, the route – as a tourism product – is not currently functioning well. We investigate the reasons, the present situation of the route and its attractions, and the possible tools – mainly of destination management – to make the route function again.

Our research was carried out within the framework of the T-model project, concentrating on the social entrepreneurship and tourism opportunities of deprived

regions. This special issue includes papers presenting research carried out on similar issues: sustainable enterprise models (Illés 2016); sustainable accounting (Demény & Musinszky 2016); establishing and operating social enterprises (Várkonyi 2016); the place of public works in the employment model of the Cserehát region (G. Fekete 2016); and the SLEM model as an assessment method for local goods' competitiveness (Bartha & Molnár 2016).

ROUTE-BASED TOURISM PRODUCTS – LITERATURE REVIEW

A tourism product is the central element in the offer side of the tourism system. From the tourist perspective, the product is a set of services; its aim is the complete satisfaction of customer needs. The tourism product is the result of a complex process, with two main characteristics: (1) every phase results in value added, (2) the consumer (the tourist) is an integral part of the process. The demand for authenticity is a determining factor of cultural tourism, which differentiates it from the commercialised values. Establishing local brands is a recent possibility for local communities, with several examples in Hungary (e.g. national park products). According to Nuryanti (1996), heritage is part of the society's cultural traditions and a community's identity. It is a value from the past which is worth preserving for generations to come (Hall & McArthur 1998). Referring to Swarbrooke's definition (1994), heritage tourism is based on heritage where it is both the central element of the product and the main motivation for tourists. Nowadays there is a significant oversupply in heritage attractions, and heritage tourism has become a strongly competitive and marketoriented product; thus, continuous development and product differentiation became essential for survival. Poon (1989, in Light & Prentice 1994) called this product "new tourism". It has also become evident that heritage tourism product development is different from the traditional and general processes, and that there are different problems and variables that require different development models in various heritage categories – this is the case with route-based products, too.

Thematic routes are connecting natural or artificially made attractions, centred around a certain theme, and these attractions can be accessed by some means of transport. Regarding sustainability, thematic routes serve as education and entertainment at the same time (Puczkó & Rátz 2000). The routes can be product or theme-based (Rogerson 2004, 2007, in Lourens 2007a). The primary objective of product-based routes is strengthening the core product's marketing and sales. Still, theme-based routes should not only focus on the destination's image; the theme has to appear in each service along the route (e.g. accommodations, restaurants, souvenirs). Thematic (or tourism) routes combine several activities and attractions within a theme, thus encouraging enterprises to produce further, complementary products (see Meyer 2004). Thus, route-based tourism is the market-driven approach of the destinations' development (Lourens 2007a). The main conception of route formation is that connecting activities and attractions in less developed areas can generate cooperation and partnership between communities and neighbouring areas, thus contributing to economic growth through tourism (Briedenhann & Wickens 2004). Partnership in successful thematic route realisation means competitive advantages through local clusters (Telfer 2001, in Rogerson & Rogerson 2011). In rural areas, success also depends on finding the USP (unique selling proposition) niches, together with the connecting products.

Cultural routes mean a new type of heritage preservation and utilisation. They mean both geographical travel through different areas and localities, and mental travel, with values, emotions, feelings and experiences, which will form the final product (Majdoub 2010). Cultural routes mean both a tourism product and a special methodology (Puczkó & Rátz 2003, in Majdoub 2010). They are especially innovative within cultural heritage preservation (Martorell 2003). According to the Cultural Routes Charter of ICOMOS (International Council on Monuments and Sights, 2008), a cultural route is: any route of communication, be it land, water, or some other type, which is physically delimited and is also characterized by having its own specific dynamic and historic functionality to serve a specific and well-determined purpose. It must fulfil the following conditions: (1) it must arise from and reflect interactive movements of people as well as multi-dimensional, continuous, and reciprocal exchanges of goods, ideas, knowledge and values between peoples, countries, regions or continents over significant periods. (2) It must have thereby promoted a cross-fertilization of the affected cultures in space and time, as reflected both in their tangible and intangible heritage; (3) it must have integrated into a dynamic system the historic relations and cultural properties associated with its existence.

Cultural routes are not literally created or planned, rather discovered – that is, they have historical significance, and have existed as roads in their physical reality. On the contrary, tourism routes are planned according to customers' interests, geographical structure, accessibility, attractions or any other respect, without any scientific basis (Martorell 2003).

Regarding the case study discussed below, we have to mention the centre-periphery model of Wallerstein (1983) as well. The basis of the model is the hierarchy where developing areas can become growth poles, or centres, with outstanding innovation abilities. Parallel to their continuous growth, other areas become more and more peripheral.

There is strong asymmetric dependence between the two elements, with the following characteristics: (1) the growth pole exploits the periphery's raw material and

labour force, (2) its products' market is also the periphery, (3) central areas can be described with continuous growth, (4) peripheries remain distant, the development is slow. Central areas intervene (sic) the peripheries' life, their economic and social processes; they disarrange their development tendencies in favour of their own position. (in Graselli 2011.

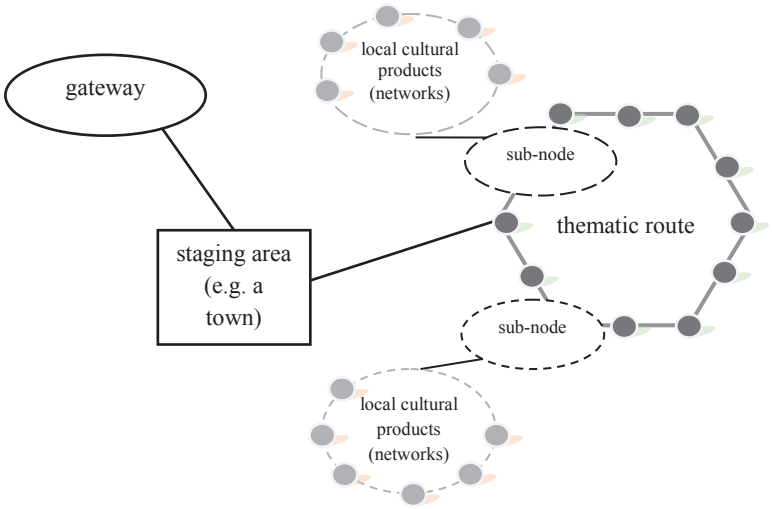
This dependence is dynamic and shows a close relationship with spatiality (Kincses & Rédei 2010). The centre-periphery model has become one of the main categories of regional science. Regarding research in Hungary, Budapest and its surroundings are considered central areas, the frontier areas of southern Transdanubia, northern Borsod and eastern Hungary represent the periphery, while the central Tisza area is mentioned as the internal periphery (Lőcsei & Szálkai 2008).

SPECIAL MODELS FOR ROUTE-BASED TOURISM DEVELOPMENT

Cultural route conception needs a special methodology, a system of coordinated and integrated management in establishment and operation. According to the Cultural Routes Charter by ICOMOS, this methodology means the following elements:

1. research – multidisciplinary teams, common criteria system, co-ordination;
2. financing – priorities, cooperation, involvement of private and public sectors;
3. preservation, assessment, conservation – based on a heritage inventory; examination of authenticity and integrity;
4. sustainable utilisation, tourism – as a means of spatial development, too;
5. management – integrated methods, holistic approach;
6. community participation – involvement of local inhabitants.

Route-based developments have important role in job creation, community and economic development. Regarding planning – from the many different models and methods – we have chosen the allocation–concentration strategy as best fitting to the examined area. Allocation strategy means to disperse the visitors steadily in a certain area; thus, visitors can appear not only in the main centres, i.e. "gates". The three main targets are reduction of pressure on the central area/settlement; sharing the income from tourism; and the increase of a destination's general attractiveness by introducing new areas and characteristics. On the contrary, the theory of concentration introduces the phenomena of gateways, staging areas and clustering of attractions (Meyer 2004). Although it seems to be the reverse of allocation strategy, it is important to point out their relationship (Figure 1). The gateways refer to certain geographical entry points to a region (e.g. airports or highways). Staging areas normally mean the surroundings of gateways or bigger cities nearby, where tourists can find every facility for their stay (e.g. accommodation, shops and information offices). Clustering has the following advantages: better planning of integrated development, more efficient provision of transportation access and other infrastructure, convenience to tourists of facilities and services being in proximity, capability of concentrated development, a variety of and more specialised facilities and services, and containment of any negative environmental and sociocultural impacts. Thus, concentration strategy means controlled and integrated planning and development.



Source: after Meyer (2004) own compilation

Figure 1. Combination of allocation and concentration strategies for thematic routes

The key elements of successful route development are (Meyer 2004):

1. cooperation networks, regional thinking and leadership;
2. product development, infrastructure and access;
3. community participation, micro-enterprise development and innovation;
4. information and promotion;
5. explicit "pro-poor" focus.

RESEARCH SETTING – HISTORY VALLEY IN CSEREHÁT

The Cserehát micro-region is a gentle hill-country in Northern Hungary, bordered by two rivers (Bódva and Hernád), and by Slovakia in the north. It is a natural "bridge" between two mountain ranges, the Bükk and the Zemplén (Figure 2). It is a typical traditional area with small villages. After the Treaty of Trianon (1920), it lost its natural economic relations with the northern areas (which were attached to Slovakia). From the 1960s, the area has been slowly declining, with high rates of migration and a growing gipsy population in the settlements. In spite of its peripheral economic situation, this calm area is very rich in natural and cultural potential.

Source: http://www.wikiwand.com/hu/Cserehát

Figure 2. Geographic position of the Cserehát micro-region within Hungary

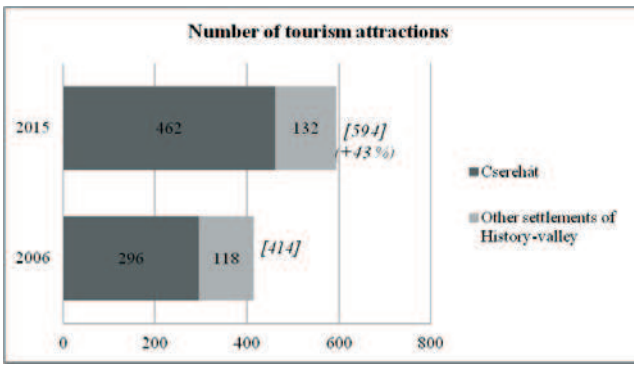
The Cserehát Settlement Association has elaborated a project called "History Valley", based on previous tourism development experiences. The project defines the natural and historical heritage of the Bódva River and its surroundings as a complex tourism attraction; and offers the experience of "travelling in time" in a core area of 29 settlements. The intended effect contains representative old buildings, exhibitions with interactive elements, programs offering active participation, festivals, traditional costumes, gastronomic specialities and locally made souvenirs. According to the conception, the History Valley concept could be expanded to the whole Aggtelek–Edelény destination, as the route goes through a further 18 settlements, and even into the neighbouring Slovakian areas. Within the project, seven historic buildings were renovated or rebuilt, with modern tourism services; 15 historical or cultural exhibitions were created; three entry and information points were built; and five historic trails (3-8 km each) were marked. Certain marketing activities (signboards, brochures and website) have complemented these, and there was a training course for future staff members, too. The managers counted 20,000 visitors per year at the seven new staging points, which could assure the project's sustainability. The project – as an idea – has drawn up an integrated development vision, planned the clustering of existing attractions, new attractions and services, and future enlargement possibilities.

METHODOLOGY

During the examination, first we carried out a secondary research by reviewing the previous attraction inventory of the Northern Hungarian tourism region. We narrowed it to the sample area, i.e. the Cserehát micro-region, improved with the new establishments, and also added other services to the investigation. Then, we carried out a questionnaire survey among tourists at outstanding attractions of the sample area.

The Tourism Offer of the Cserehát Micro-region

The first attraction inventory was collected in 2006, as part of the development strategy of the Northern Hungarian tourism region. Regarding the Cserehát micro-region (98 settlements), the number of attractions identified was 296. As part of the T-Model project in 2015, we updated the inventory, finding a total of 462 attractions. The sample region was supplemented with some further places, as the route goes through the UNESCO World Heritage Site of Aggtelek, as an alternative route to the Cserehát, with outstanding attractions (Figure 3). Such growth in the number of attractions undoubtedly means several recent developments – nevertheless, there was not enough service development, especially in the field of accommodation, restaurants, events and organisations.

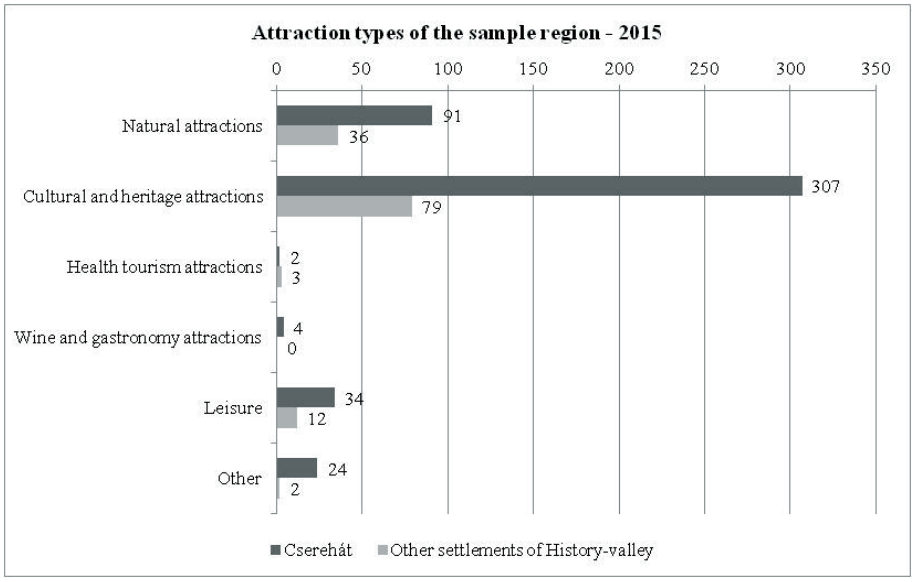


Source: own compilation on the basis of own database

Figure 3. Tourism inventory of Cserehát

We can examine the attractions according to their attractive force, too, which means from how far they are able to attract visitors. For the present, we have categorised the elements of History Valley as micro-regional attractions, as the concept builds on mainly local, less known resources; however, this significantly limits the possible target groups, too. Altogether, regarding the data from 2015, almost 50% of the total attractions are of local importance, while 28% are micro-regional, 9.5% regional, 8.5% national, and only 4 % are of international importance (because of the world heritage site).

We determined 42 attraction types in the inventory, and categorised them into six bigger groups (Figure 4). The categorisation is mainly resource-based, which determines what type of tourism product can be built upon them. The graph shows that we can build upon cultural and natural resources. Gastronomy also appears as a good potential attraction.



Source: own compilation on the basis of own database

Figure 4. Main attraction types in the sample region (Cserehát)

The inventory, however, is a little deceptive. When we look behind the numbers, we can find two interesting anomalies:

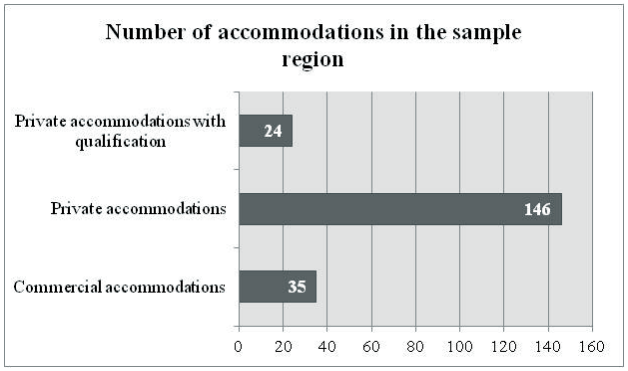
1. Within the group of cultural and heritage attraction, the most numerous type is historical buildings. Out of the total 133 buildings, 84 (63.16%) are churches. Not undervaluing their importance in cultural and religious tourism, we can ask the following question: do these really have attractive force? Are they accessible for tourists? Unfortunately, in most cases, we have to answer "no"; the main reasons are the limited opening hours and the lack of professional interpretation and available information.
2. Thematic routes are also within the group of cultural and heritage attractions. The identified 51 elements in fact belong to five routes: History Valley, Medieval Churches, Panorama Route, Forts and Castles and the Gothic route. Thus, the 51 elements mean places of interest only. Though we do not have the opportunity to analyse this within this study, it is clear that route-based development – as a marketing tool – has some tradition in the area.

MAIN FINDINGS, RESULTS

Other Services in the Sample Region

Arising from the characteristics of the tourism product, it is not enough to examine only the (real or potential) attractions, but also other services. Though we cannot analyse all types of services within the scope of this study, we highlight three categories.

The offer of accommodations determines whether a destination is able to keep tourists there or whether they only travel through or make one-day excursions. Regarding the standpoints of the 3S strategy of the experience economy (stop, spend and stay longer) and spatial development, it is essential to have a satisfactory range of accommodation in number of beds/rooms/establishments, price and quality. We cannot declare this about our sample region (Figure 5):



Source: own compilation on the basis of own database

Figure 5. Types and number of establishments in the Cserehát

In the sample region, private accommodations are significant, making up 80.66% of all establishments. There are only three hotels each in two districts of the region; the others are all tourist and youth hostels. It is even more interesting that only 16.44% of all the private accommodations have a quality trademark (the qualification system is ordained in Governmental Regulation 239/2009. (X.20.)). This depressing rate also determines the "visibility" of the whole region.

The situation is very similar in case of hospitality establishments (or, more typically, "places for eating"). It is difficult to find a suitable restaurant in the micro-region – there are mainly snack bars, pizzerias, and confectioneries in some towns. This fact hinders longer stays – particularly, when most of the accommodations (private ones) do not offer meals. Regarding all places for eating in the sample area, there are only 15 establishments (44.12%) which belong to the "restaurant" category (most of them within a hotel).

The third highlighted area is the tourism institution system and human resources. There was a Tourinform (tourist information) office in Edelény several years ago; first maintained by the Cserehát Settlement Association, then the local municipality, but it was closed in 2007 or 2008. The area was unable to participate in the destination management development program (which started in 2009); because they could not produce data for even the minimum indicators needed (number of guests, guest nights, tourism tax, etc.). This is despite the fact that this area, neighbouring the Aggtelek world heritage site, is one of the six major tourism districts of the Northern Hungarian tourism region, as defined by the regional tourism strategy. In spite of the existence of some (older or newer) civil organisations, their cooperation does not function; the entrepreneurs and other stakeholders could not form a network. The previous projects (e.g. CSER-KÉK rural tourism network) slowly sink into oblivion, and we can say that History Valley does not function properly, either. This loop of the chain is completely missing.

Practically we can declare that, although the area has great potential for the development of certain types of tourism, there are no services that can turn the attractions into tourism products. The quiet resignation of the local people and the lack of the necessary way of thinking, entrepreneurship and community force all "crown" this situation.

The Results of the Visitor Survey

We carried out a visitor survey in the sample region, in two rounds. First, we asked a reference group, who were participants of the "Periphery" Summer University in Irota. The questionnaire focused on awareness of the area as a whole and of History Valley as a thematic route, and the expectations regarding route tourism. The survey was not representative. In the second round, we asked tourists at main attractions of the sample area, at the castle of Edelény and around other sights.

Demography of all participants: 61% women, 39% men. Age: 2% between 16-19 years, 39% 20-29 years, 24% 30-39 years, 13 % 40-49 years, 15% 50-59 years old, and 7% are 60 or older. Highest educational level: 40% have completed secondary school, 30% have college degrees (3-year degree or bachelor's degree), 19% university qualifications (5-year degree or master's degree, while 9% have a PhD degree. Place of residence: 27% of the visitors live in Miskolc (seat of Borsod-Abaúj-Zemplén County, where the Cserehát micro-region can be found), and 41 % live in other settlements of the county (Figure 6); this reflects the mainly local importance of the attractions, as we have stated before. During the survey, we met no foreign visitors.

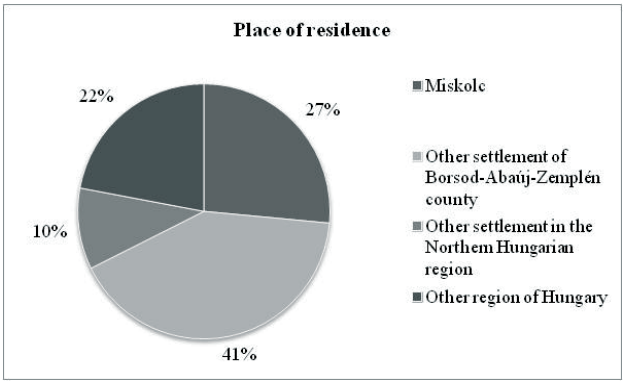


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Figure 6. Permanent place of residence of the visitors participating in the survey

Groups: 36% of the visitors arrived with their partner or spouse, 25% with friends and 23% with family (children) to the sample area. Length of stay: 58% arrived for a one-day excursion, and only 24% spent 1-3 days in the region; of this group, only half of them had their accommodation there, a quarter of them at friends or relatives. Regarding the motivations, 44% of the visitors

choose excursion, 23% scientific activities (reference group in the Summer University) and 15% visiting cultural attractions.

In the second part of the questionnaire, we asked the tourists' opinion about the region. First, they had to express agreement or rejection of certain statements, on a scale of 1-5 (Figure 7). The lower third of the graph relatively well shows the lack of different services in the region, as we described before when analysing the attractions and offers. Most of the respondents have the opinion that the area is affordable, and they find the services and products have reasonable prices; while many of them think that it is a cheap destination. There is quite a big difference in this question between the reference group members and the daily tourists; the reason is that the academic participants of the summer university have a much higher average income than the average tourist. They are also more critical about the quality, too (Figure 8).

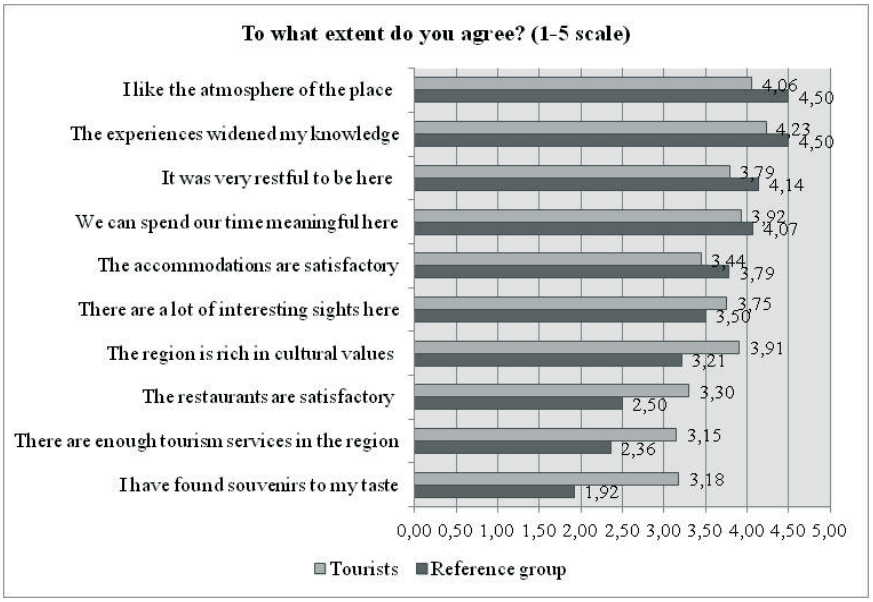

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Figure 7. Opinions about the region (1-not at all, 5 – completely)

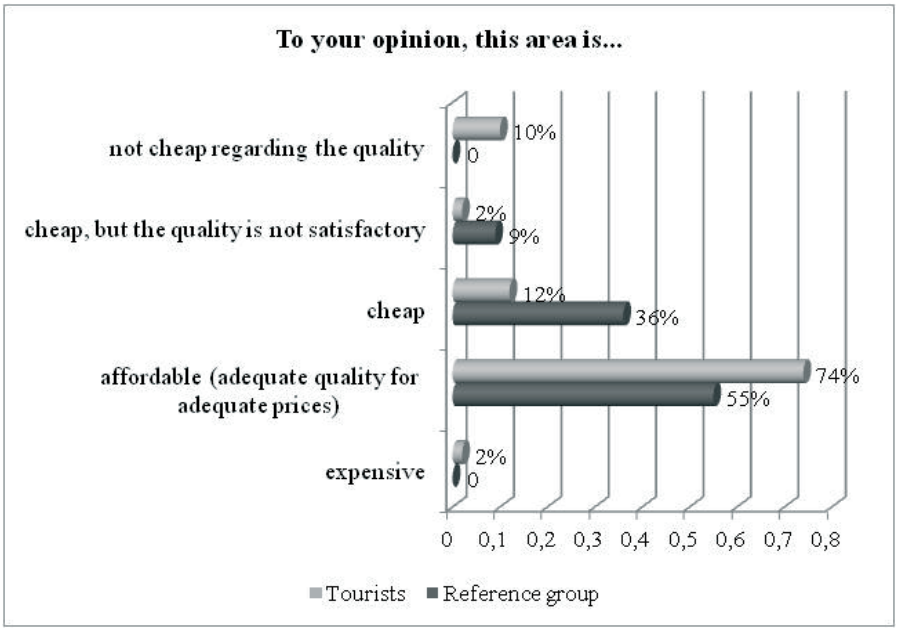

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Figure 8. Opinions about the region

The third part of the questionnaire is related to the thematic routes in general, and the History Valley route. Of the reference group, 61.5% of the reference group knew about the thematic routes but 77% of them had not visited any before, and 64% had not heard about the History Valley route – though they had been here for the third time on average. The same questions show very different results among day trip tourists: 77% had not heard about thematic roads, and 94% had not visited any of them before; 81% had not heard about the History Valley route. In the following section, we asked the importance of certain aspects of thematic routes, on a 1-5 scale; these aspects will appear in our model that we suggest for the revitalisation of the History Valley program (Figure 9). The most surprising is that the criterion of authenticity was given the lowest value; although we consider it as one of the most important aspects for cultural and heritage-based routes, which determines the tools and methods of interpretation, too. Similarly, the range of services received quite a low value, too.

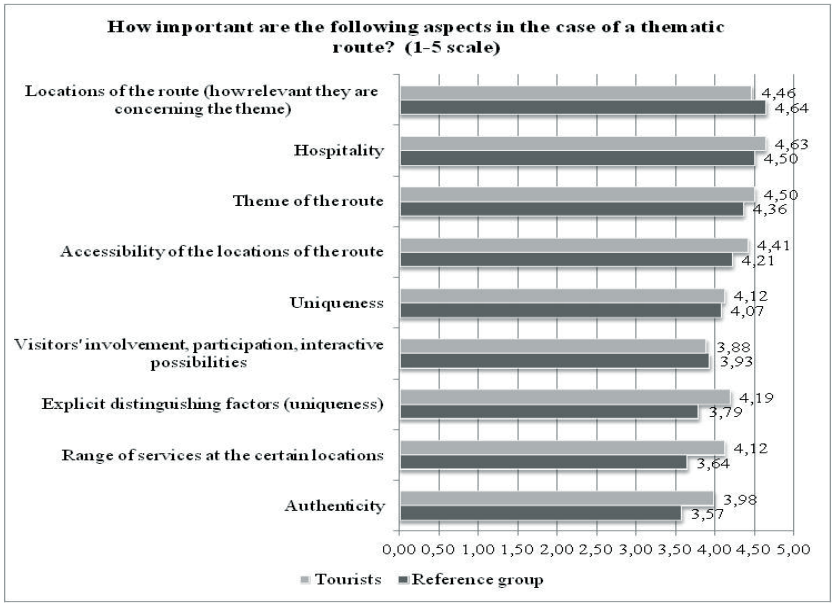

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Figure 9. Importance of certain aspects in case of thematic roads

An important part of the questionnaire related to the different services of a thematic route. We listed altogether 44 services, which then could form six bigger groups: theme, formation, accessibility, marketing and services. Regarding marketing tools, we highlighted the aspects of packaging separately.

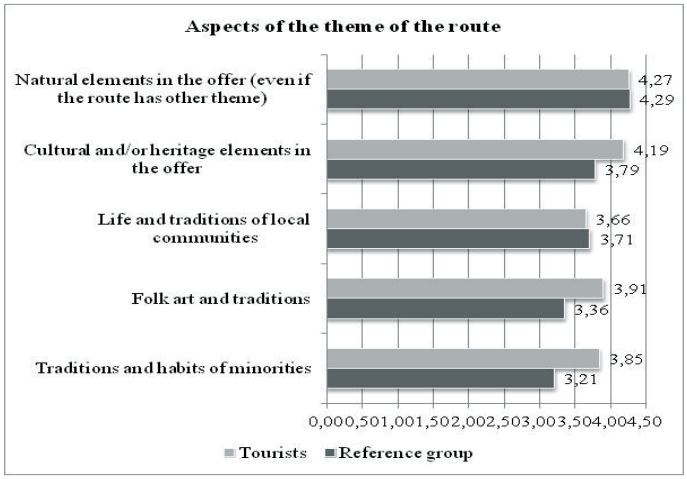

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Figure 10. Importance of theme-aspects in case of thematic routes

Regarding the theme (Figure 10), minority and folk art values are less interesting for tourists visiting the area than are natural and cultural values; the high number of gipsy people depresses this micro-region, yet – in spite of every disadvantage – they were able to create a unique "painted village" in Bódvalenke. Visitors considered sustainability and environmentally consciousness as the most important factors when forming a thematic route. Scientific background and historical authenticity are not important for the average tourist, in accordance with the analysis of Figure 9. Regarding accessibility, the suitable signposting of the beginning and end of the route, enough information boards and route signals are the most important aspects, and tourists seem not to bother much about the quality of roads and other traffic services. Brochures, maps, a website of the route and information at the accommodations are the most important marketing tools for tourists, and they are less interested in special discounts or souvenirs. Surprisingly, they do not consider mobile applications as important factors, even these days, when leading tourist destinations are continuously developing more services and apps (e.g. guided tours or special discounts).

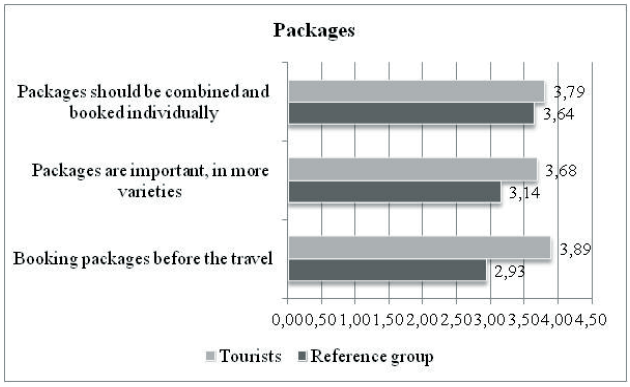

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Figure 11. Aspects of packaging

Packaging seems not to be important for the average tourist in Hungary (Figure 11) – an interesting result, as literature defines this tool as an important factor in competitiveness and success, while it does not appear in domestic travel. This reflects the tendency for Hungarian tourists to buy packages mainly in case of international travel – for domestic excursions, it is "out of fashion". The fall in the demand for domestic packages results in another tendency, namely, that Hungarian travel agencies do not offer domestic packages, or the offer is insignificant. Nowadays we can mainly find hotel packages as special offers (e.g. Easter Holidays, wellness weekend).

Services formed the biggest group of aspects. Local gastronomy, local products, a sufficient variety of accommodation and restaurants, and various forms of leisure activities seemed to be the most important. It is interesting that local guiding, special vehicles or luggage transfer (when hiking) were not in demand. An exciting question arose after this result: whether the lack of certain services results in demand for them. Can we miss something that we are not even aware of? It could be the topic of another research study.

We have attempted the examination of the consumer (tourist) satisfaction, too, choosing the classic loyalty index (Piskóti 2008):

$$CLI = \frac{2S + R + RB}{4}$$

where S stands for satisfaction, R stands for recommendation to others, while RB stands for repeated buying (i.e. returning travel). The survey gave the following result:

$$CLI = \frac{2 * 3.86 + 3.73 + 3.71}{4} = 3.79$$

The index means that the satisfaction with the area is a bit higher than the average; the value of the intention to return shows the interest, the hidden potentials of the region. There was only one respondent who surely would not recommend the region to others.

CONCLUSIONS, SUGGESTIONS

We can conclude, based on the previous analysis, that the Cserehát micro-region is a valuable area, however, it is unable to exploit its potential well. Our research, as well as interviews with local actors and developers strengthened our assumption: an organising power, a management centre functioning as a competence centre (Figure 12) that could successfully operate and maintain the History Valley thematic route is missing from the region.

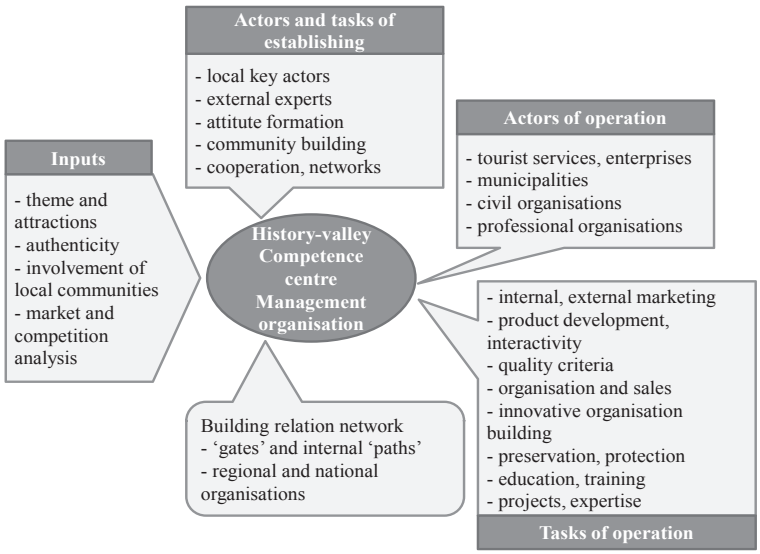

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Figure 12. Suggested model for the operation of the History Valley route

The first task would be to stimulate life into the route – the conception should be accomplished; this means the tasks of regional community building, networking and innovative organisation. We should put greater emphasis on the gateway functions, which are the entry points to the area: Edelény, Hídvégardó–Tornanádaska and Aggtelek; the last two can be entry points for tourists arriving from the neighbouring Slovakia (Figure 13). Still, the main gateway for the micro-region is Miskolc: the management of the route should build a close relationship with the local destination management agency, as a strategic partner, and develop the cooperation even up to event organisation and sales. As the Cserehát region will not be able to establish its own destination management agency in the near future, they can use the relationship with Miskolc to reach the national network. In addition, they should focus on the establishment of a more innovative organisation with similar functions, based on the local stakeholders' active participation and cooperation. They should carry out active attitude forming work; as we can see from the previous analysis, first, they need to motivate local entrepreneurs and make them visible on tourism's map. They have to devote enough time to building up the organisation and functions, which will take about 3-5 years, and make local actors aware of this.

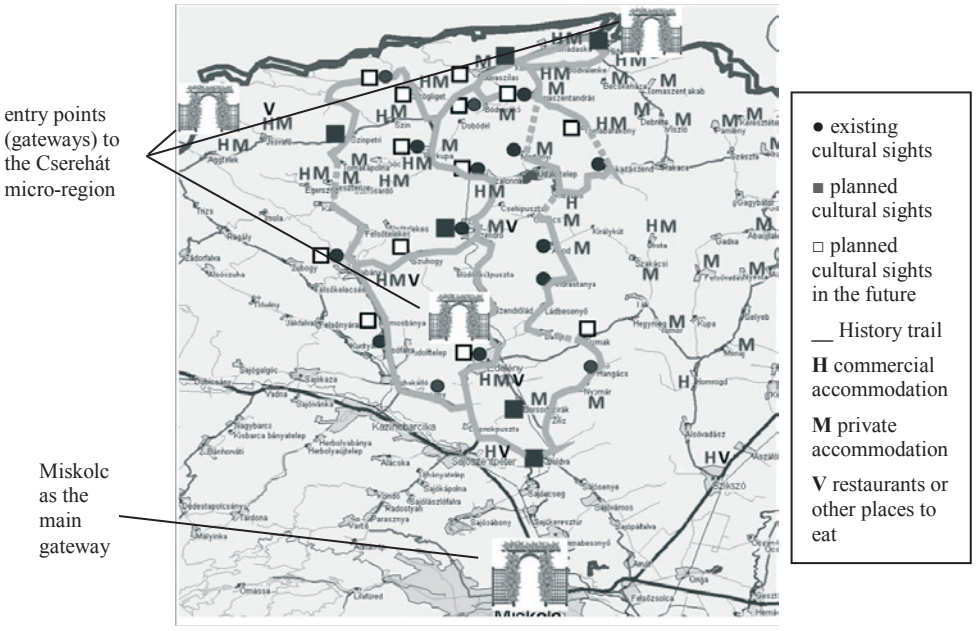

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Figure 13. Services and gateways of History Valley

Based on the characteristics of the area's attractions, it is possible to define clear target groups. The attractions should target primarily domestic tourists, mainly from its own and neighbouring regions. It would be essential to reach the population and visitors of the main "gateway", Miskolc – so the area has to begin to build relations with the local destination management agency. Regarding competitiveness, it would also be essential to target tour operators for the sake of organised groups – but it means tasks (e.g. quality assurance and local partners) which seem to be impossible without the local management organisation.

As the first step of the realisation, we suggest to set up a "virtual destination management organisation", which requires at least one person who can take on the challenge of the organising and coordinating work, perhaps as an enterprise. The main tasks are changing the attitudes and networking; then some packages can be built on the involved services. Cooperation with Miskolc can make the area more visible to tourists. Parallel to this, they should update and manage continuously the History Valley website (the respondents marked this as an important element in the previously presented survey); thus, it can be a primary information source and a marketing tool in the beginning, and later a platform for online booking, too.

REFERENCES

AIKAWA, N. (2007), Patrimonio cultural intangible: nuevos planteamientos respecto a su salvaguardia, Retrieved: September 2016, http://132.248.35.1/cultura/informe/ informe%20mund2/PATRIMONIO.htm.

BARTHA, Z. & MOLNÁR, L. (2016): The SLEM model as an assessment method for local goods' competitiveness. Theory, Methodology, Practice, 12(special issue), pp. 5-13. http://dx.doi.org/10.18096/TMP.2016.02.01

BOSWIJK, A., THIJSEN, T., & PEELEN, E. (2005): A new perspective on the experience economy: Meaningful experiences. The European Centre for the Experience Economy, The Netherlands. Retrieved: September 2013: http://yuiworld.files.wordpress.com/2011/07/1-a-new-perspective -on-the-experience-economy.pdf

BRIEDENHANN, J., WICKENS, E. (2004): Tourism routes as a tool for the economic development of rural areas – vibrant hope or impossible dream? Tourism Management, Vol.25. pp.71-79. http://dx.doi.org/10.1016/s0261-5177(03)00063-3

DEMÉNY, A & MUSINSZKI, Z. (2016). Social accounting – In the wake of the sustainability. Theory, Methodology, Practice, 12(special issue), pp. 26-40. http://dx.doi.org/10.18096/TMP.2016.02.03

G. FEKETE, É. (2016). A postmodern employment model on the peripheries. Theory, Methodology, Practice, 12(special issue), pp. 41-54. http://dx.doi.org/10.18096/TMP.2016.02.04

GRASSELLI, G. (Ed.) (2011): Logisztika jegyzet, Debreceni Egyetem (Retrieved: September 2015, www.agr.unideb.hu/ebook/logisztika/index.html) [Lecture Notes in Logistics, University of Debrecen]

HALL, C.M., MCARTHUR, S. (1998): Integrated Heritage Management. Stationery Office, London

ILLÉS, M. (2016). Enterprise Models from Terms of Sustainability. Theory, Methodology, Practice, 12(special issue), pp. 55-67. http://dx.doi.org/10.18096/TMP.2016.02.05

KINCSES, Á., RÉDEI, M. (2010): Centrum-periféria kérdések a nemzetközi migrációban. [Questions of centre-periphery in the international migration] Tér és Társadalom XXIV. évf. (4. sz.) pp.301-310.

LIGHT, D., PRENTICE, R. (1994): Market-based product development in heritage tourism. Tourism Management Vol.15. (Nr.1.) pp.27-36. http://dx.doi.org/10.1016/0261-5177(94)90024-8

LOURENS, M. (2007a): The Underpinnings for Successful Route Tourism Development in South Africa. Dissertation for Masters Degree of Tourism, University of Witwatersrand, Johannesburg (Retrieved: June 2015: http://wiredspace.wits.ac.za/bitstream/handle/10539/ 4887/Masters%20Thesis%20Routes%20Tourism.pdf?sequence=2)

LŐCSEI, H., SZALKAI, G. (2008): Helyzeti és fejlettségi centrum–periféria relációk a hazai kistérségekben. [Location and development centre-periphery relations in Hungarian small regions] Területi Statisztika XLVIII. évf. (10. sz.) pp.305-314.MAJDOUB, W. (2010): Analyzing cultural routes from a multidimensional perspective. AlmaTourism Nr.2. pp.29-37.

MARTORELL-C, A. (2003): Cultural Routes: Tangible and Intangible Dimensions of Cultural Heritage. ICOMOS [www.icomos.org] (Retrieved: February 2013: http://www.international.icomos.org/victoriafalls2003/papers/A1-5%20-%20Martorell.pdf) 14th ICOMOS General Assembly and International Symposium: 'Place, memory, meaning: preserving intangible values in monuments and sites', 27 – 31 Oct- 2003, Victoria Falls, Zimbabwe

MEYER, D. (2004): Tourism Routes and Gateways: Key issues for the development of tourism routes and gateways and their potential for pro-poor tourism. Overseas Development Institute (Retrieved: March 2013: http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinionfiles/4040. pdf)

NURYANTI, W. (1996): Heritage and Postmodern Tourism. Annals of Tourism Research. Vol.23. Iss.2. pp. 249–260.
PEDERSEN, A. (2004), The Possible Tangible Benefits of Working on Intangible Heritage Issues at World Heritage Sites, Forum Barcelona 2000, Barcelona.
PISKÓTI, I. (2008): Elégedettség- és értékorientált ügyfélmenedzsment-modell keretei. [The frames of satisfaction and value oriented customer relation management model] In: Piskóti, I. (szerk.): Marketingkaleidoszkóp 2008. Miskolci Egyetem, pp.11-36.
PISKÓTI, I. (2014): Innovációvezérelt desztinációmarketing – trendek és teendők. [Innovation-driven destination marketing] Észak-magyarországi Stratégiai Füzetek, Vol.11. Iss.2. pp.32-44.
POON, A. (1989) Competitive strategies for a new tourism', in C. Cooper, ed, Progress in Tourism, Recreation and Hospitality Management, Volume 7, Belhaven, London, pp 91-102.
PUCZKÓ L., RÁCZ T. (2000): Az attrakciótól az élményig [From an attraction to an experience], Geomédia Kiadó, Akadémiai Kiadó Budapest
PUCZKO, L., RATZ, T. (2003), The Role of NGO in Heritage Information and Management in Gravari-Barbas, M. and Guichard-Anguis, S., Regards Croisés sur le Patrimoine dans le Monde à l'Aube du XXIème siècle, Paris: Presses de l'Université de Paris Sorbonne.
ROGERSON, C.M. (2004): Tourism and uneven local economic development: the experience of route tourism in South Africa. In: C.M.Rogerson & G.Wisser (eds): Tourism and Development Issues in Contemporary South Africa, Pretoria, Africa Institute of South Africa, pp.399-419.
ROGERSON, C.M. (2007): Tourism routes as vehicles for local economic development in South Africa. The example of the Magaliesberg Meander, Urban Forum, Vol.18.
ROGERSON, C.M., ROGERSON, J.M. (2011): Craft routes for developing craft business in South Africa: Is it a good practice or limited policy option? African Journal of Business Management, Vol.5. (Nr.30.) pp.11736-11748.
SCHLÜTER, R.G. (2012): Promoting regional cuisine as intangible cultural heritage in Latin America. In: OECD (2012): Food and the Tourism Experience.
SWARBROOKE, J. (1994): The Future of the Past: Heritage Tourism in the 21st Century. In: Seaton, A.V. (ed.): Tourism: The State of the Art. John Wiley and Sons, Chichester, England
TELFER, D.J. (2001): Strategic alliances along the Niagara Wine Route. Tourism Management, Vol.22. pp.21-30.
VÁRKONYI, M. J. (2016). Challenges of establishing and operating social enterprises. Theory, Methodology, Practice, 12(special issue), pp. 68-74. http://dx.doi.org/10.18096/TMP.2016.02.06

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Opportunities for Adaptation of the Smart City Concept – A Regional Approach

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SUMMARY

Smart City applications are becoming more prevalent in the world's major cities. In this study we briefly introduce the essence of this concept and attempt to examine the basis for introduction of the concept subsystems in Northern Hungary. We found that the region under investigation significantly lags behind the national average in the case of indicators for quantifying Smart City applications. We identify areas with a particularly low score on the newly developed SMART index and propose a possible area for future intervention.

Keywords: Smart city concept, statistical analysis, Northern Hungary
Journal of Economic Literature (JEL) codes: O18, O3, R12
DOI: http://dx.doi.org/10.18096/TMP.2016.02.08

INTRODUCTION

In the 2014-2020 programming period of the European Union one basic issue is to make cities smart, and to initiate smart applications to make the cities' processes more effective. Although there is no agreed-on definition for a smart city in the literature, based on the newest European viewpoint (European Parliament, 2014) a smart city improves its competitiveness through the application of smart technologies, and secures a sustainable future for its inhabitants throughout the following factors: people, business sphere, technology, infrastructure, consumption, energy and spaces.

In the last decade several publications have appeared in connection with concept and sub-dimensions of smart cities, such as Hall, 2000; Giffinger et. al., 2007; Harrison et. al. 2010; Toppeta, 2010; Washburn et. al. 2010; Anthopoulos, L., Fitsilis, P. 2010; Schaffers 2011; Lados, 2011; Bizjan, 2014; European Parliament, 2014. However, the monitoring and evaluation of results has received less attention. At the same time the measurement of smart city development effects is a relevant and timely topic. In empirical works the appearance of city rankings is relatively frequent, measuring the values of cities by certain aspects (for example: Mercer Quality of Living Survey, Siemens Green City index, Liveability Index of Economist Intelligence Unit, UN City Prosperity index, Global Urban Competitiveness Report).

The aim of this research is to examine the introduction of the smart city concept in the Northern Hungarian sample area and to analyse the "smartness" of the region's settlements. In the article we try to create a SMART indicator to measure the situation (rating settlements in connection with smartness), and to identify opportunities for adapting smart technologies.

THEORETICAL BACKGROUND

The concept of the smart city appeared in the literature in the 1980s and '90s due to the wide-spread development of information and communication technologies (ICT). In the 2000s the increasingly intensive usage of the Internet has provided an opportunity to cities to offer more electronic services

(like e-government, e-learning) to their inhabitants. Nowadays the revolution of wireless sensors can be observed among the smart applications (Bizjan 2014).

Although the expression "smart city" is becoming more widely known, there is no commonly agreed upon definition or concept of its content. The characteristics of smart cities can differ significantly depending on space and resources. There are often individual solutions to the adaptation of the concept.

One group of smart city definitions focuses on the role of ICT. In the opinion of Anthopoulos & Fitsilis, "in a smart city the ICT strengthens the freedom of speech, improves the availability of public information and services" (2010, p. 302).

According to Schaffers (2011), a city is smart when the investments in human and social infrastructure, in traditional and modern infrastructure foster the sustainable economic growth and contribute to the growth of the life quality, "with a wise management of natural resources and participatory governance" (2011, p. 432).

In the opinion of other authors, a smart city is a kind of city:

- which integrates every critical infrastructure (roads, bridges, tunnels, railways, subways, airports, harbours, communications, water, energy and main buildings), optimizes its resources, plans the activities based on security norms, and of course maximizes the services offered to its inhabitants (Hall 2000),
- which raises the city's collective intelligence with the integration of physical, ICT, social and business infrastructure (Harrison et. al. 2010),
- which combines ICT with other organizational and planning solutions to accelerate bureaucratic processes, and to create new, innovative solutions for the city management, and to increase sustainability and liveability (Toppeta 2010),
- which adapts ICT to make the city's critical infrastructure and services (administration, education, healthcare, public safety, wealth management, transport) more intelligent, effective and integrated (Washburn et al. 2010),
- whose aim is to become smarter (more effective, sustainable, fair and liveable) (National Resources Defence Council 2012),
- which performs outstandingly in the following six areas: economy, people, government, mobility, environment and living conditions (Giffinger et al. 2007).

In the last years a number of similar expressions have appeared in the literature in connection with cities, including intelligent city, knowledge city, sustainable city, talented city, wired city, digital city or eco-city, but the term smart city is the best known.

The number of smart city projects is constantly growing in the countries of the world, but their quality and complexity differs according to the opportunities and resources of the cities. The Fast Company made an analysis in 2013 to collect the most developed smart cities; the results are the following:

- Europe: Copenhagen, Amsterdam, Vienna, Barcelona, Paris, Stockholm, London, Hamburg, Berlin, Helsinki and Lyon;
- North America: Seattle, Boston, San Francisco, Washington, New York, Toronto, Vancouver, Portland, Chicago and Montreal;
- Latin America: Santiago, Mexico City, Bogota, Buenos Aires, Rio de Janeiro, Curitiba, Medellin and Montevideo;
- Asia and the Pacific: Seoul, Singapore, Tokyo, Hong Kong, Auckland, Sydney, Melbourne, Osaka, Kobe and Perth are the most developed smart cities (Cohen 2013).

In Europe most of the smart cities can be found in the United Kingdom, Spain and Italy. But if we examine occurrence per capita then Italy, Austria, Denmark, the Netherlands, Norway, Sweden, Estonia and Slovenia are the richest countries in smart cities.

The expression smart city appears also in the documents of the European Union more and more frequently, but it has been given several concepts. In 2011 the European Smart Cities Initiative defined three main character axes which are necessary to a smart city. These factors are environmental friendly technologies, ICT technologies like management tools, and sustainable development.

The definition of the European Commission (2011) contains also some economic aspects. The European city of the future has well-developed social and environmental processes, which can sustain their economic attraction and economic growth through integrated approaches (every dimension of sustainable development).

In 2013 there was an analysis titled "Smart Cities and Communities" which also defined the European concept of smart city. According to its statement, smart cities use the available technology widely to reduce the environmental pressures and to secure a better quality of life for their inhabitants. It is a multi-disciplinary issue to make a city smart, which should be realised based on the cooperation among city management, innovative enterprises, politicians, researchers and the civil society (Smart Cities and Communities 2013).

The newest European commitment to this topic comes from the European Parliament (2014) in its "Mapping Smart Cities in the EU" analysis. This defines a smart city as a place which improves its competitiveness through the adaptation of ICT, and which secures a sustainable future through a network of the following dimensions: people, business sphere, technology, infrastructure, consumption, energy and places (European Parliament 2014).

In Hungary the most comprehensive analysis was made by the IBM Smart City Initiative (Lados et al. 2011), which was created with the help of the Hungarian Academy of Sciences. According to the results a smart city is a settlement that uses the available technology in

an innovative way to create a better, more diversified and sustainable city environment. A city is smart when the investments in human resource, conventional (transport) and modern information and communication infrastructure foster sustainable economic development and increase the quality of life, while it handles natural resources wisely (Lados et al. 2011; IBM Institute for Business Value 2010).

DATA AND ANALYSIS

Secondary Analysis: Settlement Level Results

In this recent study we have examined the prerequisites for introducing Smart technologies into the settlements of the Northern Hungary region. As is observable from the above, the concept of smart city is adaptable primarily in cities, and the smart activities can improve mostly the quality of life in these cities. In spite of this, our aim was to examine the basic requirements of the concept in the case of the Northern Hungary region's settlements. In our analysis we applied the data of the Hungarian Central Statistical Office to secure the consistency of the analysis. Of course there are some dimensions in the smart city concept, that it is almost impossible to measure (such as a creative workforce or creative enterprises), so these dimensions were dropped from our examination. One basic goal of the analysis was to represent the strengths and weaknesses of the region according to the concept of smart city.

Based on the earlier Hungarian empirical analysis (Lados et al. 2011) we made a settlement-level examination of introducing Smart technologies based on seven sub-systems:

- people, which contains public safety, healthcare and education,
- business,
- city services,
- transport,
- communication,
- water management,
- energy management.

In the given sub-systems we have compared the analysed indicators to the national average. In some cases there was a need for modification because of the different scale of the indicators. In that situation, if the scale of indicator was not adequate, for example with the death indicator (where a smaller value indicates a better quality of life in the settlement), we used the inverse of the indicator in the calculations. The value of the sub-systems was calculated by the meaning of the indicators, which were compared to the national average. The end result (the SMART indicator) was created as a means of the sub-systems (pillars). Although in the literature (Lados et al. 2011) a weighting method was also used, we chose not to deal with it, because we believed it would make our results as more criticisable. Of course we know that this approach can result in a high degree of generalisation, hence in the given sub-indices the importance of the territories can be different. With this approach (avoiding weights), we can place attention on general tendencies, instead of highlighting some particular territories. Let us see the given sub-system values.

People Sub-System

We hope to describe with the indicators of this sub-system the living conditions of the settlements' inhabitants. We wanted to examine employment (including its content and structure) and age structure. Beside this we wanted to analyse also the demographic situation, living conditions, health and educational situation, and the public safety of the settlements.

The applied indicators of the analysis:

- number of unemployed people per hundred employees, 2011,
- dependents per hundred employees, 2011,
- number of employed in the industry and construction per hundred employees, 2011,
- number of employed in the services per hundred employees, 2011,
- number of employed as manager or intellectual per hundred employees, 2011,
- number of employed as other white collar employee per hundred employees, 2011,
- number of elderly (60 or over) per hundred in the working age, 2011,
- live births per thousand inhabitants, 2014,
- deaths per thousand inhabitants, 2014,
- inhabitants per hundred homes, 2014,
- average selling price of homes, 2014,
- newly built homes per ten thousand inhabitants, 2014,
- family doctors and paediatricians per ten thousand inhabitants, 2014,
- hospital beds per ten thousand inhabitants, 2014,
- share of elementary school students with computer usage, 2014,
- average completed years of education, 2014,
- crimes per ten thousand inhabitants, 2014.

The examined settlements have relatively good values in this dimension; hence the weighted average of the sub-system is 94%. The value of 527 settlements from the 610 of the Northern Hungary region does not reach the national average, and 169 of these do not reach 75% of the national average. The relatively satisfactory values are the result of the relatively young age structure, high live birth ratio, relative low density standard (floor space), and good crime statistics.

Business Sub-System

In the business dimension we tried to find indicators that represent the density of enterprises, the average number of small and medium-sized enterprises and also

the average number of enterprises active in the economic sectors with significant SMART technologies.

The applied indicators are the following:

- active enterprises per thousand inhabitants, 2013,
- share of active enterprises with more than 50 employees, 2013,
- active enterprises per thousand inhabitants in the information and communication sector, 2013,
- active enterprises per thousand inhabitants in the professional, scientific and engineering sector, 2013.

The lag of the region's settlements compared to the national average is greatest in this dimension. The weighted average value of the sub-system reaches only 67% of the national average! There are seven settlements in the region which do not have a single active enterprise. In the business dimension there are 410 settlements, whose average sub-system value does not reach 50% of the national average, 138 settlements have values between 50 and 100% of the national average, and only the situation of 62 settlements is better than this. The significantly negative situation is caused by several factors, for example the low share of active enterprises with more than 50 employees and the lack of active enterprises in the information and communication sector.

City Services Sub-System

In the dimension of city/settlement services we tried to analyse the income of local governments focusing on their budget opportunities to promote SMART technologies. We applied two indicators to measure this:

- self-income of the local governments per thousand inhabitants, thousand HUF, 2011,
- local tax incomes of the local governments per thousand inhabitants, thousand HUF, 2011.

There is a significant lag also in this sub-system compared to the national average. The weighted average sub-system value of the examined settlements is only 75%. There are 504 settlements with values below 50% of the national average, 69 settlements between 50 and 100%, and 37 settlements above the national mean. The situation of the examined territory is the worst compared to the Hungarian mean in the indicator of local tax income.

Transport Sub-System

We intended to analyse the situation of local roads and the capacity of given vehicles in the transport dimension. Naturally our opportunities were in this case somewhat limited, as we could not calculate with the big cities' transport systems which are based on SMART technologies. The examined factors of our Northern Hungarian analysis were the following:

- deployment of local roads, %, 2014,
- number of passenger cars per thousand inhabitants, 2014,
- number of motorcycles per thousand inhabitants, 2014,
- number of buses per thousand inhabitants, 2014.

In this sub-system the weighted average value of the settlements is favourable compared to the national average, at 104%. There are only 141 settlements whose value does not reach 50% of the national mean, a further 330 settlements are between 50 and 100%, and in 139 settlements the value of transport dimension is higher than the national average. The good situation is mostly the result of the relatively favourable deployment of local roads.

Communication Sub-System

In the communication dimension our main goal was to examine the infrastructural situation of the territories. We selected indicators that represent the infrastructural situation in terms of installing SMART technologies. The applied indicators in the communication dimension were:

- number of ISDN lines per thousand inhabitants, 2014,
- number of Internet subscriptions per thousand inhabitants, 2014,
- number of Internet subscriptions in xDSL network per thousand inhabitants, 2014,
- number of Internet subscriptions in wireless network per thousand inhabitants (without mobile internet), 2014,
- homes with cable TV in the share of housing stock, 2014.

Analysing the sub-system as a whole, we can observe a great lag compared to the national values. The weighted average of the examined settlements' sub-system indicators is only 84%. Lamentably, there are 6 settlements in the region where none of the examined services are available. There are 194 settlements where the value of the sub-system does not reach 50% of the national average, and a further 292 settlements with values between 50 and 100%. The situation of 121 settlements from the region is more favourable than the Hungarian average. In the examined sub-system the number of ISDN lines per thousand inhabitants showed the worst values, and mostly because of this factor the situation of the region is negative in the communication dimension.

Water Management Sub-System

In the sixth sector our aim was to point out the opportunities of SMART technologies applied in water management through the analysis of communal infrastructure and water consumption. The indicators of our analysis:

- share of waste water cleaned by high cleaning degree of the whole public cleaned waste water quantity, 2014,
- share of homes connected to the public plumbing network, 2014,

- share of homes connected to the public sewer system, 2014,
- quantity of provided water to households per 10,000 inhabitants (1000 m3), 2014.

According to our analysis, in this sub-system the region has a relatively favourable position compared to the national average. The weighted average value of the dimension is 102%. Only 9 settlements had a mean value that does not reach 50% of the average, and the position of 277 settlements is between 50 and 100%. In the remaining 324 settlements the situation is better than the national mean. Principally the lack of a public sewer system indicates the main problem among the region's settlements. In the territories that have a public sewer system, the share of waste water cleaned by high cleaning degree is higher than the average, which means higher quality, so the lag is not so significant in these areas.

Energy Management Sub-System

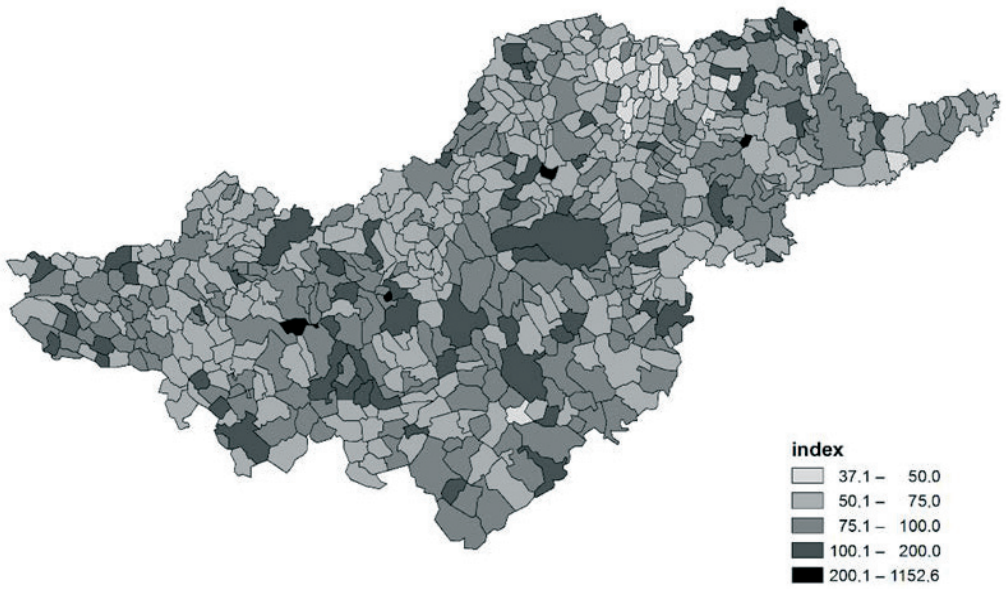
Among the indicators of the energy system we have intended to analyse in which quantity the region needs new technologies to reduce their energy costs. The factors used through the calculation are as follows:

- households using piped gas in the share (%) of housing stock, 2014,
- yearly gas consumption per one household, 2014,
- yearly electricity consumption per one household, 2014.

The average value of the sub-system is the highest among the 7 dimensions; its value is 107%. There are 42 settlements with values lower than 50% of the national average, 303 between 50 and 100%, and 265 with values higher than the average. The gas consumption per households is the closest to the average, so presumably there may be a big chance to install new technologies or solutions in this dimension.

Mean of the Sub-Systems – SMART Index

Although, as we earlier emphasised, the factors and indicators that are the basis of smart solutions are very different, and the sub-systems created from these factors are hardly comparable, we have tried to create a complex indicator based on the weighting and averaging of the sub-systems, which we have called the SMART indicator. Naturally it is adequate only to describe general tendencies, and we cannot draw further conclusions from the difference of the values.



Source: compiled by the authors

Figure 1. Values of the SMART indicator in the Northern Hungary region

The weighted average value of the SMART indicator is 91% compared to the national average. There are 28 settlements whose value does not reach 50% of the national average, the vast majority of settlements (516) have values between 50 and 100%, while the SMART indicator of 56 settlements is higher than the average. From the data, it appeares that primarily the city services and business sub-systems had the most negative effects

on the values of the SMART index. The highest SMART values were mostly for small settlements (population below 1100 people) like Sima, Berente, Mátraszentimre, Terpes, and Pusztafalu. Tiszaújváros has the most favourable position among the significant economic centres; its value is 161%. The county centres of the region have on the average a good position; their index values are: Eger 118%, Miskolc 111%, and Salgótarján 101%.

CONCLUSION

After presenting the Smart city concept and framework we have tried to examine the installation requirements of the concept's sub-system in a sample area. According to the results from our self-designed SMART indicator, the Northern Hungary region has a small lag in the SMART indicator values (average of the sub-system values) compared to national average. The cause for this can be found mostly in the business dimension (which characterises the entrepreneurial environment) and the city services sub-system (which represents the settlements' income situation). Our results indicate that the energy management dimension has the most favourable position in the sample area, so the installation of Smart solutions can bring potentially the highest benefit in this area.

REFERENCES

ANTHOPOULOS, L. & FITSILIS, P. (2010). From Digital to Ubiquitous Cities: Defining a Common Architecture for Urban Development. In the Proceedings of the 6th International Conference on Intelligent EnvironmentsIE'10, Malaysia 2010, IEEE, pp. 301-306. http://dx.doi.org/10.1109/IE.2010.61

BIZJAN, B. (2014). Smart cities in Europe An overview of existing projects and good practices, Smart Cities Conference. Presentation https://conferences.matheo.si/event/8/material/slides/14.pdf

COHEN, B. (2013). The Smartest Cities: Methodology. Fastcoexist Company http://www.fastcoexist.com/3021661/the-smartest-cities-methodology

DIRKS, S., GURDGIEV, C. & KEELING, M. (2010): Smarter Cities for Smarter Growth. IBM Institute for Business Value. http://www-05.ibm.com/hu/download/IBM_SmarterCity_20110721.pdf

EUROPEAN COMMISSION (2011). Cities of Tomorrow. Challenges, visions, ways forward, Directorat General for Regional Policy. http://dx.doi.org/10.2776/41803 http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/citiesoftomorrow/citiesoftomorrow_final.pdf

EUROPEAN PARLIAMENT (2014). Mapping Smart Cities in Europe. Direcorate General for Internal Policies. http://dx.doi.org/10.2861/3408 http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/507480/IPOL-ITRE_ET(2014)507480_EN.pdf

GIFFINGER, R. & PICHLER-MILANOVIC, N. (2007). Smart Cities: Ranking of European Medium- Sized Cities, Vienna University of Technology, University of Ljubljana and Delft University of Technology. http://www.smart-cities.eu/download/smart_cities_final_report.pdf

HALL, R. E. (2000). The vision of a smart city. In Proceedings of the 2nd International Life Extension Technology Workshop, Paris, France. http://www.osti.gov/scitech/servlets/purl/773961

HARRISON, C., ECKMAN, B., HAMILTON, R., HARTSWICK, P., KALAGNANAM, J., PARASZCZAK, J. & WILLIAMS, P. (2010). Foundations for Smarter Cities. IBM Journal of Research and Development, 54(4). pp. 350-365. http://dx.doi.org/10.1147/JRD.2010.2048257

LADOS, M., HORVÁTHNÉ BARSI, B., BARANYAI, N., BARÁTH, G. & JÓNA L. (2011). „Smart Cities" tanulmány, IBM, MTA Regionális Kutatások Központja, Nyugat-magyarországi Tudományos Intézet, Győr. http://www-05.ibm.com/hu/download/IBM_SmarterCity_20110721.pdf

NATURAL RESOURCES DEFENSE COUNCIL (2012). What are smarter cities? http://www.nrdc.org/sustainable-communities/

SCHAFFERS, H., KOMNINOS, N., PALLOT, M., TROUSSE, B., NILSSON, M. & OLIVEIRA, A. (2011). Smart Cities and the Future Internet: Towards Cooperation Frameworks for Open Innovation, Future Internet Assembly, LNCS 6656. pp. 431-446. http://dx.doi.org/10.1007/978-3-642-20898-0_31

SMART CITIES AND COMMUNITIES (2013). Key Messages for the High-Level. Group from the Smart Cities Stakeholder Platform Roadmap Group. Smart Cities and Communities https://eu-

smartcities.eu/sites/all/files/documents/Final%20key%20messages%20to%20HLG%20from%20Stakeholder%20Platform_FINAL_0.pdf

TOPPETA, D. (2010). The Smart City Vision: How Innovation and ICT Can Build Smart, "Livable", Sustainable Cities. The Innovation Knowledge Foundation.
https://www.inta-aivn.org/images/cc/Urbanism/background%20documents/Toppeta_Report_005_2010.pdf

WASHBURN, D., SINDHU, U., BALAOURAS, S., DINES, R. A., HAYES, N. M. & NELSON, L. E. (2010). Helping CIOs Understand "Smart City" Initiatives: Defining the Smart City, Its Drivers, and the Role of the CIO. Cambridge, MA: Forrester Research, Inc.
http://public.dhe.ibm.com/partnerworld/pub/smb/smarterplanet/forr_help_cios_und_smart_city_initiatives.pdf