APSTRACT

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PREFACE

The previous issue of *Apstract* was a thematic or special issue entitled Contributions to the understanding of issues with respect to behaviour, food, happiness and health. The issue contains papers from scholars all over the world.

The present issue of *Apstract*, volume 10 issue 4-5, is a general one and is characterised by variety in many aspects as topics, methods, scope and the like.

The issue consists of several papers written by Hungarians on topic that relate to Hungarian society. One paper discusses the results and potentials in agribusiness after the accession of Hungary into the EU. Another one is an empirical examination of changes related to value drivers since the 2007-2008 crisis. A third one examines the extent and characteristics of diversification among Hungarian agricultural holdings.. A fourth one is a problem analysis of the Hungarian tobacco sector. All of the papers relate to agriculture. A sixth one examines the effect of taxes on the Hungarian Palinka spirits.

Five papers from Hungary deal with aspect of tourism such as health and caves. One paper deals with the effects of health tourism investments on tourism business in the North of Hungary and another presents research on caves in Hungary. Guest satisfaction of cave bath visitors and branding is the topic of a third paper. The regional sustainability of sport halls in Hungary is analysed in a fourth paper, whereas the specific sports subsidies for rural civic organizations are analysed in a sixth paper.

Universities not only produce research, but also enrich the human capital of students. Taking the career orientation into account is then of importance as is demonstrated in the paper examining career orientations at the University of Debrecen.

Very topical is the paper on the perspectives for the development of rural entrepreneurship in the republic of Moldova.

African issues are analysed in two papers. One papers deal with food security assessment of rural household in Ogun State, Nigeria. In a second African paper OLS and rank-based estimation techniques for production analysis are compared using data from Ghanaian maize farms.

Another set of papers relate to consumer behaviour in daily shopping and agricultural products. One paper is a probit analysis of daily shopping in Trinidad and Tobago. A second paper in this area is a study of consumer olive oil preferences in Albania. A third paper analyses the effects of tax-free consumption

Five papers deal with issues that relate to topics in general micro-economics. Moral hazard and trust in producer organisations is the topic of one study. The analysis of absorption capacity of funds is the topic if a second paper in this field, whereas demand and supply on the labour market is the theme of the third paper, whereas determinants of dividend payout policy is the topic of the fourth paper is this field. The fifth paper is a contribution to the economics of fairness within the food supply chain in the context of the EU.

Wageningen, March 2017

Johan AC van Ophem

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SCIENTIFIC PAPER

RESULTS AND POTENTIALS IN AGRIBUSINESS DEVELOPMENT – 10 YEARS IN THE EU*

István Kapronczai

Research Institute of Agricultural Economics, Hungary

* Based on the lecture at the Debrecen meeting of the Debrecen Regional Committee, Hungarian Academy of Sciences, the Expert Committee of Agricultural Sciences and the Agro-economic Working Committee on 20 November 2014.

A decade has elapsed since our country joined the European Union. It is a historical period. In 2004 – when Hungary became the member of the EU – the world surrounding Hungary went through a transformation. Have we achieved our goals? Are we disappointed? The answers to these questions are limited in their scope today. However, the author is convinced that the feeling of unsatisfaction is not the result of our EU membership.

Hungary placed great hope in its membership in the European Union. The goal of European integration was realized at the time of the political transformation, inducing excessive expectations as well. Many thought that agribusiness, taking the options of growing supports, would work off its disadvantages and become competitive, gain new markets and rapidly improve the income position of the sector. However, experts with a good understanding of the European Union, the Common Agricultural Policy and the special features of the agricultural sector in our country had a clear picture of not only the potentials but also the risks. They asserted their scepticism both in scientific publications and articles. These publications worded rather proposals on how to use the hidden potentials of the CAP instead of quantifying the impacts of our EU accession. Publications describing the concrete effects mostly called the readers' attention to the risks, and did not challenge the justification of our accession (Kartali 2004; Nyárs et al. 2004; Potori – Udovecz 2004, Popp 2003).

The question arises: was our agribusiness sector well-prepared to join the European Union? The answer cannot be summarized in one sentence, as the question may refer to economic conditions, the legislation and institution systems. If the answer focuses on economic conditions, it can be stated that Hungary was not prepared for the EU accession. To put it more precisely, it was not prepared any more. Although it is a hypothetical suggestion, but had Hungary's EU accession taken place in the 80s, the competitive position of agriculture would have been much stronger. Our earlier analyses clearly demonstrated that the position of agriculture in Hungary declined steadily in the two decades prior to our joining the EU, therefore the country could not defend its interests in the increasingly competitive business environment (Kapronczai 2003; Kapronczai 2014).

In terms of the legal system, our preparation, the preliminary condition of successful EU negotiations, was appropriate. However, the preparations of institutions were inadequate. As an example, mention must be made of the Integrated Administration and control system. Due to its unsatisfactory operation, Hungary was unable to fulfil its area payment obligations in the first year – 2014 - of the EU accession, leading to discontent among farmers and protests.

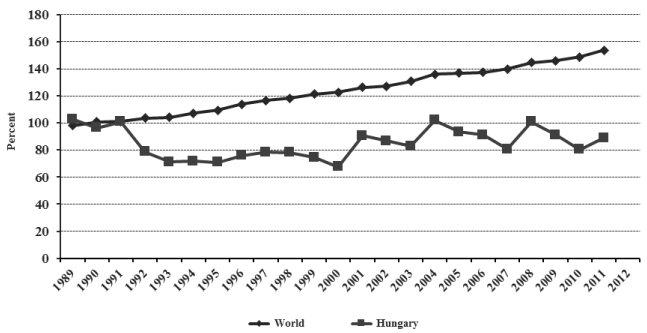
Nevertheless, our conviction is that despite all the risk-conscious expert opinions and re-emerging euscepticism, there is clear evidence that overall, the sector benefited from the EU accession. Although the countries who joined the EU simultaneously with Hungary, generally benefited from the potentials offered by the EU far better than our country, without the integration we would face much more problems, our production level would lag behind the present one, our export of products would be confronted with greater challenges, the standard of living and employment in rural areas were even lower.

Our role in the world and our position in the European Union

After World War II., until the period of the political transformation, Hungary played a leading role in agricultural development among the Eastern Block countries, competing head to head with the European ones. This is true even if the core problems of Hungarian agriculture emerged in the early-mid 1980s. However, drastic erosion started merely

after the political transformation. Whereas the expansion of global agricultural production exceeded 50% in 1990-2012, Hungarian agriculture dropped by 10%. (Figure 1.) The examination of the technical changes and development in the past two decades since the democratic transformation strongly suggests that at present Hungary is far from making full use of its agricultural resources.

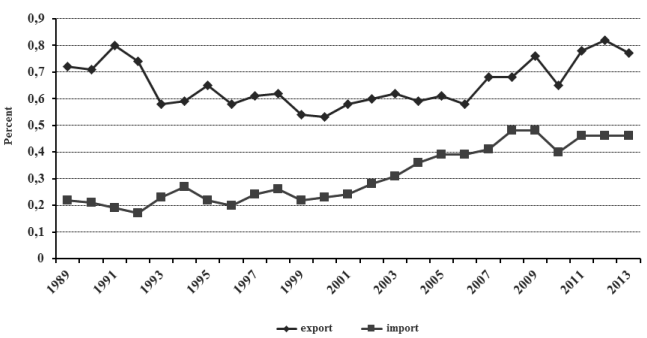
Figure 1.



Development of Hungarian agricultural production (Average of 1989-1991 = 100%) AKI: Research Institute of Agricultural Economics
Source: Author's own elaboration based on FAO ...

By virtue of its size, Hungary accounts for an insignificant proportion of global agricultural production. For lack of comparable production values, we use foreign trade ratios for the demonstration of this fact. Hungary's share of global agricultural export has been lower than 1% for several decades. As a net agricultural exporter, our export share exceeds mutatis mutandis our share in production. In 2011, the year of outstandingly high domestic export turnover, Hungary accounted for 0.78% of global agricultural export. (2. Table) Our ratio of global agricultural import rose sharply, reflecting a steady growth from 0.28% in 2002 and its average in the final years of the studied period approximated 0.5%.

Figure 2.

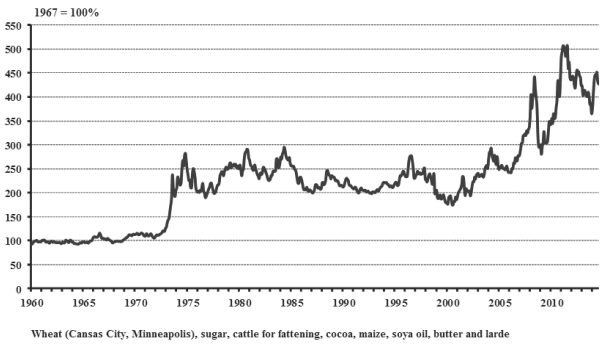


Share of Hungary in global agricultural foreign trade
Source: FAO, EUROSTAT, KSH

All these changes took place in the period when the main feature of global food trade was market for the demand and foods increasingly became strategic products. The process can be underpinned by the analysis of the CRB food-sub index (price index) (3. Table). It demonstrates the development of food prices on the world market and it can be broken down into three strikingly marked phases:

- moderate prices and high price stability were characteristic of the global food market until the first oil price explosion, approximately until 1973-74.
- after the oil price explosion, food prices soared by about 250 % and volatility could be observed, which manifested in the 15-20% fluctuation of food prices;
- from 2006-2007, due to the crisis of property and financial markets, speculation intensified on the food market; the powerful growth of Chinese and Indian food demand, the headway of renewable energy production competing for food products induced drastic price rises and even sharper price fluctuations on global food markets.

Figure 3.



The development of CRB food-sub index (January 1960 - August 2014). Wheat (Cansas City, Minneapolis), sugar, cattle for fattening, cocoa, maize, soya oil, butter and larde)
Source: TR/J CRB, Barchart

Ultimately, Hungarian agriculture had to position itself in the framework of the European Union. The question arises: could we meet this challenge, have we improved or worsened our situation?

The answer to this question is not simple at all. Research findings by Attila Jámbor suggest that the agricultural production index was the highest for Poland, Estonia and Lithuania among the newly accessed member states, whereas Slovakia, Latvia and Hungary could exploit the agriculture-related opportunities of our EU membership less successfully (Jámbor 2014). In the present study, our position can be assessed in terms of our share of EU agricultural output.

Data presented by Table 1. demonstrate that the agricultural output of EU-25 member states[1] calculated at basic price exceeded the average of 2004-2006 by 20.7%, set against the average of 2011-2013. The growth rate of Hungarian agricultural output was 2% higher, i.e. 22.7%.

1 Comparable data for the period of 2004-2013 are merely available for the EU-25 member states.

Table 1.
Development of agricultural output in EU 25 member states (at basic price) Unit of quantity: billion Euro

Countries	2004-2006	2007-2010	2011-2013	2011-2013/2004-2006 (%)
EU-25	316.3	339.7	381.7	120.7
Austria	5.5	6.2	7.1	129.6
Belgium	6.9	7.7	8.3	121.1
Cyprus	0.6	0.7	0.7	112.0
The Czech Republic	3.6	4.2	4.9	137.2
Denmark	8.2	9.1	11.4	138.7
United Kingdom	22.3	23.5	28.6	127.9
Estonia	0.5	0.7	0.9	161.6
Finland	3.8	4.1	5.0	130.2
France	63.1	66.6	74.9	118.7
Greece	11.5	10.6	10.8	93.5
The Netherlands	21.3	23.9	26.3	123.7
Ireland	5.8	5.7	7.0	121.4
Poland	15.1	19.8	22.8	150.6
Latvia	0.8	1.0	1.2	160.1
Lithuania	1.5	2.1	2.8	183.5
Luxemburg	0.3	0.3	0.4	135.1
Hungary	**6.2**	**6.6**	**7.6**	**122.7**
Malta	0.1	0.1	0.1	104.6
Germany	41.1	46.5	52.9	128.8
Italy	44.9	45.2	49.1	109.5
Portugal	6.1	6.3	6.5	105.7
Spain	39.5	40.6	42.5	107.6
Sweden	4.6	5.1	6.3	135.4
Slovakia	1.8	2.0	2.3	130.4
Slovenia	1.1	1.1	1.2	110.3

Source: EUROSTAT

Despite this, most member states saw a more enhanced expansion in the output of the sector than Hungary. In 14 member states, growth exceeded the domestic value and merely 10 countries fell short of it. The weak performance of southern countries is outstanding, the reasons might need an in-depth analysis. A comparison with countries accessing the EU simultaneously with Hungary gives food for thought. As opposed to Hungary's 22.7% growth, the output of Slovakia was 30.4%, that of the Czech Republic 37.2%, Poland 50.6%, Latvia and Estonia 60-62%, respectively, and Lithuania 83.5%.

The financial situation of Hungarian agriculture has stabilised

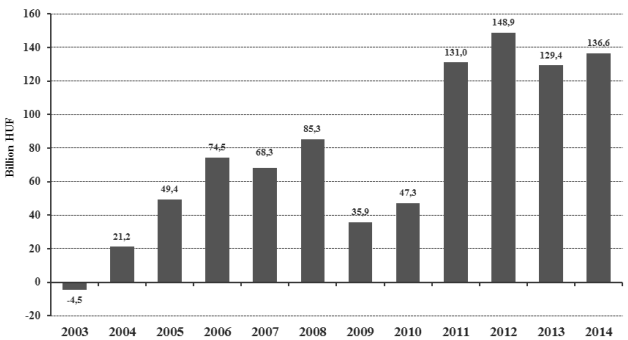
As for agriculture, we can state that in the past 2-3 decades the economic situation of the sector was not as favourable as in the past couple of years. Therefore we cannot claim that the fundamental structural problems of the sector have been solved, we can "merely" say that agriculture witnessed a financially stable period. The causes originate in internal influences only to some extent, they are rather due to the two following factors:

- price rise of agricultural products;
- EU subsidy scheme.

Data on Table 4. demonstrate the favourable financial situation, showing the profit before tax for agricultural enterprises and an outstandingly rising trend. In 2003, the pre-tax loss of enterprises submitting tax return statements exceeded the pre-tax profit by 4.5 billion HUF. From this period, with the exception of three years, the income of enterprises rose and their profit before tax exceeded 146 billion HUF in 2012. This figure is unlikely to drop below 130 billion HUF in 2013.

The second reason of the several ones behind the favourable financial situation is the subsidy scheme. Since May 2004, the Hungarian agricultural support scheme has been stipulated by the regulations of the Common Agricultural Policy of the European Union. In the framework of the CAP, subsidies from EU sources and co-financed supports complement each other. Direct payments and subsidies financed in the framework of rural development programs play a crucial role. As compared to the earlier domestic model, the significance of investment supports has dropped, whereas that of income support has increased. Aid policies tend to develop increasingly in the direction of less market and trade distortive supports.

Figure 4.



Profit before tax for agricultural enterprises
Based on data by companies submitting tax return forms
Source: AKI (Research Institute of Agricultural Economics) calculation based on NAV (Hungarian Tax and Customs Administration) data base

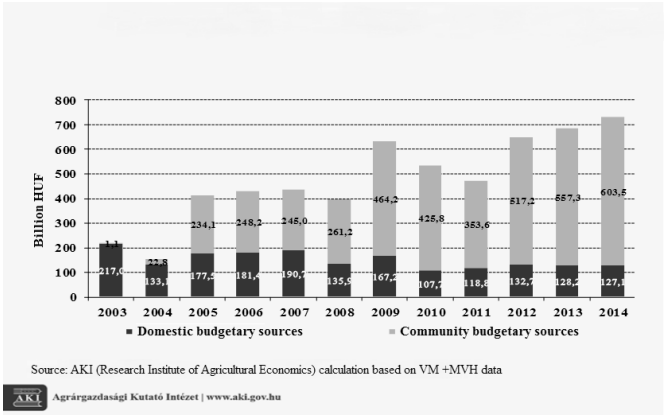
In total, our EU accession has exerted a favourable effect on the support of domestic farmers. The typical amount of agricultural and regional development supports in 2002-2003 rose to about 400 billion HUF by 2004[2]. In 2013 the prospective amount of supports approximated 700 billion HUF (Figure 5.).

One of the advantages of becoming an EU member state is that community sources tend to finance higher proportions of growing agricultural subsidies. Whereas until the accession – mutatis mutandis - our domestic budget provided for 100% of

2 In the first year of the EU membership, the amount of subsidy payments was merely 156 billion HUF. The main driver of this process was that due to the lack of institutional preparedness of the Mezőgazdasági és Vidékfejlesztési Hivatal (MVH, Agricultural and Rural Development Agency) and the deficiencies of the Integrated Administration and Control System – IACS (IIER) the majority of Single Area Payments were made at the beginning of 2005.

subsidy payments, this ratio fell to 85% in 2004 and to 43% in 2005. This decrease continued in the past years, partly as a result of the growing figures of EU subsidies (e.g. SAPS) and the withdrawal of domestic budgetary resources (e.g. Top-up). In 2013 more than 4/5 of agricultural supports were financed by the EU.

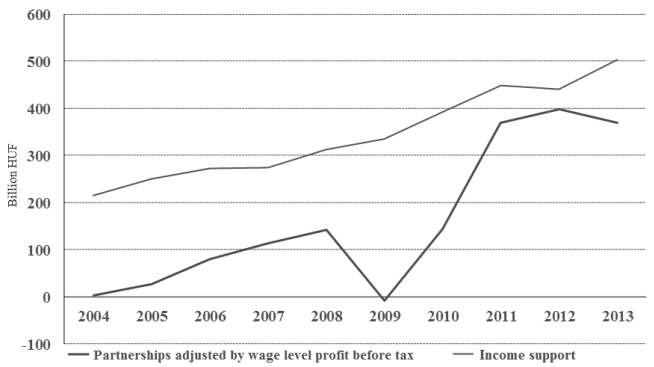
Figure 5.



Payment of supports by resources
Source: AKI calculation based on VM +MVH data

The balance of profit before tax and subsidy changes in agriculture is negative from year to year, i.e. a part of EU subsidies fills the gap of losses – similarly to the EU's practice (!). In Hungary, the amount of income realized upon income support in 2004-2009 was insignificant. However, due to the positive changes as of 2010, the amount of income supports hardly exceeded the profit before tax in 2011, 2012 and 2013 adjusted to the wage level of partnerships in the sector.[3] (Figure 6.).

Figure 6.

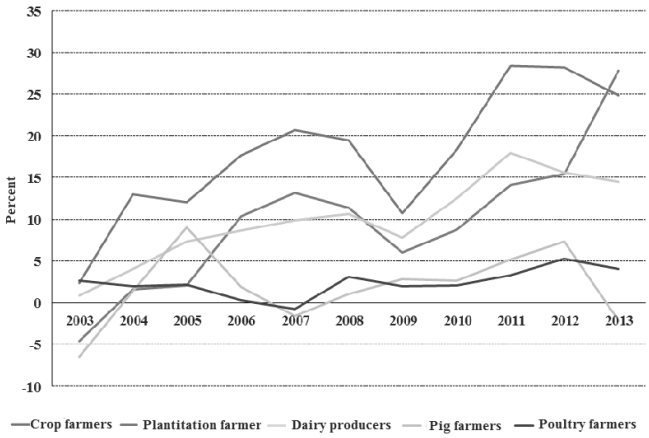


Development of agricultural income support and income (2004-2013)
Source: Farm Accountancy Data System, AKI

In addition the above mentioned positive issues, the evaluation of the situation of livestock farms is extremely difficult. Since the EU accession, approximately 4000 livestock farms have been terminated. After the accession, pig holdings suffered liquidation to the greatest extent, their number decreased to one-third. The number of dairy farmers was also considerably cut; however, that of sheep, goat and poultry farms stagnated. These data suggest that as a significant component of revenue growth in Hungary, livestock producers with the lowest profitability drop out of statistical calculations (Kapronczai et al. 2014).

The above process is also confirmed by income tests by type of plant (Figure 7.). In the past ten years, the profitability rate of crop farmers was extremely high. Since the date of our EU accession, the average profitability rate of dairy producers has been merely 55%, that of fruit producers 49%, pig farmers 17% and poultry farmers 11% set against crop farmers.

Figure 7.



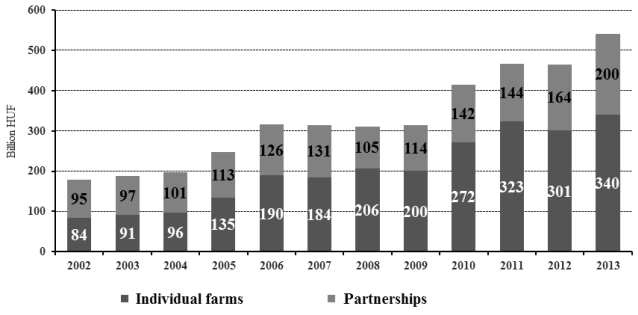
Changes in profitability proportional to the production-value in some highlighted types of farms. Source: Farm Accountancy Data System by the Department of Enterprise Analysis, AKI

Improvements, investments can be financed from someone's own resources, credit or support. The use of own resources are clearly presented by the changes of farm deposits. Figure 8. shows the deposits for individual farms and partnerships. We can see that in the past decade, the savings of enterprises were growing steadily and today the total stock of deposits is over 500 billion HUF, providing a solid basis for investment decisions. It is in the interests of national economy and the sector to use this sum of money in agriculture instead of keeping it in a bank.

Similarly, data related to the outstanding loans of agricultural partnerships suggest that farm conditions are relatively favourable (Figure 9.). In spite of the crisis, the decline of the outstanding loans of agricultural partnerships was not drastic, and it was above 300 billion HUF in the past years as well. All these could be maintained through almost the complete termination of subsidised loans. In spite of the economic crisis, agriculture remained a stable debtor.

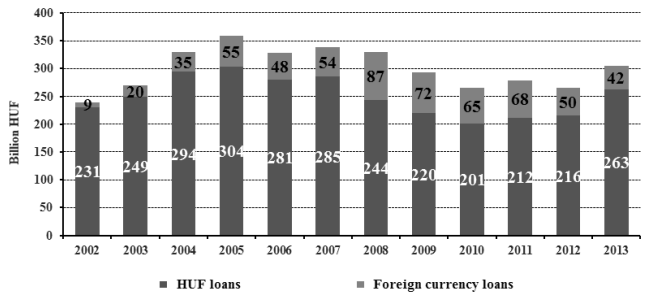
3 For easy comparison, we expressed the labour input of individual farms in the Farm Accountancy Data Network as the specific wage costs of partnerships.

Figure 8.



Stock of deposits owned by individual farms and partnerships in agriculture
2002-2007 data for partnerships include the value of the Fund and cheques
Source: NAV (Hungarian Tax and Customs Administration) and FADN (Farm Accountancy Data Network) data

Figure 9.
Agricultural partnerships: breakdown and development of overall amount of credit by resource



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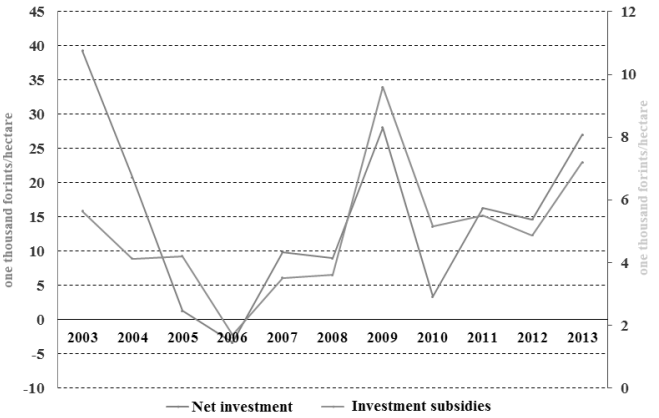
Source: MNB (Hungarian National Bank)

We have already discussed the growth of supports, but the rational nature of investment decisions is highly influenced by the strong positive correlation between supports and investment performance. Data by the Business Analysis Department of the Research Institute of Agricultural Economics on Figure 10. demonstrate this close correlation, which challenges the rationality of decisions in several cases. Practical experience indicates that as a result of support orientation, businesses fail to implement improvements and substitutions in the optimal time in many cases, as they wait for potential supports. Many cases saw "over-investments" to gain supports, which later caused financial problems.

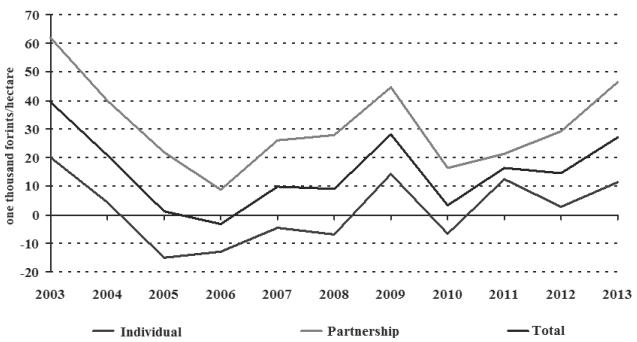
Figure 10.



Changes in net investment per hectare and investment subsidies (2003-2013)
Source: FADN, AKI

Agricultural investments have shown an overall positive development since the EU accession (11. Table). Net investment value per hectare was positive in each year with the exception of 2006, i.e. the gross value of investments was higher than depreciation. A study of net investments for individual enterprises and partnerships results in a more nuanced picture.[4] Partnerships of a usually larger scale implemented not only replacements but also improvements in each investigated year, whereas individual holdings were unable to replace even their depreciated assets.

Figure 11.



Changes of net investments per hectare in 2003-2013
Source: Source: Farm Accountancy Data System by the Department of Enterprise Analysis, AKI

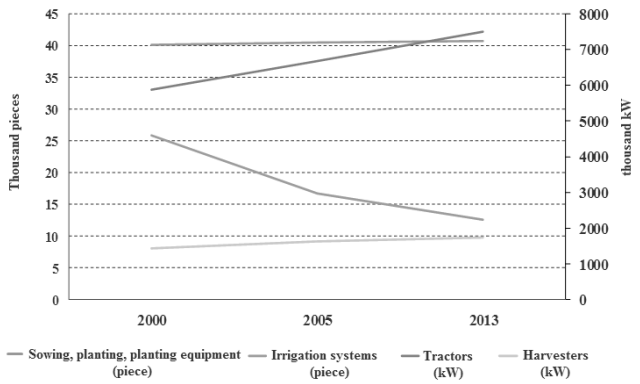
In reflection of the above mentioned, the statement of István Husti is particularly topical: the Hungarian agricultural sector was successful as long as the players of innovation performed their activities in coordination (Husti 2013). The situation has gone through considerable changes by now. In theory, the "old" practice could also be successful these days; however, small and medium enterprises (of whose significance

4 The examination of this issue is justified even if the technical literature accepts the fact that "clean" categories do not exist within individual holdings and partnerships. As for partnerships we can find a large number of ltd-s or partnerships which are "quasi" family businesses. (Haraszti-Rákos et al. 2013)

is dominant in the sector) do not have the suitable conditions to follow the model successfully.

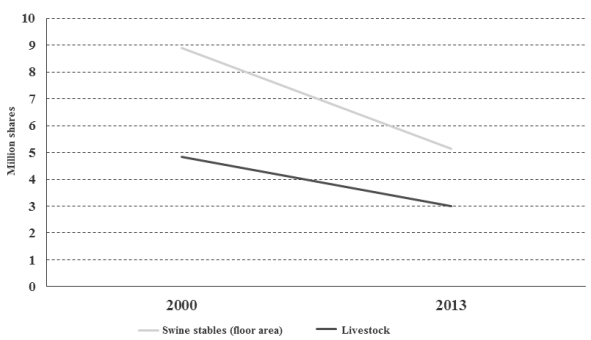
The analysis of how capacity data develop as a result of investments, brings an additional perspective to the comprehensive assessment of investments. Figures 12-14. demonstrate that investments triggered a performance boost mainly in crop production. In 2003-2013 the total kW capacity of the tractor fleet grew from 5.9 million to 7.5 million, whereas that of the combine-harvesters rose from 1.4 million to 1.7 million. The number of sowing, planting and planting equipment grew by 1.4%. The irrigation system suffered a drastic reduction. Whereas at the millennium 26 thousand mobile and stable irrigation systems operated in Hungary, their number has dropped to 12 thousand by now.

Figure 12.



Data on machinery capacity

Figure 13.



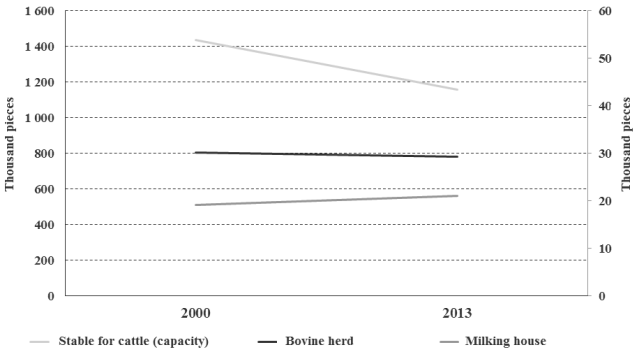
Pigs and development of floor area (capacity)

Swine stables (floor area) - livestock

Floor area (capacity) data for animal husbandry reveal a much more disadvantageous picture than that of plough land machines, especially in the pig sector. The pig capacity of 8.9 million dropped to 5.1 million during 13 years, exhibiting a more abrupt descent than the livestock slump. All these mean that if Hungary seeks to achieve the pig population of 6 million set in the strategic program, an investment of 1.5-2 million for the modernization of floor area (capacity) is to be considered.

Capacities tend to be more favourable in the cattle sector. Substantial farm developments were carried out in the past couple of years, and they resulted in a moderate reduction of floor area. Investment activities are indicated by milking parlour capacities at the millennium …???

Figure 14.



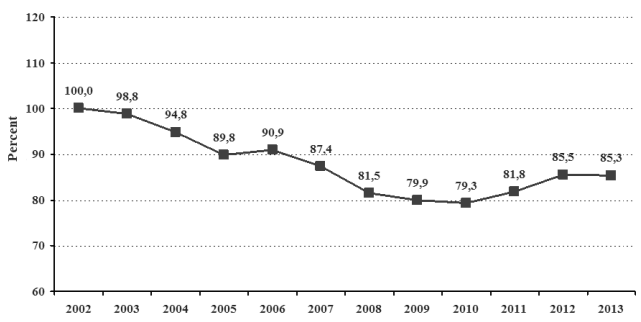
Cattle livestock and capacity data
Stable for cattle (capacity) - Bovine herd – Milking house
Source: KSH (Central Statistical Office)

Food industry: the bottleneck

A fundamental statement to best describe the situation of the food industry may be the following: the critical point of the food sector today is the food industry. Its main features are the following: the volume of production is decreasing, its revenue-generating potentials are low and its capital adequacy is also insufficient.

Development in the food industry is presented on Table 15. It shows that the performance of the sector dropped sharply in 2002 and 2010, in totality by more than 20%. This period saw merely two years – 2006 and 2012 – when the volume index from last year did not decrease. The reason behind the output growth in 2012 is not the performance expansion of classic food classes, but rather the run-up of bioethanol and pet-food production.

Figure 15.

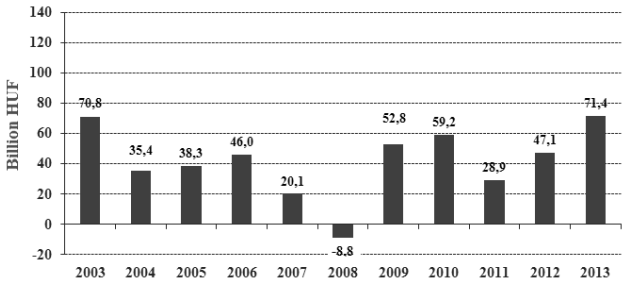


Volume index changes in food production
Source: KSH (Central Statistical Office)

The development of profit before tax is to be mentioned in relation to the general characteristics of food industry. The unfavourable profit position is shown on Figure 16. Whereas in the last year before the EU accession profit before tax in the industry was higher than 70 billion HUF, in the period since then – at current prices (!) it could come closer to this value in merely 2013. Moreover, about 50% of the 71 billion HUF profit before tax in 2013 was generated by 5 businesses, and 21 billion HUF of this amount was realized by a single enterprise.

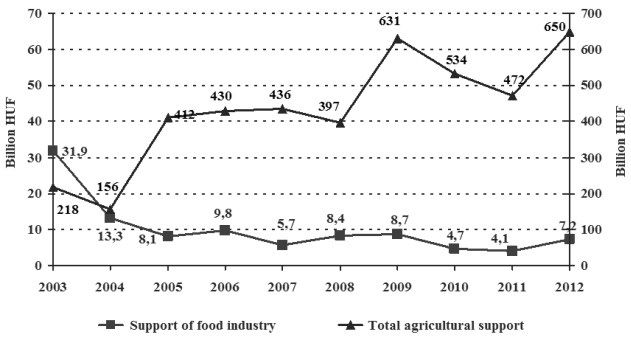
The development position of the sector is further deteriorated by the reduction of supports. Whereas approximately 15% of agricultural supports were spent in the food industry in the last years before the EU accession, this sum dropped to merely 6.8 billion HUF (0.99%) out of the 686 billion HUF support used in the sector in 2013 (Table 17.).

Figure 16.



Revenue before tax in the food industry

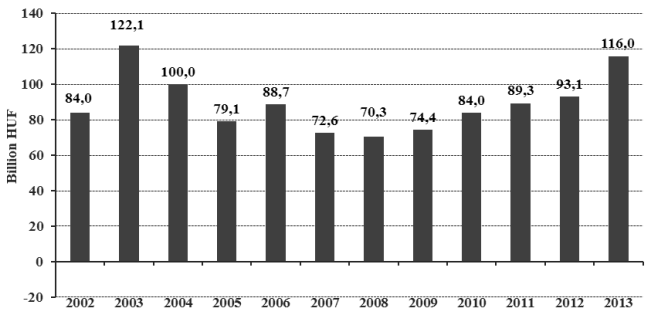
Figure 17.



Supports in the food industry in the study period
Source: Author's own elaboration based on data by APEH (food-industry) and VM (agricultural sector)

On these grounds, it can be stated that in the context of development financing, the food industry faces a less favourable situation than agriculture. It received hardy any funding in the past years and its low profitability led to scarce resources. Table 18. shows that the real value of deposits owned by food industry partnerships stagnated in the last years and hardly exceeded one fifth of agricultural deposits.

Figure 18.



* 2002-2007 data include the value of the Fund and cheques

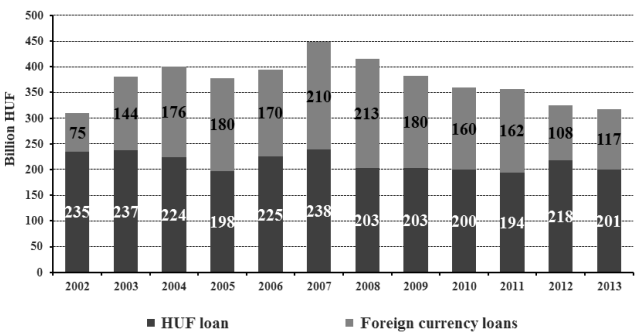
Deposits owned by food industry partnerships
2002-2007 data include the value of the Fund and cheques
Source: NAV database

As a direct consequence of scarce own resources and funding, the creditworthiness of food industry has become very low. The credit of food industry partnerships has been continuously decreasing since the onset of the global economic crisis (2008) and hardly goes beyond 300 billion HUF today. (19.Table)

Market potentials

For a country facing permanent loan problems and the constraint to import constantly and increasingly due to the scarcity of energy sources, the development of food industry with a permanent and steady positive trade balance is the main objective. This can be achieved by meeting the demands of domestic markets with a growing rate of home produce, and the further growth of our export preferably by increasing the rate of semi-finished and finished products. In conclusion, the enhancement of market potentials is the guarantor of progress.

Figure 19.



Distribution of the overall amount of credit owned by partnerships in the food industry per source

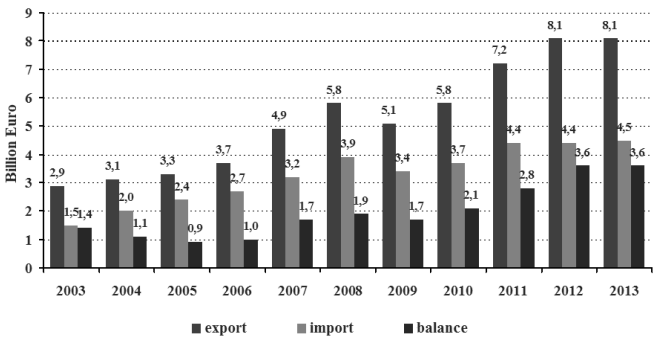
In the domestic food market, the rate of import products rose substantially and today it approximates 30% of overall turnover. Public opinion, including professionals and laymen as well find this rate too high and demand urgent actions to control this situation. If the question is addressed on a professional basis, it is clear that the rate of import food is rather high in domestic consumption, rising above the level

necessitated by the expansion of product range. The reason behind this is primarily not the influx of poor quality foreign products in our country, but rather our low competitiveness compared to foreign producers. However, the promotion of the implementation of administrative measures against import products is dangerous, as for a country with a positive agricultural import-export balance, the application of a protectionist trade policy is far from advantageous.

According to our judgement, the consumption rate of import food products can be realistically reduced to about 20% and it may result in approximately 10% demand growth related to domestically produced food.

However, potentials are much higher in foreign markets. Table 20. shows the development of Hungarian agricultural foreign trade, which was the success story in the past period. Its export performance soared from 2010 and in 2013 it went beyond 8 billion EUR. According to preliminary estimates, it also reached this value in 2014. This is a significant performance, even in consideration of the global price trends of agricultural products and the fluctuations of the HUF-EUR rate, which undoubtedly fuelled our export activities.

Figure 20.



The development of agricultural external trade
Source: KSH (Central Statistical Office)

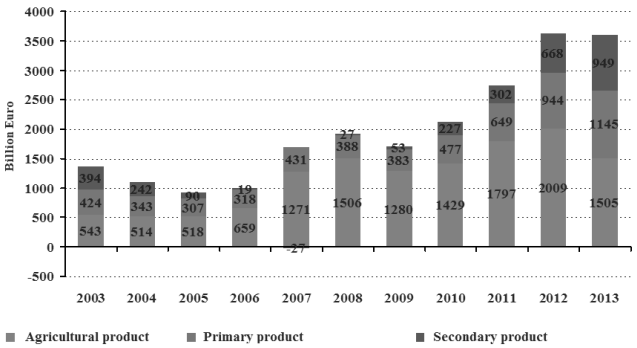
In previous years food import was characterised by a lower increase than food export, therefore their balance rose sharply and reached 3.6 EUR billion in 2012, 300% of the figure in the period after the EU accession. The question may arise: to what extent is the status quo of agro-external trade maintainable? The answer to this question requires an in-depth study on the structure of agro-export and import.

The composition of the Hungarian agricultural and food industry export can be classified into three groups and studied accordingly (Juhász – Wagner 2009).

Agricultural products include source materials (e.g. live pigs); products of primary processing (e.g. half carcases) indicate products at a lower level of processing, and products of secondary processing e.g. salami indicate a higher level of processing. The higher the level of processing, the higher the value added. If it is lower, the more job opportunities are "exported" out of the country.

The composition of export does not yet show a considerable structural problem, as marked export growth is characteristic of all the three product groups: the expansion rate of agricultural product import has risen by 242%, primary products by 150% and secondary products by 162% since the EU accession. We face real problems if we study the external trade balance of Hungarian agriculture and food industry in terms of components depending on the level of processing.

Figure 21.



The external trade balance of Hungarian agriculture and food industry, broken down by certain components Source: KSH, AKI

The structural analysis of the balance highlights three issues:

basic agricultural products tend to gain a more prominent role in the positive balance of external trade in agriculture and food industry;

the studied period included a year (2007) when external trade showed a negative export-import balance in relation to secondary products;

in the period following 2010, the balance of mostly secondary products rose sharply, but the primary drivers of this process, as mentioned above when the output of the food industry was discussed, are not "traditional" foods, but the export expansion of bioethanol, pet food and duty free products.

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SCIENTIFIC PAPER

FOOD SECURITY ASSESSMENT AND CONSUMPTION PATTERN IN RURAL HOUSEHOLDS IN OGUN STATE, NIGERIA

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Abstract: *The problem of nutrition security is getting worse in Africa, due to increasing population growth and poor progress in efforts directed at reducing food insecurity in many countries in the continent. The paper undertook an assessment of the food security situation and food consumption pattern in rural households in Ogun state, Nigeria. A multistage sampling technique was used to select 260 rural households from whom data were collected through structured questionnaire. The tools of analysis were descriptive statistics and food security index. The former described the consumption pattern, and households' sources of food availability, while the latter was used to analyse the food security situation. The result of the rural households' consumption pattern reveals that the rural households derived more of their energy from carbohydrates at the expense of other classes of food items. The result also shows that majority (75.5%) obtained their food through their own production and supplemented same with food purchased from the market to meet up with their family needs. Based on the recommended daily calorie intake (R) of 2,470 kcal, 59.6% of the rural households were food insecure while 40.4% were food secure. The calculated head count ratio (H) for the food insecure households was 0.6, confirming that almost 60% of households in the study area were food insecure. For secure households, the head count ratio (H) was 0.4, further confirming that only about 40% of households in the study area were food secure. The shortfall index and surplus index were 0.2787 and 0.3498 respectively, meaning that the energy requirement was less by about 27 percent and in excess of 34 percent for the food insecure and food secure households. The paper recommends that while enhancing production of arable crops - roots, tubers and cereals, a sensible balance of tilting towards meeting the requirements in the consumption of animal protein/legume, fats/oils, fruits and vegetables must be maintained to ensure food security. This policy thrust could be enhanced through mass education.*

Keywords: *Food security, consumption pattern, rural households, food security index.* (JEL code: *R20*)

INTRODUCTION

Food security and insecurity are terms used to describe whether or not households have access to sufficient quality and quantity of food. The definition adopted by World Food Summit (1996) assert that food security is achieved when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 2004). Food availability is necessary but not sufficient in itself to ensure food security. At the households' level, food availability is through own production, market purchases, and gifts. According to (Ajani, 2005), food insecurity is generally associated with fluctuation in household own production and food prices. These fluctuations, in turn, lead directly to variation in real income, which affects economic access of households to food. Access refers to the ability of individuals and households to purchase sufficient quantities and quality of food. Economic and physical access to food is not in itself sufficient for food utilization. Food utilisation implies that the nutritionally adequate diet be biologically utilized and should translate to an active and healthy life for every individual. Therefore, food security involves not only increasing the available supply of food and ensuring that people have access to the supplies but also and very importantly food utilisation that ensures good nutritional outcome.

Food security is currently both a fundamental objective and an expected outcome of development policies in Nigeria, as the country currently faces a challenge in meeting the basic food needs of its population. Majority of Nigerians depend largely on subsistence agriculture, which is hardly sufficient to meet the food needs of the population. Despite the many policies, programs, and investments by various local and international agencies operating in the country, food security and the nutrition situation are worsening (FEWSNET, 2007). While the nutrition insecurity is generally being reduced

worldwide, the problem is getting worse in Africa. This is due to increasing population growth and poor progress in efforts directed at reducing food insecurity in many countries in the continent. Carbohydrates, fat and protein comprise the three principal sources of energy in the human diet. Individual foods contain different proportions of the three principal macronutrients. Animal products (meat and dairy) are rich sources of protein and fat, while cereals, fruits and vegetables contain a large proportion of carbohydrate. The quantity and quality of each component is particularly important when analyzing nutritional adequacy (Kennedy, 2001). The nutrition status of individuals is to a large extent determined by the level of food consumption. The consumption pattern of Nigerians differs across the nation but cereals are important staple foods in Nigeria and are widely consumed across the regions of the country. In the savannah eco- zones of Nigeria, Etkin and Ross (1994) documented about 119 food plants which are predominantly found in the forest. According to Okafor et al. (1994), these forest foods form the major intake of protein, vitamins, minerals, fats, and carbohydrates among the majority of rural communities in the country. A study reported by the (National Bureau of Statistics, 2007) showed that the South West household members consumed more of "Eko/Agidi", bread, yam flour, yam tuber, and garri. However, beef, rice, yam tuber, cassava, and bread constituted the main food items consumed in the south-eastern part of Nigeria. Rice, maize, beans, beef, guinea corn, millet, tomatoes, and yam tuber were the food items consumed by household members in the North West zone, while the North East zone consumption pattern was dominated by rice, dried fish, beef, palm oil, groundnut, beans, maize grain, yam , millet, and guinea corn. Food items consumed in the South-South geo-political zone included beef, garri, fresh fish, rice, yam tuber, and beans. In a similar manner, yam tuber, beef, fufu, rice, beans, and garri were the major food items consumed by household members in the North Central zone. In view of the above, it can be seen that the consumption pattern revealed in the south-west geo-political zone was the poorest, because all the food items reported belong only to the class of carbohydrate. A critical review of this situation is therefore necessary with due attention to rural households in Ogun state in South western, Nigeria. This is why this paper finds it imperative to investigate the link between consumption pattern and food security in the study area in order to formulate a policy framework for food security enhancement intervention.

It is in this line, this paper sets as the major objective to determine food consumption pattern and assess the food security situation in the rural households in Ogun state. The specific objectives however are to:

- Determine the rural households' food consumption and consumption pattern.
- Identify the sources of food availability in the study area.
- Assess the food security status of the rural households in the study area.

RESEARCH METHODOLOGY

Study Area

The study was undertaken in Ogun State in Southwestern, Nigeria. Ogun state was created on February 3rd, 1976 from the old western region. It lies within latitude 60N and 8 0N and longitude 2 0E and 15 0E. It is bounded on the west by the Republic of Benin, on the east by Ondo State, on the North by Oyo State and on the south by Lagos state. The state is approximately 1.9 percent (16,762 km) of Nigeria's 923,219 km land area. It is located in the moderately hot, humid tropical climate zone of Southwest, Nigeria. It is made up of 20 Local Government Areas spread across the four main provincial zones namely Egba, Ijebu, Remo, and Yewa. The population of the state stands at 3.728,098 million with its growth rate placed at 2.83percent per annum and about 60% of its population are rural (National Population Commission, 2006).

There are two main distinct seasons in the state namely, the rainy season and the dry season. The average annual rainfall in the state ranges from 1,250mm and 1,800mm with a bimodal distribution which peaks in June and October, while the dry season stretches from mid November to mid March. Temperature ranges from 270C to 320C and the average relative humidity is about 80% to 90%. The climatic condition favours the production of timber, arable and tree crops. Arable crops such as cassava, maize, cocoyam, yam, melon, tomatoes and local rice (ofada) are produced in the study area.

Sampling technique and Sample size

Multistage sampling technique was employed to select 260 households from the 4 Ogun State Agricultural Development Programme zones of Abeokuta, Ijebu-Ode, Ilaro and Ikenne. The first stage of selection involved a random sample of 50% of blocks per agricultural zone based on probability proportionate to size (PPS). This resulted into the selection of two blocks each in Ilaro and Ikenne zones (the zones are made up of four blocks each), and the selection of three blocks each in the Abeokuta and Ijebu-ode zones (the zones are made up of six blocks each) making up a total selection of 10 blocks. The second stage adopted the same procedure of sampling based on PPS but this time with 20% of cells selection per block. This resulted in 26 cells. The third stage involved a purposive selection of one rural village per cell resulting into 26 villages, while the final selection was equally a purposive selection of 10 households from each of the 26 villages resulting in 260 households. The procedure aimed at ensuring equal representation across all cells.

Data Sources and Collection

The use of primary data was employed for this study. The primary data were obtained through the use of a structured questionnaire. The questionnaire elicited information on household consumption of various food items within seven days. This included information on the different types, food

classes and their corresponding quantities. Nevertheless, data on various sources of household food availability through own production, market purchase, and gift were collected. The secondary information was sourced from relevant journals, internet, books e.t.c.

Analytical Technique

This study employed the use of descriptive statistics and the food security index. The descriptive statistics involved the use of frequency tables, percentages and means, for summarizing their food consumption and sources of food availability, while the pie-chart was used in summarizing the consumption pattern. The Food Security Index (FSI) was used to assess the food security status of the rural households. A food security line was determined and used to classify households into either being food secure or food insecure depending on which side of the line they fell. The food security line used in this study is the recommended daily per capita calorie intake of 2,470kcal as used by (Olayide, 1982 and Ajani, 2005). The household caloric acquisition method according to Hodinnott (2000) is the number of calories or nutrients available for consumption by household members over a defined period of time. The household calorie intake was obtained from the household consumption within 7 days. The quantity of every food item consumed by the household in 7 days was converted into its calorie content. This was achieved by multiplying all respective food items (weight in kilograms) by the corresponding food energy content. This was further converted into per capita calorie by dividing the estimated total household calorie intake by the adjusted household size in adult equivalent. Furthermore, the per capita calorie intake was converted into daily per capita intake by dividing by 7. A household whose daily per capita calorie intake was up to the recommended was regarded as food secure and if below as food insecure. In a similar way, as used by Ibrahim *et al. (*2009), the food security index was calculated as follows:

$$Z = \frac{daily\ per\ capita\ \ calorie\ intake}{recommended\ daily\ per\ \ capita\ \ calorie\ intake\ (2{,}470kcal)} \quad (1)$$

Where the Z value (food security value) was less than 1, household was regarded as food insecure but where it was greater than or equal to 1, the household was regarded as food secure.

The shortfall/surplus index was calculated for the households based on the food security index Z. The shortfall/ surplus index (P) measures the extent to which households are below or above the food security line. It is expressed as:

$$P = \frac{1}{M}\sum_{j=1}^{m} G_j. \quad (2)$$

Where:

$$G_j = \left(\frac{Y_{j-R}}{R}\right) \quad (3)$$

G_J= Deficiency or surplus faced by households

Y_j = Daily per capita calorie intake of the *j*th household

R = Recommended daily per capita calorie intake

The head count index is calculated as follows:

$$\text{Head count index (H)} = \frac{M}{N} \quad (4)$$

Where:

M = Number of the food secure or insecure households

N= No of households in the sample

RESULT AND DISCUSSION

Food Consumption in the Rural Households in Ogun State

Food constitutes a larger proportion in the expenditure pattern of most rural households due to its importance to the nutritional wellbeing of individuals. Food consumption level and corresponding energy content of rural households in Ogun State, Nigeria is as presented in Table 1. Food items which were not often consumed but only by few households of the rural households in Ogun State were categorized as others. These food items classified as others were Semovita, wheat, spaghetti, groundnut, cheese, margarine, apple and beverage. Consumption of cocoyam, fufu and garri which belong to the carbohydrate class were the highest in terms of quantities. They were 9.75kg, 5.24kg and 4.90kg in that order and they contributed the largest proportion to the household energy intake. The consumption of milk and egg contributed about the lowest to the household food intake. The total weekly food consumption was 56.09kg.

Table 3: Distribution of food consumption in the rural households in Ogun State

Food items	Quantity(Kg) consumed/week	Kcal	% Calorie
Rice	3.67	12830	7.17
Maize	2.86	8095.2	4.52
Gari	4.90	17211	9.61
Fufu	5.24	21836	12.20
Cocoyam	9.75	37322	20.85
Yam	3.89	13018	7.27
Lafun	2.66	10281	5.74
Elubo	1.99	6189.2	3.46
Cowpea	1.93	6608	3.69

Food items	Quantity(Kg) consumed/week	Kcal	% Calorie
Meat	0.90	2272.5	1.27
Fish	1.40	1535.4	0.86
Egg	0.52	729.14	0.41
Milk	0.33	169.68	0.09
Palm oil	0.79	6874.6	3.84
Veg oil	0.44	3896.8	2.18
Orange	1.21	531.3	0.30
Plantain	2.28	3071.8	1.72
Okra	0.41	1850	1.03
Tomatoes	1.17	262.49	0.15
Onion	0.59	134.74	0.08
Vegetable	0.65	3063	1.71
Melon	0.25	1529.4	0.85
Pepper	0.42	175.62	0.10
Bread	1.03	2401.3	1.34
Others	6.81	17075.3	9.54
Total	56.09	178963.5	100

Source: Computed from Field Survey Data, 2013.

Food Consumption Pattern in the Rural Households in Ogun State.

The household consumption pattern indicates that the rural households derived more of their energy from carbohydrates at the expense of other classes of food items, as they consumed mostly from carbohydrate and consumed less food from fruits, vegetables and protein sources (fig. 1). This could have serious implications on their health and wellbeing. Carbohydrate sources are mostly from cereals (rice, maize, wheat e.t.c.) and root and tuber products (garri, fufu, lafun, e.t.c.) and these accounted for 83.42% of the households' weekly calorie intake. This was followed by 7.17% protein, 6.02% fats and oils and 3.37% fruit and vegetables. The proportion of protein intake from legumes was 4.54% and was found to be greater than that from animal product that was only 2.63%. This is expected, since pulse and legumes are the cheapest sources of protein. This low proportion has huge implications in the abilities of the households to meet the protein needs of the members. It can be seen that the rural households in the study area did not comply with dietary recommendation which specifies the minimum requirements for the supply of energy from carbohydrates, legumes, animal proteins and fats/oils.

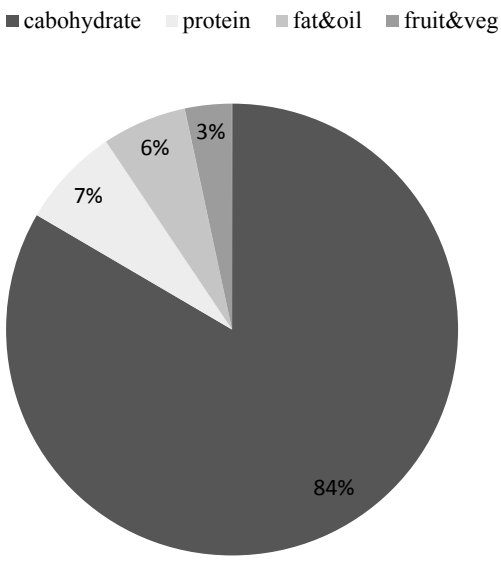

Figure 1: Pie-chart showing the rural households' food classes' consumption pattern

Distribution of Households by Major Food Sources

The analysis of the food consumed revealed that rural households in the study area have access to food from three different major sources, namely own farm production, food purchased from the market and food obtained as gift from friends and relatives. It is revealed that all the rural households relied on purchasing some proportion of their food from the market as they could not be sole producers of all their food resources. Majority of them (75.5%) obtained their food through their own production, usually home grown food and supplemented same with food purchased from the market to meet up with their family needs (Table 2). The proportion of 23% obtained their food from their own production, purchase from the market, and as gifts from other people. The percentage distribution of 1.2% solely purchased their food items from the market, while 0.8% obtained some of their food from the market and the remaining part of their food as gift. As evidenced here, all the respondents had to purchase some of their food resource in other to meet their overall food need.

Table 2: Distribution of households by major food sources

Major source	Frequency	Percent
Own and purchase	195	75.0
Own ,purchase, gift	60	23.0
Purchase only	3	1.2
Purchase and gift	2	0.8
Total	260	100.0

Source: Computed from Field Survey Data, 2013.

Food Security Status of the Rural Households in Ogun State.

The summary of the statistics of the food security situation is as presented in Table 3. The recommended daily calorie intake (R) defines the food security line and consumption below the minimum level of calorie requirement indicates food insecurity. Based on the recommended daily calorie intake (R) of 2,470 kcal, 59.6% of the rural households were food insecure while 40.4% of them were food secure. Thus more than half of the households were consuming less than the daily per capita calorie requirement. This implies that out of the 260 rural households in the study area, 155 households were food insecure while 105 were not. The result further shows that the household size (adult equivalent) and the dependency ratio (ratio of dependants to household members) of the food insecure households were higher than that of the food secure households. This is an indication that the food insecure households have more adult members to feed than the food secure households and also that there are more dependants (non-working) members in the food insecure households than that of the food secure households. Also the per capita daily calorie available for the food insecure households was 1,781.42 and that of the food secure was 3,334.11kcal. This brings the mean for the two households to 2,408.47kcal.

Based on the food security index - Z, other food security measures were calculated. On this basis, the Head count ratio (H) for the food insecure households was 0.6, indicating that about 60% of households in the study area were food insecure. For secure households, the head count ratio (H) was 0.4, indicating that about 40% of households in the study area were food secure. The absolute value of the shortfall index (P_{sf}) was 0.2787 while the surplus index (P_{sp}) was 0.3498. The shortfall index of 0.2787 implies that the food insecure households fell short of their daily per caput requirement by 28 percent. This translates to 691.6 kcal needed to get out of food insecurity. The surplus index which is 0.3498 implies that the food secure households were in excess of their daily requirement by 35 percent which is equivalent to 864.5 kcal.

Table 3: Summary statistics and food security index of or rural households in Ogun state

Food security indices	Food insecure	Food secure	Total
No of Households	155	105	260
Percentage of households	59.6	40.4	100
Household size(adult equivalent)	5.85	5.70	5.79
Dependency ratio	68.02	67.06	67.63
Per capita daily calorie available	1,781.42	3,334.11	2,408.47
Head count ratio	.60	.40	-
Shortfall/ surplus	-.2787	.3498	-

Source: Computed from Field Survey Data, 2013

CONCLUSION AND RECOMMENDATION

The major findings in this paper have shown that rural households in the study area rely mostly on consumption of carbohydrate at the expense of other classes of food, while the bulk of their consumption is through own production. Result also indicates clearly that there is food insecurity in the study area. The food insecure households fell short of their daily per caput requirement by 28 percent that translates to 691.6kcal needed to get out of food insecurity. The food secure households surplus index of 0.3498 showed respondents being in excess of their daily requirement by 35 percent which is equivalent to 864.5kcal.

Based on the findings in this paper, it is recommended that urgent mobilization of efforts at ensuring farm expansion should be given urgent attention, since majority of the rural households obtained their food from own production. The government and other stakeholders therefore need to assist farming households through provision of adequate access to land, modern farming inputs and equipments required for increase production to ensure regular food supply for the rural populace.

The food consumption level and the food consumption pattern among the rural households at present calls for the enhanced production of arable crops especially roots, tubers and cereals to alleviate the incidence of food insecurity. This requires sensible balancing towards enhanced production of protein sources also to be able to meet the recommended consumption requirements in animal product and legumes. This policy thrust should also be made to imbibe meeting the requirements also in fats/oil, fruits and vegetables. Appropriate policies for mass education in this direction to meeting consumption diversity in the study area will go a long way to meeting the set standards for keeping a healthy and productive population necessary for national development process.

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SCIENTIFIC PAPER

PERSPECTIVES FOR DEVELOPMENT SOCIAL ENTREPRENEURSHIP IN REPUBLIC OF MOLDOVA

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Abstract: *Social entrepreneurship, as a field for research and scientific disputes between scholars and practitioners, it still remains a novel investigation area, as far as new opportunities, challenges, business approaches and concepts appear into the modern world and competitive market. This paper puts emphasis on social framework behind the development of social businesses in Moldova. Moreover, it presents the grass-root state of readiness of existing small and medium – sized enterprises from Moldova to undertake the leap towards the new kind of economy and different organizational approaches. The paper provides a content analysis of specific literature on social entrepreneurship, with particular emphasis on general perception of the small holders and small and medium – sized enterprises on social business. A total number of 593 small and medium – sized enterprises and individuals participated to organized interviews. The survey results show that 66% of the respondents are not acknowledged with social entrepreneurship concept and functionality. From those (34%) who are informed about the topic, most of them are actual young entrepreneurs. Additionally, young entrepreneurs, respondents, wouldn't reinvest their profit for social mission (73%). Unlike young entrepreneurs, individuals would reinvest their profit in social missions, in case they have a business. These findings suggest that, in the society there is a lack of general understanding on social entrepreneurship. The author also found out that, the general perception regarding social problems is mostly assigned to public authorities instead of enterprises. Moreover, the research results show that the absence of a clear mechanism which would raise public awareness regarding social problems and social capital, affects the active implication of community stakeholders into the societal problems.*

Keywords: *social enterprises, social capital, community development, leadership, norms* (JEL code: *M140*)

INTRODUCTION

Social business is a cause-driven mechanism for those communities where social problems predominates the community. In the social enterprises, investor/owner has to use the gains for social purposes and they cannot take any dividends from the economic activity of the organization. The impact of the business must be on people and environment and the success of the objective achievements must be measured on the light of social goals [1].

Different theories in recent years states that it is a need to build theories from practices, especially in case of social business [2].

Other researchers suggest that the facilitating actors for economic development are community entrepreneurs [3]. This research article contends that economic contribution is made as well by local enterprises, but social contributions must be made by social entrepreneurs.

In 2003, Sarah Alvord, Chris Letts, Dawid Brown suggest that social enterprise is the way to improve the social challenges and solve community problems [4].

The research of the CONCISE Project, in 2003, underline relevant aspects of the author's article. It support the same idea that the formation of social enterprises and the development of a vibrant social economy rely both on individuals and organisations using social capital and on individuals building social capital on behalf of their organisation [5].

Other recent relevant studies contend the same ideas of the actual research that there are several local actors that must solve community problems, including social enterprises [6].

In the last years there is a huge interest on social entrepreneurship from scholars and practitioners. Some countries succeeded to create their own models according to their actual problems, others didn't yet achieve any progress in the field of social entrepreneurship, which is also the case of Republic of Moldova.

The purpose of the research is to conceptualize and define behavioral factors that must be changed on the societal level in order to advance with practical development of social entrepreneurship.

The paper analyzes and gives detailed summaries of the existing literature and practices in the field of social business. The authors found that there aren't common vision regarding both, the concept and the types of social entrepreneurship. Moreover, the basic preconditions for developing social entrepreneurship is not the legal framework or any relevant policy thereat but are leadership skills, attitudes and social capital pillar.

A. History, concepts and main theories of social entrepreneurship

In order to have an understanding of social entrepreneurship, it has been undertaken a comprehensive research on traditional theories and definitions of entrepreneurship and social enterprises. The authors identified some controversial facts regarding the evolution of social entrepreneurship as a part of traditional entrepreneurship. For example, Mair states that there is still a lack of conceptual and empirical research to prove whether social entrepreneurship is a part of „traditional entrepreneurship or whether it is an independent field of study [7].

One of the main founders and researchers who undertook comprehensive studies in the field of entrepreneurship is Cantillon who introduced his theory about "landowners, hirelings and undertakers". Cantillon perceived the entrepreneur as being responsible for economic system consisted of exchanges of goods and services [8].

On other side, Say gives different interpretation for the responsibilities that entrepreneurs must have into the economic system. He perceived the entrepreneur as a manager of a firm; an input in the production process. In his vision, the entrepreneur is the person responsible for economic balance of the capital/economic system [9].

The early theories of entrepreneurship underline the findings of Cantillon and Say (mentioned above), while the Frank Knight's Risk theory first introduced the dimension of risk taking, as an obvious characteristic of modern entrepreneurship.

Withal, the entrepreneur has been seen as a disturber of equilibrium and the cause of change by Joseph Schumpeter's innovation theory of entrepreneurship. Thus, Schumpeter viewed the entrepreneurs like innovators and change-makers [10]. Some scholars argue that Schumpeter put the basis for social enterprises theories, in terms of innovation.

More recently, according to Hebert and Link, entrepreneurship has been recognized as an independent factor of production on a more-or-less equal footing with land and labor, as recognized by contemporary economic theory. The latest theories of entrepreneurship states about the core place of risk takers, value creation and competitiveness achievement [11].

Also, it is important to list the Alfred Marshall's theory that introduced land, labor, capital, and organization as the four factors of production as well as Weber sociological theory which states about social culture as the driving force for the entrepreneurship. The remark of Harvey Leibenstein, who considered entrepreneurs as "gap-fillers", must be underlined [12].

In his turn, Peter Drucker holds innovation, resources, and an entrepreneurial behavior as the keys to entrepreneurship. Along with that, McClelland's "Theory of Achievement Motivation" hold that people have three motives for accomplishing things: the need for achievement, need for affiliation, and need for power.

In 2006 Austin, Stevenson, Wei-Skillern state that social entrepreneurship is innovative, it is an activity that creates social value within or across the nonprofit, business, and public sectors. They mentioned that social entrepreneurship is defined as "entrepreneurial activity with an embedded social purpose [13]. However, they don't state about the limitations of social entrepreneurship and the exact models for designing it.

On other side, Perrini suggests that most researchers of social entrepreneurship see the crisis of the traditional welfare state and the increased competition within the nonprofit sector contributing to the emergence of social enterprises [14].

Mostly, the social entrepreneurship begun as a competition between profit and non-profit sector but it is not ascertained the exact position of this sector in the overall. A number of authors have emphasized the not-for-profit (NFP) nature of social entrepreneurial activities. In the same time, another business steam, Social Enterprise School, states that entrepreneurship itself is viewed as social enterprise initiative. This refers to any organization, in any sector, that uses earned income strategies to pursue a double bottom line or a triple bottom line, either alone or as part of a mixed revenue stream (as a social sector business) that includes charitable contributions and public sector subsidies". Social Enterprise School centers on earned-income activity by nonprofits, but also includes market-based solutions to social problems as well as businesses that generate profit that is donated to a social venture or purpose. In contrast, Mair and Marti argue that social entrepreneurship can take place equally well on a for-profit basis [15].

Perrini and Vurro show the linkage between social entrepreneurs and social enterprises, arguing that social entrepreneurs implement their social mission through profits they gain from economic activities [16].

According to Roger L. Martin and Sally Osberg, social entrepreneurship signals the imperative to drive social change, and it is that potential payoff, with its lasting, transformational benefit to society, that sets the field and its practitioners apart

B. Social entrepreneurs and leadership skills

From what or from whom to start development of social enterprise still remains area of discussion and interest. In different countries the situation is different, and cases are as well different. It is easily for already successful business to lunch a social mission business direction (i.e: delivering food

with all necessary vitamins at low prices to people from poor communities), and harder to the start-ups or other category of enterprises.

The author hypothesis is that the social entrepreneurship development must begin not from a legal frame or financial supporting mechanisms, but must start from leadership characteristics of entrepreneurs.

According to Ashoka's researchers, social entrepreneurs are individuals with innovative solutions to society's most pressing social problems. They are ambitious and persistent, tackling major social issues and offering new ideas for wide-scale change. They are visionaries, but also realists, and are ultimately concerned with the practical implementation of their vision above anything else [17].

Other researchers suggest that there is an important leadership behavior that is underdeveloped in many social entrepreneurs, which is transactional leadership. Transactional leadership – often associated with the more managerial side of running the organization – is important to provide followers with guidance and to manage the organization in an effective way. [18]

There are only very few findings regarding the optimal age of social entrepreneur. Scwa, in his research, suggests that the most suitable age is 42-65.

Some authors do not create age limitation for social entrepreneurs, however they suggest about certain leadership characteristics social entrepreneurs must have. For instance, Lin Screiber mentions that social innovators must have the following qualities:

- They are highly innovative. Well, of course, they are. But what's interesting is that out-of-the-box, creative thinking is a natural for them. They're always searching for new ways of doing things;
- They are persistent. They keep trying until it works. And, they never let road blocks, obstacles, or naysayers deter them. It's their can-do attitude that keeps them moving forward -- no matter what;
- They found a cause that inspires them. It may seem obvious, but each of them is fully committed to and believes in what they're doing. They may come at the cause from different experiences (from childhood, career, personal tragedy, but each of them is passionate about their cause.);
- They have boundless energy. Barbara describes it best when she says that while many of her friends are slowing down at this stage, she has more energy than she's ever had before, and often feels like a teenager. I'm not sure if the work creates the energy or the energy keeps the work going;
- They are exceptionally collaborative. In every case, these social innovators are masters of seeking out partnerships that support the work they're doing, help spread the work, and make it sustainable;
- They have a positive vision of the future. There's not a gloomy Gus in this bunch. No matter how daunting the social problem (85% illiteracy in Afghanistan, one billion victims of mass violence) that some might call "hopeless", they see the possibility and the potential for change and are hopeful and optimistic about the future.

Additionally, every social entrepreneur is facing some leadership challenges from the very beginning, as follow:

a. Identifying the social problem and suitable solutions for it;
b. Building a management team and sustainable business model;
c. Recruiting right people;
d. Leadership development;
e. Retention people;
f. Delegation;
g. Managing the time and energy;
h. Improve continuously the processes.

Jeremy Office suggests that successful social entrepreneurs have common values. They're typically more focused on social values than profits, and partner with local communities, governments, companies and charities. Social entrepreneurs are in it for the long haul; overall success comes when there is long-term, structural change to address their cause. Their positive contributions to society include changes in health care, transportation and education.

C. Types of social enterprises

As part of wide and holistic discussions, the scholars identified several types of social enterprises. The first type of social entrepreneurship, is "Social Bricoleur", found on Hayek's view of entrepreneurship as a largely localized undertaking, in 1945. The "Social Bricoleur" type of social entrepreneurship, with a focus on local concerns, is partly driven out of first-hand exposure to problems.

The second type of social entrepreneurship, labeled "Social Constructionists", identifies gaps in the social market, mentioned by Kirzner in 1973 and tries to fill them. This kind of enterprise build and operate alternative structures to provide goods and services addressing social needs that governments, agencies, and businesses cannot [19].

The third type focuses on deconstructing and reconstructing the engines of society to achieve broad social aims. This form of social entrepreneurship, labeled as "Social Engineers", engages in entrepreneurship as envisioned by Schumpeter. This type seeks to build lasting structures that will challenge existing order.

Basically, social entrepreneurship is about social engagement and entrepreneurial action. This is one of the issues debated among scholars, entrepreneurs, NGOs, policy makers.

In the Republic of Moldova there is a huge gap of perception between different community actors regarding types of social entrepreneurship and who is a social entrepreneur. In order to define concrete models of social enterprises is not enough to benchmark the situation worldwide, but it is important to understand the whole integration context inside the country. Moreover, it seems very difficult at the first stage to set out

a unique model that will be able to characterize and integrate interested stakeholders.

According to Benchmarking study on social entrepreneurship in the framework of the Project ISEDE-NET, innovative social enterprise development network, following models can be found in different EU countries:

In Austria, the social economic sector is characterized by a high degree of heterogeneity and complexity concerning the organizational legal forms. A specific segment of social enterprises prevails in Austria, so called "Work Integrated Social Enterprises". There are six models of WISEs:

a. Social economic enterprises (SÖB)
b. Non-profit employment projects (GBP)
c. Non-profit temporary-employment agencies (AKÜ)
d. Integrative enterprises (IB)
e. Employment projects for disabled persons
f. Social integration enterprises that make (only) use of an integration subsidy to finance their services of integration into the labour market.

In Bulgaria, the existing forms of Social Enterprises are:

a. Non-profit organizations which perform profit activities and use the profit for financing the social mission of the organization;
b. Non-profit organization which provides employment of people with disabilities or provides training services (for example, trainings for development of labour abilities);
c. Non-profit organizations engaged with social assistance;
d. Socially oriented cooperatives.

In Hungary, social economy consists of the following organisations:

a. Non-profit organisations undertaking employment of disadvantaged people;
b. Social association;
c. Associations reorganised after the change of the political regime;
d. Foundations;
e. Public Benefit Companies;
f. Social cooperatives.

In Greece, the main social enterprise types are:

a. Social Cooperatives of Limited Liability (Koi.S.P.E) for people with mental health problems;
b. Social Cooperative Enterprises of the Law 4019/2011;
c. Women's Agro-tourist Cooperatives.

In Slovenia, the general social enterprise sector consists of:

a. Societies;
b. Non-profit private institutions;
c. Companies for disabled;
d. Cooperatives.

As it can be inferred, all the models were created according to the social needs each of the countries faces and the available organizational models of the entities in a specific country, which means that a certain model doesn't exist for all the countries.

D. Risks associated to social enterprises

Because of its nature, social enterprises face different kind of risks. Moreover, the opinions that appeared near these beliefs share the idea that social enterprises need a special approach, facilities and "attention". The author's opinion is that social business is that kind of commercial activity that are managed by the best social change makers from every community, the innovators. Moreover, social enterprises must be treated and shall have the same privileges as any traditional enterprise.

In many countries, especially developing one, wherein the model of social businesses is still unknown (Moldova case), local stakeholders believe that social enterprises must be treated different and must have Government facilities. However, the facilities are required because of high risks social enterprises can have. This sub-chapter describes some risks associated to social enterprises.

Many authors Dees in 1998, Di Domenico, Haugh, and Tracey in 2010, Haugh in 2006, Peredo and McLean in 2006, believe that social entrepreneurs face different challenges while setting social business models, especially regarding financial and human resources involvement. In Republic of Moldova, the lack of qualified human resources is one of the problems that SME sector face. The phenomenon of "brain drain" characterize mainly the problem with human resources qualification. Regarding the financial support, SMEs sector has very limited access to State funding or/and international funding.

Investigations of Harding and Cowling in 2006 show that social entrepreneurs are significantly more likely to fear failure than traditional entrepreneurs.

Additional risks associated to social enterprises are related to organization mission. Mission and reputation could be compromised if the venture is seen as a sell-out by stakeholders. Organization has difficulty balancing mission and money, causing mission drift from core social activities to business.

Operations risks characterize social enterprises as well. Increased organizational complexity requires to support additional costs. In addition, the need for skilled influence the cost structure and directly impact the price competition on the market.

RESEARCH METHODOLOGY

There are 593 respondents interviewed from all three regions of Moldova (South, Center and North). From the total number of respondents, 215 are young entrepreneurs and the rest of 378 are individuals. For different measurement questions, the answer rate varies. Several important techniques for data collection were used. First of all a significant data were collected through questionnaires. Additionally, face to face interview took place for more precise answers from respondents. The period for data collection took about one month. The gender of the sample for the group of individuals is 60 women and 318 men. In case of young entrepreneurs, 75 are women and 140 are men. An important research factor

was to find the correlation between the variables, especially the variables of gender and the variables characterizing the social entrepreneurship acknowledgement and perception. Into this respect, the author used the Pearson product-moment correlation coefficient (Pearson's correlation, for short) which is a measure of the strength and direction of association that exists between two variables measured.

RESULTS

A. Correlation between variables

Table 1 shows the correlation between gender of young entrepreneurs and basic knowledge regarding social entrepreneurship. The correlation test was made on 215 young entrepreneurs. As can be noted in Table 1, the Pearson correlation coefficient is -0.023, which means that there is not any correlation between gender and basic knowledge on social entrepreneurship, the coefficient value being far from value 1. The significance of correlation coefficient is realized by *t* test. The corresponding Sig. value is 0.786, which underlines that correlation coefficient is significant and there are chances more than 79% (a=0.786) not being wrong asserting that between gender variable and basic knowledge regarding social entrepreneurship doesn't exist a significant correlation.

In case of correlation between gender from group of individuals and basic knowledge regarding social entrepreneurship, the correlation test was made on 378 individuals. As can be seen in the Table 2, the Pearson correlation coefficient is 0.005 which means that there is not any correlation between gender and basic knowledge on social entrepreneurship, the coefficient value being far from value 1. The significance of correlation coefficient is realized by *t* test. The corresponding Sig. value is 0.928, which underlines that correlation coefficient is significant and there are chances more than 92% (a=0.928) not being wrong asserting that between gender variable of individual group and basic knowledge regarding social entrepreneurship doesn't exist a significant correlation.

Table 1
Correlation Between Gender and Basic Knowledge Regarding Social Entrepreneurship (Young Entrepreneurs Under 35 Years Old)

		Gender	Concept of SE
Gender	Pearson correlation	1	-.023
	sig.(2-tailed)		.786
	N	215	137
Concept of SE	Pearson correlation	-.023	1
	sig.(2-tailed)	.786	
	N	137	137

Table 2
Correlation Between Gender and Basic Knowledge Regarding Social Entrepreneurship (Individuals)

		Gender	Concept of SE
Gender	Pearson correlation	1	.005
	sig.(2-tailed)		.928
	N	378	375
Concept of SE	Pearson correlation	.005	1
	sig.(2-tailed)	.928	
	N	375	375

The results of the correlation analysis implies that regardless the gender, the general concept of social entrepreneurship is perceived in the same way, by both men and women.

B. General acknowledgement regarding social entrepreneurship

The field research started from the very beginning, from identifying the perception of small enterprises and family enterprises regarding social entrepreneurship. The findings show that, from **375** respondents representing individuals, almost 2/3 never heard about social enterprises, which means that the concept is still very ambiguous through the whole country.

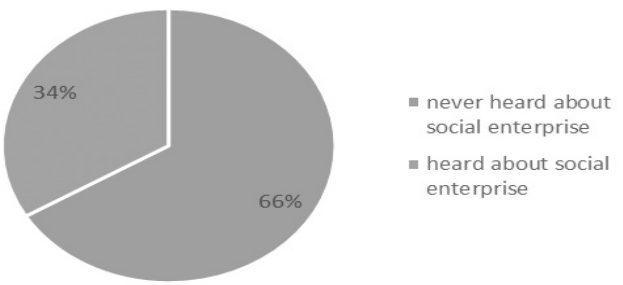

Figure 1. The level of information of family enterprises about social entrepreneurship

In order to deepen the understanding regarding level of information, the author interviewed 215 young entrepreneurs. In this specific case, the situation has the same tendency but the figures are different, as follow:

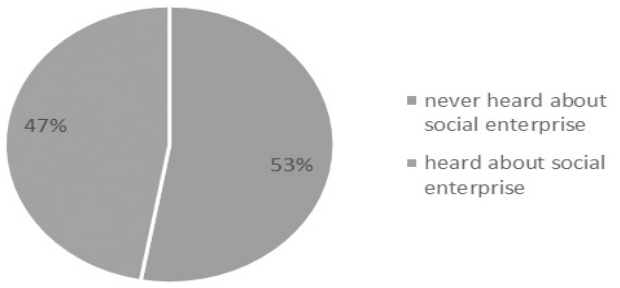

Figure 2. The level of information of young entrepreneurs about social entrepreneurship

The findings show that young people are acknowledged more about the concept of social entrepreneurship than older people. However, the facts show that the level of information is very low and vague in both cases.

C. General perception on community social problems

As noted, the concept of social entrepreneurship is poorly understood by the society of Moldova. As known, social entrepreneurship is related to social mission oriented businesses. Into this respect, the author realized the interview on 593 respondents, in order to find out the general perception on who is responsible mostly for solving social problems. However, the findings were separated between young entrepreneurs and individuals in order to understand if the perception differs from one group to another.

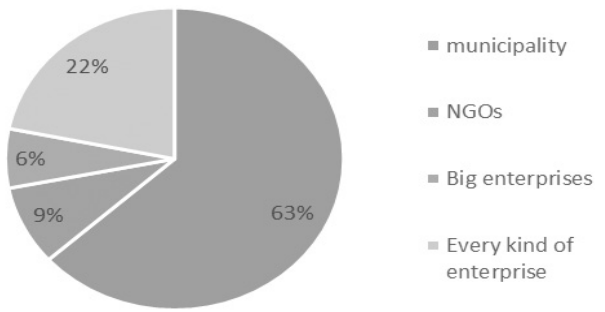

Figure 3. General perception on the responsible stakeholders for community social problems

As it was expected, about 63% of the respondents perceive that community problems must be solved by municipalities, 9% agree that NGOs are responsible for community problems solving and 28% think that enterprises are those who must solve community problems. Nevertheless, benchmarking the results between two groups (young entrepreneurs and individuals), the findings are interesting (Figure 4).

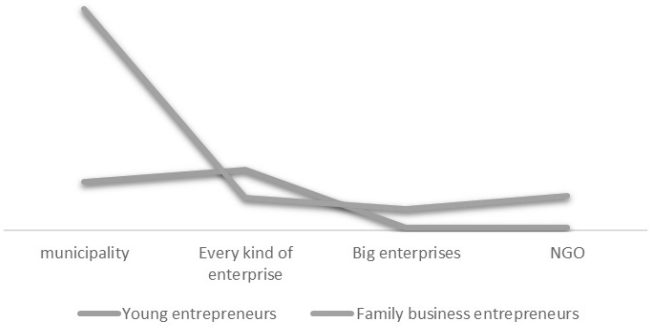

Figure 4. Decomposition of perception on who is responsible for community problems

As can be concluded, different categories of people have a different level of perception on the responsible for community problems solving. Representatives of family businesses, especially from rural areas, predominantly think that problems into the community must be solved only by municipalities and local public authorities are responsible for community development. Such situation underlines a very limited level of social capital existing in rural areas of Moldova. Contrary, young people, already entrepreneurs, understand the role of companies, especially the role of small and medium sized enterprises in the community. The opinions that enterprises are responsible for community problems solving prevail the opinions that municipalities have to solve the problems. In both cases (young entrepreneurs and family business entrepreneurs), the NGOs implication is seen to be very low, which shows the actual impact of NGO sector on the communities.

In conclusion, there are big differences between different categories of people regarding the role of different stakeholders into the society and the role enterprises must have in solving the community problems. Moreover, the general perception in Moldova, that NGOs must be mainly the promoters of social entrepreneurship seems to be in contradiction with public vision regarding responsible institutions for solving community problems.

D. Readiness for developing social enterprises in Moldova

In the case of the Republic of Moldova, it is still very early to align the leadership attribution to “social entrepreneurs”, once there are only several social missions classified as social businesses.

According to the findings 64% of the respondents would reinvest the profit in social mission, in case they would have a sustainable organization. However, such kind of figures are confusing once already existing entrepreneurs mainly wouldn’t allocate their profit for remediation of social problems.

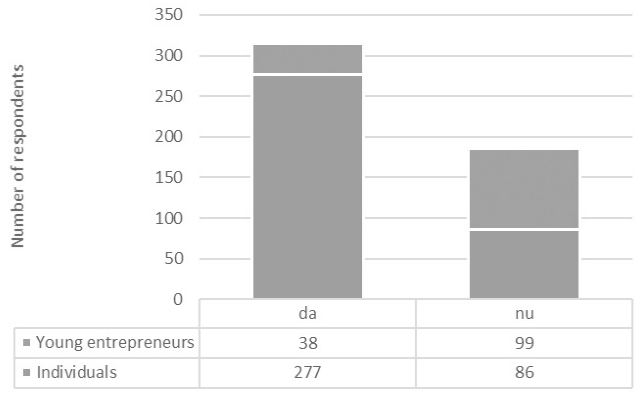

Figure 5. Level of perception on reinvesting the profit on social mission of the business

As can be noted, the perception of individuals differs totally from the perception of already existing entrepreneurs related to the social mission of the organizations they manage or would manage. The facts suggest that there is a lack of common understanding of social enterprises mission and the real life of market oriented approach shows that enterprises aren't ready to reinvest the profit in social problems, only 27% of young entrepreneurs would reinvest the profit in social problems remediation.

Another research question was related to the types of social problems already existing enterprises must solve. Can be concluded that opinion vary from the individuals to already existing entrepreneurs.

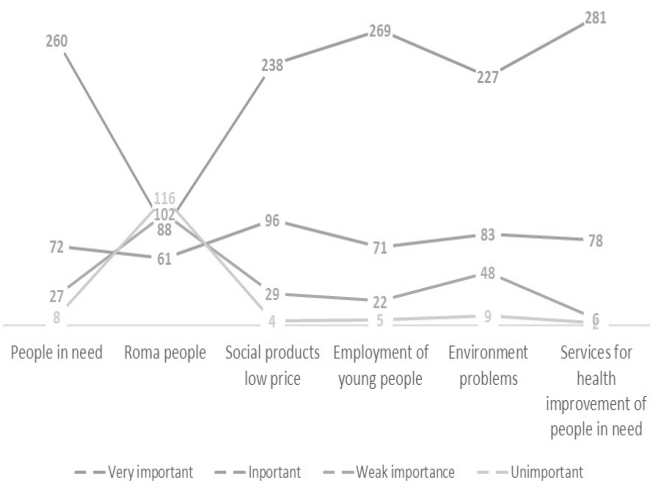

Figure 6. Community problems that must be solved by social enterprises – individuals' perception

The highest importance is given to the services provided by social enterprises for health improvement of people in need (281 respondents), followed by social solutions regarding employment of young people and solutions related to problems of different people in need. Unfortunately, in Republic of Moldova, Roma people are segregated by the society and the problems they have are unimportant for rest of the people (218 respondents consider that the problems of Roma people are unimportant and have weak importance to be solved).

E. Readiness for developing social enterprises in Moldova

Still there are a lot of discussions regarding which type of public policies should support social entrepreneurship development. Once social enterprises play an important role in addressing social, economic and environmental challenges, in fostering inclusive growth and in increasing social inclusion, the public policies in supporting them must be well balanced. The benefits of social enterprises are increased while they are supported by adequately public policies.

Besides different facilities and recommendations for developing social entrepreneurship, an important element is the perception of traditional enterprises on what type of facilities they need. Into this respect, the author interviewed a considerable number of entrepreneurs in order to find out what are the preconditions for them in order to develop social enterprises.

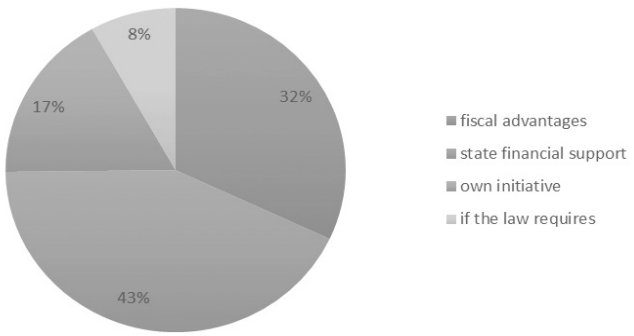

Figure 7. Incentives for developing social enterprises in Moldova

Financial support and fiscal advantages are the main factors that would stimulate existing enterprises to develop social businesses or social missions. Only 17% from all respondents would develop social enterprises by their own initiative. This phenomenon speaks about low level of sensitivity of existing entrepreneurs to social business missions.

Conclusions: one of the key role of public policy is to stimulate the emergence of a strong financial marketplace for social enterprises.

DISCUSSIONS

The findings of the research are unique for Republic of Moldova academic and professional environment. While the social entrepreneurship is unvalued issues in the country, this research represents a clear perspective for social business framework.

An undeveloped area that has the potential for this research field is quantitative research, mentioned as well by Lepoutre in 2011.

The author agrees with Hoogendorn that social entrepreneurship field needs rigorous empirical assessments to evolve, while this necessity suggests an abundance of research opportunities. Moreover, we stress on the necessity

for qualitative research in order to develop the national legal frame and supporting mechanisms for social entrepreneurship.

Moreover, Ryszard Praszkier, Andrzej Nowak, Agata Zab ocka-Bursa share the same opinion like the author in terms of that social entrepreneurs differ significantly from the rest of traditional entrepreneurs, especially in terms of personal optimism.

The investigation of Bornstein and Davis reflects the same conclusion of the author's research that individuals who are eager to make a community impact must understand what they care about, what their strengths and weaknesses are, what are their values, in what environments they works best, and what are their motivations.

The author totally agrees with Davidsson investigation from 2006, asserting the importance of social entrepreneurship for community development.

The author disagree with other researchers like Salamon, stating that the development of social enterprise follows along lines similar to those for the development of nonprofit sectors. The author believes that nonprofits are not the best options for social enterprises.

It is important to have a clear picture of types of organizations that can run social entrepreneurship activities in the developing countries, like Moldova is. Moreover, must be made a clear evidence between limited interests of lobbying groups on social entrepreneurship and the interest of social economy industry as a whole.

Another area of interest is the need for legal preconditions and fiscal incentives, in case they are important to build social enterprises. In this respect, the opinions are different, some of the practitioners and researchers underline the importance for incentives others contend these ideas.

CONCLUSIONS

The international experience on social entrepreneurship initiatives poses more challenges to definition and impact assessment than on the business entrepreneurship. Moreover, the role of social enterprises is different than the role of business enterprises, as well as their missions. Because of the different definitions and characteristics of social entrepreneurship around the world, in Moldova there are misunderstandings regarding this concept. As well, public perception collates behind the social entrepreneurship framework.

The absence of consistent frameworks and rigorous empirical research makes it difficult to promote critical perspectives and debates on the specific phenomenon categorized as entrepreneurship, social entrepreneurship, social movement, or social enterprise.

In the Republic of Moldova, the findings show first of all big difference in perception between people who are already involved in economic activities and those who are not, as well as people from rural and urban areas.

The social entrepreneurship is not only a new concept for the country but as well as an unknown one.

Lack of school/university entrepreneurial education and vocational education constrains the aptitudes of people to "think out of the box".

Moreover, the policymakers of the social business must understand very well and undertake a deep research, not only consultations with limited group of stakeholders, on types of social enterprises and incentives needed to stimulate each type of institution to promote social missions within economic activities.

At the national level, it is necessary to undertake several major steps to develop the social entrepreneurship sector:

To find a common definition of what social enterprise is, who is a social entrepreneur and how he can develop the social economy sector. However the definition must be realized not only based on limited public consultations, but it must be undertaken a deep research on the different problems from economic and social sector, involving different stakeholders.

At the first stage, it is irrelevant to adopt a specific law on social entrepreneurship once Moldova have very limited access to financial support from Government and from donors, once the country is in deep economic and political crisis.

To educate on the large scale different stakeholders around the country about social entrepreneurship. Additionally, piloting school and university curricula and vocational trainings in order to build, more or less, a common understanding on what is social entrepreneurship and who must be a social entrepreneur.

At the micro level, "economic revolutionaries" who are overwhelmed by the concept of social business have to:

Identify the problem in respect of which the entrepreneurs/ individuals really want to find a solution to and for which you are willing to bring a change.

After the identification of the problem, social entrepreneurs need to find innovative solutions to the particular problem. Probably this is one of the most crucial and important phase, even some entrepreneurs do not realize it. Being original brings to success of the business.

Find a group of people that share the same vision as you and who are willing to support the implementation of the plan.

Concrete research on business structures and knowledge on how the market works.

Branding the social business model.

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SCIENTIFIC PAPER

THE EMPIRICAL EXAMINATION OF CHANGES RELATED TO VALUE DRIVERS IN THE EFFECTS OF THE 2007-2008 CRISIS

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Abstract: *The article brings into the focus the corporate value creation and the main value drivers. The first goal of the study is to classify the most relevant value drivers, and their function of the firms' value. Further objective of this paper is to present the effects of the 2007-2008 global financial crisis. This article demonstrates the following. The first part introduces the value chain and illustrates the primary and the support activities of the companies. The second section briefly presents the 2007-2008 global economic crisis, introducing its causes, events and financial aspects. The third empirical part of the paper analyses the database featuring data from 18 European countries, 10 sectors and 1553 firms in the period between 2004 and 2011. At the end, the fourth part contains conclusions. Based on the related literature reviewed and in the conducted empirical research it can be assessed that 2008 can be seen unambiguously as the year of the crisis. In this year, all independent variables had a negative effect on the dependent variable.*

Keywords: *value chain, firm valuation, value drivers, global financial crisis of 2007-2008* (JEL code: *P40*)

LITERATURE REVIEW

Value creating by the firm

„The progress of value creation is the procurement, management and use of resources with the purpose of creating value for the consumer." (Chikán – Demeter 2006 p.3) This definition approaches the value creating concept and process from the perspective of the literature on management; in other words, it defines the firm as an organisation which creates value during its operation, and which has as the main goal of its operation the satisfaction of consumers' demands.

Porter (1998), in his doctrine of the value chain, concentrates on the value creation. According to his findings all companies work out their activities in order to create value. These activities can be partitioned into two significant classes; primary and support activities. Primary activities are incorporated into the physical creation of the product and its sale and transfer to the customer as well as after-sale assistance. The primary activities are supported by the support activities and also help each other by providing purchased inputs, technology development, and human resources, and different firmwide functions. This generic value chain can be found in the Figure 1. (Porter, 1998, pp.36-43).

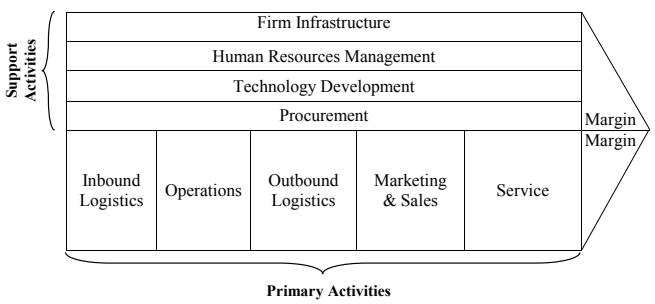

Figure 1. The Generic Value Chain
Source: Porter (1998) p. 37

In the approach followed by the article, however, this must be achieved in such a way as to increase the shareholder value as well; i.e. that value must be created for the shareholders as well as for consumers. This understanding of value creation is also reflected – among other things - in Chikán's (2003) work on the dual value creation.

The most important value drivers are identified in my previous article Kiss (2015) based on the studies of Copeland and co-authors (1999), Damodaran (2006), Fenyves and co-

authors (2015), Fernandez (2007), Rappaport (1998), Tarnóczi and co-authors (2015 a), Tóth (2014).

THE GLOBAL FINANCIAL CRISIS OF 2007-2008

Given the great impact and complexity of the 2007-2008 financial/economic crisis, prominent economists have varying ideas regarding its causes and varying suggestions for its solution. In his writings, Stiglitz (2009) refers to the 2007-2008 crisis as the greatest since the great world economic crisis, and also as the first global recession in the age of globalisation. Bokros (2009) also refers to the crisis as a global one, and identifies numerous characteristics in which the interconnectedness of the countries and the national economies of the world can be observed. Lámfalussy(2008), in his book about the 2007-2008 crisis, writes of the deep crisis in the world's financial markets, the globalisation of finance and the vulnerability of the financial system, and further analyses previous financial crises and compares them. Bélyácz (2014), in the introduction to his article notes that many authors mention, but rarely emphasise, the similarities, indeed the common origins, of the great economic crisis and the 2007-2008 global financial crisis. The main cause in both crises was the deregulated financial free market. The study goes on to describe the theoretical background to the crisis, discusses the role of random walk in the financial markets, the ergodic axiom, the efficiency of the market, and true weight of uncertainty. His conclusions indicate that the financial crisis does not invalidate the theory of the efficient market, but illuminates its weak points. The problem does not lie in any ability to predict it, but occurs if we do not take uncertainty into account, or if the actions of the actors in the financial markets accentuate the uncertainty. Mellár's (2010) study analyses the possible directions of the future development of macroeconomics, asking whether in the last 10-20 years – as a result of the approaches of the neo-classical and neo-Keynesian schools – a new neo-classical synthesis has come into being, is continuing, or whether a new direction is emerging. Many believe that macroeconomics has not been able, or has not attempted, to answer the basic questions raised by the crisis, and has not been able to offer a theoretically grounded remedy for the imbalances. The greatest lesson of the crisis is that the belief in the theory of the efficiency of the market seems to be wavering. In relation to the market, a middle way must be found; in other words, a coordinating mechanism which is not perfect but which is indispensable, and which cannot be replaced by any other. Hodgson (2009) also believes that the crisis is the most serious global crisis since the world economic crisis of the 1930s. Just like Keynes at that time, mainstream economists are now pondering whether the crisis will renew the science of economics by expanding the frontiers of current economic theory, and economic policy, or not. In his article he evaluates the prospect of such a renewal. To do this he lists the indicating signs which have not yet received sufficient attention. Krugman (2012) criticises the overemphasis on the self-correcting nature of market mechanisms. He believes the remedy for the crisis is a strengthening the demand, which must be achieved by the growth of state demand.

The events leading up to the crisis can be mentioned, events which ensured that the 2007-2008 crisis became a worldwide phenomenon.

The financial crisis primarily affected those markets which were in direct contact with structured financial products, and with the American mortgage market, and consequently, the developing countries were less affected. Those countries, however, which proved to be vulnerable, even if they were on the periphery, felt the full force of the crisis through increasingly serious liquidity stresses, volatile sudden increases and price slumps (Király – Nagy 2008).

MATERIALS AND METHODS

Describing of database

The purpose of this paper is to answer the question of what changes occurred to drivers related to the value creation of firms in the effects of the 2007-2008 global financial crisis.

I conducted an analysis using a database which includes data from 18 European different countries, 10 sectors and 1553 firms. The examination covered the period between 2004 and 2011, which represented a strongly balanced panel, although it contained some missing observations. This database was downloaded from Aswath Damodaran's website, after numerous corrections made the data obtained became available for my research target. (http://pages.stern.nyu.edu/~adamodar/, 2014).

The firm value was used as a value category, which is the firm's market capitalization – the best estimate of the market value of equity – and the market value of debt. The factors influencing firm value – as a dependent variable – are those value drivers mentioned above which most determine the value of the firm. Máté et al. (2016) examined the knowledge-intensive business service sectors.

During the examination of firm value, EBIT, reinvestment and invested capital, were used natural logarithms of the variables, while the natural logarithms of the revenue difference was used for the sales growth rate, since in this way the distribution of the variables approached a normal distribution.

The applied multivariable panel regression model

The details of the panel model were specified during the empirical examination. One of the most tried and reliable testing method – combined by using of time series and cross-section data – is the mentioned panel model also referred to as longitudinal data analysis. Thanks to the panel model we can observe the progress over time (time series) of the same company characteristics (cross-sectional data) since we have several time periods and individual entries in the panel database – in tabular forms -, such as: countries, sectors, firms etc. (Ramanathan 2003 pp.498-501).

The following step was to specify the multivariable regression model:

$$LnFV_{i,t} = \alpha + \beta_{lnEBIT} lnEBIT_{i,t} + \beta_{tax} tax_{i,t} + \beta_{lnReinv} lnReinv_{i,t} + \beta_{lnInvC} lnInvC_{i,t} + \beta_{ROIC} ROIC_{i,t} + \beta_{NetM} NetM_{i,t} + \beta_{MROA} MROA_{i,t} + \beta_{dlnRev} dlnRev_{i,t} + u_{i,t} + \varepsilon_i$$

The empirical analysis and its results

The STATA 11 statistical program helped the analysis to be done. This program can produce statistical and econometric calculations and graphic presentations of data.

The results of the analysis are made in synthesised form, covering the entire period (2004-2011) and all the industrial sectors (10 sectors).

In my current research I examine how the 2007-2008 financial crisis affected the relationship between firm value and value drivers. To do this I used a random effect panel regression model, in such a form that alongside the predictors, I introduced the effect of the years as a "time dummy" variables into the model, and also inserted the one-year delayed dependent variable into the independent variables, which assisted me in analysing of impacts. The results of the panel regression are contained the Table 1.

Table 1. Random effect panel regression results regarding the effects of the years

	lnFirm_V		
	Coef.	**z**	**P> |z|**
lnFirm_V L1.	0.5638	17.59	0.000***
lnEBIT	0.3790	17.42	0.000***
Tax_r	-0.2425	-3.82	0.000***
lnReinv	0.0513	8.44	0.000***
lnInv_C	0.1784	12.07	0.000***
ROIC	0.0241	5.08	0.000***
Net_M	0.3400	2.32	0.021**
MROA	-2.2981	-6.84	0.000***
dlnRev	0.3055	14.57	0.000***
Dummy of 2005	0.3830	18.53	0.000***
Dummy of 2006	0.4268	21.04	0.000***
Dummy of 2007	0.1968	10.00	0.000***
Dummy of 2008	-0.2094	-10.56	0.000***
Dummy of 2009	0.3080	15.48	0.000***
Dummy of 2010	0.2080	7.82	0.000***
Dummy of 2011	omitted because of collinearity		
cons.	1.4769	19.96	0.000***
R^2 overall	0.9551		
R^2 within	0.7439		
R^2 between	0.9693		
Wald (chí^2)	63 206.18***		
Number of observations	5 504		

Source: own calculation

Note: At the levels of significances *** 1 %, ** 5 %, * a 10% respectively

The panel regression model describes the variances of firm value, taking into account the effects of individual years. It can be considered reliable on the basis of the Wald-test, and explains the dependent variable under 5% according to the Wald-test. Moreover, the overall R^2 is being equivalent to 95.51%, and the regression coefficients of the 16 independent variables are significant at levels of 1% and 5%.

On the basis of the estimated values of the model parameters, it can be stated that no change occurred in the direction of the correlation between the business value and the independent variables. Its correlation with EBIT, Reinvestment, Invested Capital, Return on Invested Capital, Profit Margin, and the Growth in Revenue was positive. There was a negative correlation between the Tax Rate and the Firm Value, and the relationship between the MROA used as a proxy and the dependent variable was still strongly negative. The effect of the year 2004 is built in to the constant member, and functions as a positive co-factor in the model. The years 2005, 2006 and 2007 correlate positively with firm value. In 2008 the effects of the crisis become visible, and this year had a negative effect on firm value. The years 2009 and 2010 also produced changes on the same direction in firm value. 2011 was left out as a result of collinearity.

In the results obtained, the length of the half-life - i.e. the period which corresponds to the time needed to eliminate half of the divergence from the counter-weight of the given variable - was also decisive. This is the speed of adjustment, it is most often measured by the half-life, the time needed in order to eliminate 50% of the deviation (Földvári 2012):

$$t_{half-life} = \frac{ln2}{variable}$$

This is calculated as follows:

$$t_{half-life} = \frac{ln2}{0.5638} = 1.2294$$

In this case the impact of the crisis eliminates in little more than one year.

In what follows I have arranged my panel model to enable cross-effects to be taken into account during the analysis. The marginal effect of one independent variable can sometimes also depend on other variables. To show this, Ramanathan (2003 pp.264-265) suggests that the mutual effects between the variables should also be understood, in order to show the cross-effects. (Tarnóczi et al. 2015 b)

When examining cross-effects, in cases in which all variables are listed with the time dummy variable for 2008, it is clear that the cross-effect in 2008 of Invested Capital and Return on Invested Capital is positive, while the product of the 2008 time dummy variable for Reinvestment has a negative effect on firm value, while the product of the 2008 time dummy variable with the other variables is not significant. (See Table 2.)

Table 2. Results of cross-effects analysis between 2004 and 2011 for all sectors

	lnFirm_V		
	Coef.	**z**	**P>|z|**
lnFirm_V L1.	0.3646	17.41	0.000***
lnEBIT	0.3760	17.11	0.000***
Tax_r	-0.2601	-4.00	0.000***
lnReinv	0.0587	8.71	0.000***
lnInv_C	0.1698	11.56	0.000***
ROIC	0.0230	4.99	0.000***
Net_M	0.3216	2.23	0.026**
MROA	-2.1419	-6.02	0.000***
dlnRev	0.3043	14.11	0.000***
Dummy of 2005	0.3918	18.47	0.000***
Dummy of 2006	0.4365	20.84	0.000***
Dummy of 2007	0.2040	10.14	0.000***
Dummy of 2008	-0.7039	-4.99	0.000***
Dummy of 2009	0.3091	15.53	0.000***
Dummy of 2010	0.2127	7.97	0.000***
Dummy of 2011	omitted because of collinearity		
lnEBIT*2008 dummy	-0.0388	-1.24	0.214 nsz.
Tax_r*2008 dummy	0.0646	0.50	0.619 nsz.
lnReinv*2008 dummy	-0.0676	-6.08	0.000***
lnInv_C*2008 dummy	0.1431	4.45	0.000***
ROIC*2008 dummy	0.0450	2.30	0.021**
Net_M*2008 dummy	0.1847	1.24	0.214 nsz.
MROA*2008 dummy	-0.4706	-0.74	0.461 nsz.
dlnRev*2008 dummy	0.0143	0.68	0.495 nsz.
cons.	1.5054	20.24	0.000***
R^2 overall	0.9556		
R^2 within	0.7494		
R^2 between	0.9694		
Wald (chí^2)	71099.30***		
Number of observations	5504		

Source: own calculation
Note: At the levels of significances *** 1 %, ** 5 %, * a 10% respectively

CONCLUSIONS

The aim of this article is to present the value creation, the value chain and the value drivers. Beyond this the other purpose of this article is to answer the question of what changes occurred to drivers related to the value creation of firms in the effects of the 2007-2008 global financial crisis. The article demonstrates the following. The first part briefly introduces the value chain, the primary and the support activities. The second section briefly presents the 2007-2008 global economic crisis, introducing its causes, events and financial aspects. The third empirical part of the paper analyses the database comprising data from 18 European countries, 10 sectors and 1553 firms in the period between 2004 and 2011. At the end, the fourth part concludes what might be learned from this study, summarising the results of the examination above, I formulated the conclusions. An examination of the changes following the 2007-2008 financial crisis and their relationship with the value drivers allows us to conclude, that 2008 can be treated unambiguously as the year of the crisis. The other main finding of this work is that, in the year of 2008, all independent variables had a negative effect on the dependent variable.

This study also concludes that the dependent variable was effected negatively by all independent variables, such as: EBIT, Reinvestment, Invested Capital, Return on Invested Capital, Net Margin, Sales Growth Rate, Tax Rate and Market Value of Return on Asset (MROA).

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SCIENTIFIC PAPER

EXTENT AND CHARACTERISTIC OF DIVERSIFICATION AMONG HUNGARIAN AGRICULTURAL HOLDINGS

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Abstract: *Through the connection to rural resources agriculture has an impact on the three functions of countryside: ecology, society and economy. Resources of economy and production environment are continuously changing thus farmers have to adapt to these changing circumstances. One of the adaptation methods is the diversification of activities to promote effective capacity utilization and additional profit. However there is no standard definition of diversification from the point of agricultural economics aspect both traditional approaches and the influence of European Union should also be considered to define it.*
Diversification and alternative income opportunities could be subsistence possibilities for several farmers. This could be defined not only at private holdings' but at enterprises' level. According to a traditional approach Hungarian statistical databases collect on-farm and off-farm agricultural activities depending on the connection to resources of a farm business. Analysing this database an overall picture could be defined considering the position and characteristic of diversified farmers and the popularity of each activity among agricultural producers. Based on a study, published in 2011 (Hamza, 2011) this paper also involves the latest statistical data (2010, 2013). Analysing dataset of period 2000-2013 this paper gives an overall overview about national and regional position and characteristics of diversified holdings and activities.

Keywords: *on-farm, off-farm agricultural activities, diversification, statistics, analysis, enterprises* (JEL code: *Q19*)

INTRODUCTION

Rural policy has an impact on the farmers' every day. Diversification improvements could strengthen diversified holdings. The aim of the study was to analyse national differences of agricultural diversification considering holding size and types. The review of this paper gives an exact definition of diversification. Results show statistical trends of diversification among agricultural holdings in Hungary between 2000 and 2013. Characteristics of diversification were also examined among small- and large-scale farmers and even among crop production and animal husbandry. This study also analysed the effects of land concentration. Trends of diversified activities and relation between farm size and these diversified activities were examined.

REVIEW OF LITERATURE

As a definition diversification is a widely used term. According to *general agricultural economics* approach it means the extension of production structure (Szakál, 2000; Nagy 2002; Magda, 2003; Kovács, 2009). According to general business economics diversification is defined as a contrary process to specialisation and it is equal to the increasing number of activities and sectors based on spare production capacities. Therefore diversification could be one of the potential market tools for growing businesses to adapt needs but a careful use is needed to avoid too-fragmented resources or making optimal production level and size impossible (Szakál, 2000).

There are several different approaches in connection with agriculture. In accordance with some authors agricultural businesses are a significant part of rural economy, they have an important role in rural development. Analysing this, a *multifunctional role* comes to the front. According to Szakál, 2000 traditional approaches of defining agriculture as a production sector should be broken with. The view of Nemes, 2000 is also in close connection with it so the aim of diversification (diversity) is to diversify economic and social activities based on initiatives of local communities and individuals. Diversification is compared with multifunctionality by Fehér, 2005. As his opinion multifunctionality is a broader

targeting because it includes all activities of a holding while diversification does not cover the conventional production. Several authors do not agree with this definition to determine diversification as an activity of a business.

Diversification is often parallel with *pluriactivity*: as some experts diversification is wider sense (DELGADO and SIAMWALLA, 1997, BOULAY, 2002). GYULAI and LAKI, 2005 used the definition of pluriactivity not in primary connection with agricultural activities. There are two different cases: firstly, farmers carry out non-agricultural activities based on the resources of their holdings such as food trade or tourism. Secondly, additional incomes are not in connection with these resources such as having a part-time job.

According to Gyulai and Laki (2005) diversification is also parallel with *sustainability* so traditional species are potential tools of sustainable agriculture. As their opinion diversification could be established using resources of farm businesses, introducing new products or new structures – growing traditional species such as Einkorn wheat (*Triticum monococcum)*. The view of Kopasz, 2005 is also in close connection with it since agriculture can only reach all three functions of countryside (economic, social and ecological) if farm businesses are diversified and activities are sustainable. Therefore diversification could be a great tool for reaching sustainability as a potential target of local communities but tools of economic development should be introduced considering all the resources of local ecology, society, economy and their relations moreover implementations should be based on local initiatives (Czene Et Al, 2010; Biró (Ed) et al, 2012).

Farm diversification is a popular definition in recent years (Elek, 1994, Kovács, 2002, Czimbalmos, 2004; Fehér et al. 2010, Hamza, 2011). It covers *on-farm* (activities using resources of farm businesses) and *off-farms* (activities outside the farms) diversification methods as well. The description of on-farm activities is parallel with Ilbery et. al, 1996: the enlargement of agriculture includes all those non-agricultural activities which are in close connection with resources of a holding except conventional agriculture (crop production, animal husbandry, horticulture, vineyards, orchards). Furthermore, ecological farming, production of special species (not conventional in a region), aquaculture and forestry can be identified in these activities, too.

Nagy, 2007 used this classification method to analyse the incomes of family farms: both incomes only from agriculture (on-farm) and farms with a few off-farm incomes.

I do agree with the classification of Hamza, 2011 about diversified holdings:

- *The enlargement of agricultural core activities*: producing new (or novel) plant and animal species, energy crops, ecological farming, animals under contract, aquaculture in a region.
- *Increased added value* (vertical diversification): processing products from agricultural core activities (food or non-food) including direct sales and marketing tools.
- *The enlargement of non-agricultural activities*: "rural and agro-tourism, catering, services related to leisure activities (horse riding, hunting, sport fishing), handcraft, services done by the machinery of the holding (contractual work), storage, country planning (landscaping, maintenance of ditches, mowing of slopes, afforestation), collecting herbs and non-wood forest products (Hamza, 2011).

It is also important to analyse the relation between diversification and rural policy since resources of rural development are essential in agricultural production. In the nineties Elek, 1994 pointed out that not all the farm businesses have economic stability which effects the increased number of lagging regions since farmers without successor may induce the marginalisation of a region. To avoid it European Union tries to establish measures.

In Hungary, rural policy was characterised by the New Hungary Rural Development Programme between 2007 and 2013. Contrary to earlier definitions, on-farm diversification could be equal to the enlargement of existing supply (related products, related technology) without changing the ATECO (Classification of Economic Activity) codes. In a rural policy approach traditional business sectors even under vertical integration and introducing new activities are kinds of diversification too. Moreover, off-farm diversification is only considered among non-farm producers (ÚMVP, 2007). This is corroborated by the new Hungarian Rural Strategy (2014-2020) which highlights on the reduction of plant production dominance and the strengthening of animal husbandry, horticulture and ecological farming (VIDÉKSTRATÉGIA, 2014-2020). It is obvious that rural policy takes a different approach of diversification from other agricultural literatures mentioned earlier. In my opinion expectations regarding diversification are set to the reality of Hungarian economy and farmers are supported in all activities to facilitate their subsistence (Kissné Nagy, 2014).

It is already defined in this paper how activities could be classified within diversification depending on their connection with agriculture and whether they are on-farm or off-farm activities. Using this information agricultural diversification has been defined in a rural policy approach considering bibliographical references, rural policy and rural development approaches (**Table 1**).

Table 1. Classification of diversified activities considering rural policy approaches

	Agricultural activities		Non-agricultural activities
On-farm	New activities in accordance with rural policy	Ecological farming	Sport/recreation
		Producing bio-fuels and energy crops	Tourism, catering
	Crops	Producing new (or novel) plant species	Forestry, aquaculture
	Animal husbandry	Producing new (or novel) animal species	Processing
	Horticulture	Animals under contract	Washing/sorting/packaging
	Vineyards	Agricultural contract work	Direct sales/marketing
	Orchards		Transportation
		Rental of buildings around the farm	
Off-farm			Other jobs
			Other business

Source: Author's construction based on Department for Environment Food and Rural Affairs. 2003., New Hungary Rural Development Programme (2007-2013) and new Hungarian Rural Strategy (2014-2020)

To define diversification in a traditional way, the approach of Biró (ed) et al, 2012 should be took into account: "In Hungary, major capitalised businesses producing goods are characterised by diversification. Introducing new activities within the businesses stocks, professional skills and entrepreneurships are needed."

MATERIALS AND METHODS

Using national statistics the aim of this paper is to present the extent and characteristics of diversification. Based on scientific results, published in 2011 (Hamza, 2011) this paper involves the latest statistical data (2010, 2013) to compare with.

Hungarian Central Statistical Office collects all the relevant national data about activities other than agricultural primary production. The analysis is based on data of General Agricultural Census (GAC 2000, 2010) and on Farm Structure Surveys (FSS 2003, 2005, 2007, 2013). Since official statistics do not collect any data related to rural policy this study can neither involve any information about it. Methods of national surveys cover only the area of diversified activities (16 different types are defined) and the characteristic of diversified holdings but information about economic importance of such activities is not involved at all. Diversified activities are the following:

1. Meat-processing
2. Milk-processing
3. Fruit- and vegetable-processing
4. Wine-making, wine-bottling
5. Other activity related to food-industry

All of the activities related to food-industry

6. Fodder-mixing
7. Forestry
8. Wood-processing
9. Tourism, catering
10. Trade and sales of unprocessed production
11. Transportation, delivery
12. Renewable energy-production
13. Other activity done by the machinery of the holding (contractual work)
14. Handcraft (plaiting, folk-art, etc.)
15. Aquaculture
16. Other activity

RESULTS

European Union overview

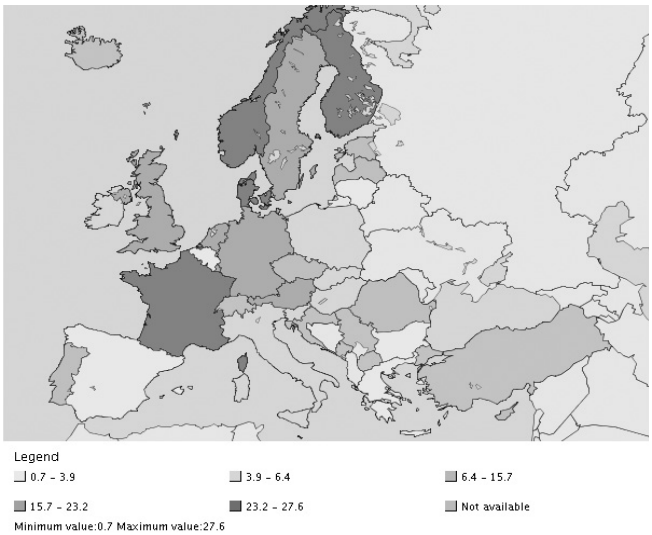


Figure 1. Share of diversified farm businesses throughout the European Union (%, 2007)
Source: EUROSTAT, www.ec.europa.eu

Figure 1 shows clearly how frequent the diversification of farm businesses are throughout the EU. Statistics include on-farm activities with economic outturn. The most diversified Member States could be find in Western Europe meanwhile Central and Eastern European or Southern European countries have the less holdings with wide range of activities. Diversified farmers are less common in these Member States whereas one in four producers have alternative incomes in France and in Scandinavia.

Present situation of and changes in agricultural diversification in Hungary, 2000-2013

National overview

During the reference period the number of diversified farm businesses changed considerably however there were significant temporary fluctuations. Number of diversified holdings analysed in accordance with the business entities (**Figure 2**) changed parallel with the number of private holdings but the number of agricultural enterprises differed slightly from it. The crisis of the reference period was in 2007 when the fewest diversified holdings were observed: the reduction reached 30% among all entities compared with the 2000 situation. In 2010, General Agricultural Census observed an increase in the number of diversified farm businesses and

it represented 44 000 in 2013. However it was a significant growth (almost reached the 2000 level of 47 000 holdings), at the same time great decrease could be observed in the number of farm businesses (from 967 000 to 491 000). In case of private holdings a rise could be noticed as well: in 2013 the number of them almost reached the 2000 level. In accordance with the 2000 level a 57% growth could be observed in the number of agricultural enterprises since there were 6260 of them in 2013 however there were only 1502 diversified agricultural enterprises in Hungary in the 2003 crisis.

The share of diversified farm businesses compared with the total number of holdings has not changed significantly by 2007 (5.1%) which could be explained by the concentration processes in farm structure (Hamza, 2011). Whereas a significant increase could be observed in the share of diversified farm businesses in the period 2007-2013: the rate was 7.5% in 2010 while in 2013 it reached 9.2% (**Table 2**).

Table 2. Number and share of diversified holdings, 2000-2013

Year	2000	2003	2005	2007	2010	2013	2013 2000 = 100 %
Type of holding	Number of holdings						Change in the number
Total number of diversified holdings	46 989	35 181	36 154	31 770	42 402	44 415	95%
Diversified private holdings	43 009	33 679	33 592	29 172	37 046	38 155	89%
Diversified agricultural enterprises	3 980	1 502	2 562	2 598	5 356	6 260	157%
	Shares based on the non-diversified types of holdings						Change in the share
Total number of diversified holdings	4.9%	4.5%	5.1%	5.1%	7.5%	9.2%	189.4%
Diversified private holdings	4.5%	4.4%	4.8%	4.7%	6.4%	7.8%	173.1%
Diversified agricultural enterprises	57.2%	19.2%	32.3%	35.8%	57.2%	71.2%	124.3%

Source: Author's construction based on data of Hungarian Central Statistical Office (General Agricultural Census 2000, 2010 and Farm Structure Surveys 2005, 2007, 2013)

Diversification shall be a key to remain in agro-industry because the number of diversified holdings were increased in spite of land concentration. Private holdings and agricultural enterprises showed a significant difference. The share of diversified private holdings was increased by 5.2% after a stagnation period of 2000-2007 compared to every private holding and almost 8% of this farming type carried out non-agricultural activities. However agricultural enterprises were more characterized by diversification. In 2013 only one in eleven private holdings did some kind of non-agricultural activities while seven in ten agricultural enterprises diversified their profiles. It is also supported by Biró (ed) et al, 2012: "In Hungary, major capitalised businesses producing goods are characterised by diversification." These significant changes are in close connection with the European Union support policy considering diversification but this question will be examined in a farther study.

Regional overview

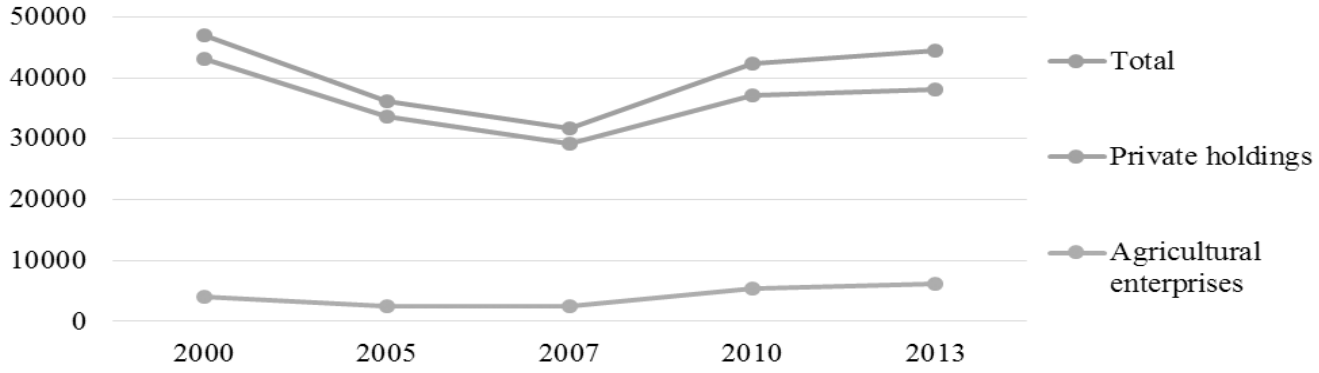
Table 3 shows the steady increase of diversified holdings in every region of Hungary. In 2010 the growth of private holdings slowed down in Central Transdanubian region. Some regions had high level of diversification in both farming types.

Table 3. Shares of diversified holdings by territorial units, 2007, 2010, 2013 (%)

Territorial units	Agricultural enterprises			Private holdings		
	2007	2010	2013	2007	2010	2013
Central Hungary	31.0%	51.2%	68.1%	5.9%	9.3%	16.9%
Central Transdanubia	30.9%	58.0%	72.6%	5.9%	5.6%	5.8%
Western Transdanubia	28.4%	46.1%	68.0%	3.1%	6.5%	8.5%
Southern Transdanubia	34.4%	68.5%	81.4%	3.7%	5.9%	6.9%
Transdanubia	31.5%	58.3%	74.7%	4.1%	6.0%	7.1%
Northern Hungary	31.0%	58.8%	69.9%	7.2%	9.0%	8.7%
Northern Great Plain	44.2%	59.0%	66.2%	3.3%	5.9%	6.4%
Southern Great Plain	39.4%	55.2%	71.8%	5.1%	5.5%	6.4%
Great Plain and North	39.0%	57.6%	69.2%	4.8%	6.4%	6.9%
TOTAL	35.1%	57.2%	71.2%	4.7%	6.5%	7.9%

Source: Author's construction based on data of Hungarian Central Statistical Office (General Agricultural Census 2010 and Farm Structure Surveys 2007, 2013)

Figure 1. Number of diversified holdings between 2000 and 2013



Source: Author's construction based on data of Hungarian Central Statistical Office (General Agricultural Census 2000, 2010 and Farm Structure Surveys 2005, 2007, 2013)

Central Hungary had a significant importance with its 11% rise among private holdings between 2007 and 2013 since almost 17% of these holdings diversified their activities in this region while national average was under 8%. In 2013 only a Transdanubian and an Eastern Hungarian region reached the national average (7.9%).

Compared to the 2007 data there were no significant changes. While in 2007 the share of diversified private holdings was the highest in Northern Hungary (with poor employment rates), in Central Transdanubia and in the Southern Great Plain (Hamza, 2011), it was only average in 2013. This process is in connection with land concentration because some private holdings displaced and stopped their activities.

Regional averages of diversified agricultural enterprises were around the national average (71.2%). Southern Transdanubia had a high level of performance (81.4%) which is an important tool for generating income and employment for local society however private holdings of this region do not perform well. Overall, the development of Transdanubia (46.2% rise) exceeded both Central Hungary (37% rise) and Great Plain and North (30.2% rise). The smallest growth could be observed in the Northern Great Plain region: in 2007 it had the highest share of diversified agricultural enterprises (44.2%) but in 2013 it turned to the lowest share (66.2%). The 2013 data denied the view of Hamza, 2011: the highest share of diversified holdings could be observed in such regions where there are favourable terms for traditional services done by machinery.

"Diversification map" of Hungary has been changed since the latest reference period.

Significant differences could be observed between shares of diversification by types of farming (**Table 4**).

Table 4. Shares of diversified holdings by territorial units and type of farming 2007-2013 (%)

Territorial units	Specialist holdings – crop production %			Specialist holdings – animal production %			Mixed holdings %			Specialist holdings – crop prod. %	Specialist holdings – animal prod. %	Mixed holding %
	2007	2010	2013	2007	2010	2013	2007	2010	2013	Percentage changes (2007 = 100 %)		
Central Hungary	8.5	9.3	23.2	2.7	3.5	9.3	6.3	14.6	16.5	275	345	259.7
Central Transdanubia	6.1	4.9	6.5	4.4	3.4	4.4	6.6	10.2	5.2	106	100	78.6
Western Transdanubia	2.5	5.5	9.3	2.9	7.0	7.4	3.9	10.4	6.1	366	251	154.4
Southern Transdanubia	4.6	4.9	8.9	2.4	4.0	4.2	3.6	8.6	6.0	191	178	166.0
Transdanubia	4.4	5.1	8.3	3.1	4.6	5.1	4.4	9.6	5.8	191	164	131.4
Northern Hungary	8.3	9.5	11.3	3.5	4.8	5.9	8.2	14.3	9.0	136	168	109.9
Northern Great Plain	3.4	5.1	7.4	2.4	3.3	4.6	4.0	9.1	6.0	218	192	149.3
Southern Great Plain	6.6	5.0	7.5	2.0	2.1	5.0	6.3	8.2	6.9	113	248	109.2
Great Plain and North	5.7	6.2	8.2	2.5	3.2	5.0	5.7	9.5	6.8	144	203	120.4
TOTAL	5.4	6.0	9.6	2.7	3.5	5.5	5.3	9.9	7.1	176	208	133.9

Source: Author's construction based on data of Hungarian Central Statistical Office (General Agricultural Census 2010 and Farm Structure Surveys 2007, 2013)

Analysing national averages it is observable that crop sector was most characterised by diversification in 2013, since one in ten holdings did non-agricultural activities. However diversification was less characteristic for animal sector (5.5%) which requires permanent farm activities

throughout the year. A significant growth could be noticed in each category: diversification in crop sector increased by 76% meanwhile it doubled in animal sector. Mixed holdings also showed willingness to diversify: their shares rose by 33.9%. Significant increase of diversification could be observed in Central Hungary and in Western Transdanubia in every category. Analysing the three types of farming the performance of Central Transdanubia was improved the least.

The opinion of Biró (ed) et al, 2012 could be adapted: "introducing new activities within the businesses stocks, professional skills and entrepreneurships are needed". Therefore it is no wonder that developed Central Hungarian and Western Transdanubian regions became in the front line of diversification.

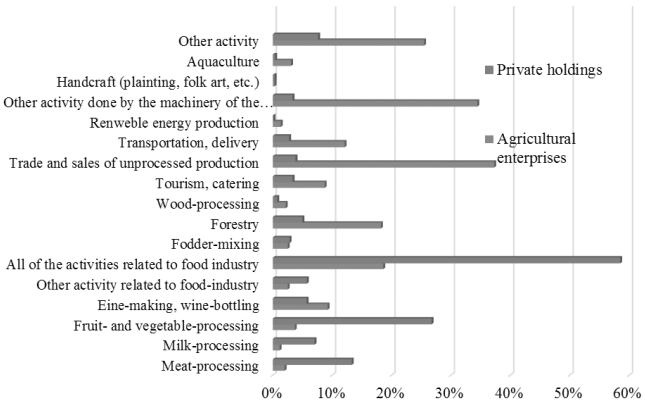
To understand these changes diversified activities should be studied as well.

Diversified activities

National statistical surveys define 16 categories of additional non-agricultural activities. **Figure 3** shows the difference between diversified holdings by these activities. In 2013 more than 58% of diversified private holdings carried out some kind of activities related to food-industry which is in connection with the willingness of crop sector to diversify. According to Biró (ed) et al (2012) this percentage was higher (80%) in 2010. This decrease was contrary to the increased number of diversified holdings. A regress could be observed in food-industry related diversification. Analysing 2010 data the number of "holdings related to fruit- and vegetable-processing increased by five times in ten years while holdings related to wine-making and wine-bottling were reduced by tenfold as a result of introducing excise purpose" (Biró (ed) et al, 2012). Fruit- and vegetable-processing are prominent sectors (27%) with their 11502 holdings and they have stagnated in recent years. Private holdings determined the milk- and meat-processing sector more (milk: 7%, meat: 13%) than agricultural enterprises (milk: 1%, meat: 2%).

Trade and sales were the most characteristic activities in case of diversified agricultural activities (37%) which was followed by other activities done by the machinery of the holdings: 1313 (34%) agricultural enterprises performed contractual work. Compared to the 2007 survey a fall could be noticed: the shares of both categories were 42% (Hamza, 2011). The popularity of transportation and activities done by the machinery came from the economies of scale. Furthermore, these agricultural enterprises had capacities, standard stocks and resources to carry out trade and sales. Holdings related to food-industry had also a significant role, holdings related to wine-making and wine-bottling rose above the others (9%). Transportation and delivery were also good tools to make full use of capacities: 12% of diversified holdings carried out such activities. 9% of diversified agricultural businesses engaged in rural tourism and catering which showed only a 1% rise compared to 2007 data however rural tourism had an important role in the period of 2007-2013 in rural development. The low incentive effect of this measure was proved by a 1.3% fall of diversification in case of private holdings. Renewable energy-production showed an upturn in the mid-2000s but only 0.8% of agricultural enterprises and 0.1% of private holdings diversified their activities in this direction.

Figure 3. Shares of diversified holdings by activities, 2013

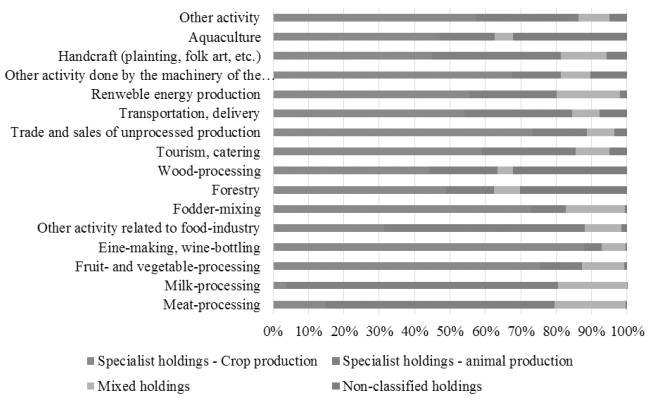


Source: Author's construction based on data of Hungarian Central Statistical Office (Farm Structure Surveys 2013)

Compared to the 2000s, transportation and delivery showed a significant regress: while one in four agricultural enterprises carried out transportation related activities at the turn of the Millennium, this number was only 12% in 2013. Fodder-mixing followed a similar tendency: the share of such diversified agricultural enterprises fell from 15% to 2.5%.

In case of private holdings fruit- and vegetable-processing showed an 8.2% rise also fodder-mixing reached a 2.4% growth. The concentration of animal production could be the reason of decreasing fodder-mixing activities in agricultural enterprises whilst increased fodder prices generated development in private holdings.

Figure 4. Shares of activities by type of farming, 2013[1]



Source: Author's construction based on data of Hungarian Central Statistical Office (Farm Structure Surveys 2013)

1 The definition of non-classified holdings was introduced in the Farm Structure Survey, 2013. It includes every holding with forests, reeds and fish ponds or carries out only services.

Figure 4 shows that crop sectors were in the majority almost in each activity. In 2013 the most characteristic diversified activities of animal sector were related to food-industry (milk- and meat-processing, other activities related to food-industry). Crop sector used a wide range of non-agricultural activities: wine-making, wine-bottling, fruit- and vegetable-processing and fodder-mixing were the most characteristic activities because they were based on unprocessed materials and effected an increased added value.

Investigating the types of activities (Figure 3) and types of farming (Figure 4) it could be observed that the number of diversified holdings related to animal production were doubled in the reference period but the share of holdings performed activities related to processing was stagnated. Diversified holdings related to animal production did not have the trend to reach higher added value. Whereas not only the number of diversified holdings related to crop production but share of holdings performed activities related to processing were expanded. While private holdings were mostly characterised by activities related to food-industry, for agricultural enterprises the most typical diversified activity was providing services.

CONCLUSION

The changes in the number of diversified holdings were not in parallel with the changes in the number of agricultural producers. There was a significant land concentration between 2000 and 2013: the number of holdings reduced to half and it does not reach half a million. Although there were temporary fluctuations in the number of diversified holdings but it did not change significantly in the 2007-2013 period, but their share increased in general. Statistically, the agricultural enterprises are more characterised by diversification but if activities done by the machinery of the holdings were considered off-farm activities this could not be stated.

In 2013 only one in eleven private holdings did some kind of non-agricultural activities while seven in ten agricultural enterprises diversified their profiles. Trade and sales were the most characteristic activities in case of diversified agricultural activities which was followed by other activities done by the machinery of the holdings which came from the efficiency of farm size. Furthermore, these agricultural enterprises had capacities, standard stocks and resources to carry out trade and sales. While private holdings were mostly characterised by activities related to food-industry, for agricultural enterprises the most typical diversified activity was providing services.

At regional level, Central Hungary had the most diversified agro-industry. Almost 17% of private holdings diversified their activities in this region while national average was under 8%. A significant growth could be observed in the number of Transdanubian diversified agricultural enterprises while Northern Great Plain were at the bottom of the rank.

Analysing types of farming crop sector was most characterised by diversification, since one in ten holdings did non-agricultural activities. However diversification was less characteristic for animal sector (5.5%) which requires permanent activities throughout the year. This was demonstrated by the fact that in 2013, more than 58% of diversified private holdings carried out some kind of activities related to food-industry, especially fruit- and vegetable-processing as prominent sectors (27%).

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SCIENTIFIC PAPER

THE EFFECTS OF HEALTH TOURISM INVESTMENTS IN TOURISM BUSINESSES IN THE NORTHERN HUNGARIAN REGION

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Abstract: *In my article I woud like to find answers for the question how frequently and effectively the region's business leaders in Northern Hungary participated in various development programs, as regards investments in health tourism, what developments have been made mainly in the area, what the positive effects of these developments were in the life of businesses, whether the businesses (leaders) feel successful, and how their success was manifested. I carried out a questionnaire survey among enterprises. From the data I calculated mean, SD and spectrum and examined the crosstab correlations as well, and the Cramer's V associate coefficient and Contingency coefficient. The results of the correlation tests could be summarised as the following: According to the survey, the number of the medium-sized enterprises being involved utilised a significant proportion of their development funds, compared to the micro and small enterprises.*
Although the idea of spas winterizing their pools was not considered an important development, both the adventure and wellness elements were important for the construction of thermal baths. In the case of hotels, the expansion of wellness elements and other additional services together with the development of marketing activities played an important role.
Besides the positive business publicity, enterprises see the positive effects of the investment in the increase of their income; the success can be the result of the adequate supply of components, the professional management and that of positive image.

Keywords: *Northern Hungarian Region, tourism enterprises, health tourism investments, economic effects, development funds, success factors,* (JEL code: *Z32*)

INTRODUCTION

The most important presumed effect of the health tourism developments was to increase the touristic attraction of the given settlements (and that of Hungary), thus enhancing further touristic investments. This way of supply development can reduce the spatial and time-concentration of the international and domestic touristic demand and contributes to the enforcement of the favourable economic effects of tourism. The First Széchenyi Plan included the development of the Cave Bath in Miskolctapolca, Zsóry Bath, Thermal Bath of Egerszalók and the Eger Thermal Bath. *(Mudruczó and Szennyessy* 2005*)*

Tourism has become one of today's rapidly developing sectors. Because of its multiplier effect, all countries are willing to invest in this area of development. By changing travel motivations, maintaining and preserving health comes to the forefront. There is a growing demand for services towards health tourism. You can experience it in our country as well, where the spa and wellness hotels are multiplying, water parks also meet the growing demand.

Our country has favorable thermal and geothermal endowments and also has long history of bathing culture, let alone a well-trained medical background; therefore it is appropriate for health tourism development.

In recognition of these values in our country, the Széchenyi Plan launched a large-scale development of health tourism, which boosted the entire economy. Then we entered the EU in 2004, thus, our country had to prepare for the 2004-2006 cycle with the NFT (NDP-National Development Plan), so we were able to secure funds for the different developments from the Structural Funds. The ROP (Reginal Operative Programme) aims at the development of tourism, continued development of reception conditions of health tourism, product diversity and human resource development. The NFT II. (NDP II.), which was made for the 2007-2013 cycle, also aims at the development of health tourism. *(Müller* and *Könyves* 2007*)*

Within the framework of the ÚMFT (New Hungary Development Plan), in the Northern Hungarian Region developing tourism was also important, besides industrial developments and extending services. (*Új Magyarország Fejlesztési Terv* 2007) (http://www.nfu.hu/uj_magyarorszag_fejlesztesi_terv)
According to the 'Healing in Hungary-Health Industry' project of the New Széchenyi Plan, the development of health tourism in the future should be done by harmonising both touristic and health expectations. Strengthening the significance of

health preserving services is inevitable, yet the background is provided by the treatments based on traditional balneotherapy. It is also necessary to create the individual image of the baths and its apparent market communication as well. Supply must not only be extended but also specialised. (*Új Széchenyi Terv, Gyógyító Magyarország – egészségipari program* 2011) *(http://ujszechenyiterv.gov.hu/download/7/11/00000/001_Egeszsegipar.pdf)*

There are many regions, small rural areas and settlements for which the development of health tourism can mean a break-out point, as it generates significant revenues, creates jobs and boosts for other areas of the economy (transportation, food, commerce).

However, it should be mentioned that there are companies having grown up billions in income (for example the spa world) and you might think that, through our traditions and medicinal waters we belong to the forefront. In fact, based on industry revenues, we belong only to the mid-range, but in new trends, in exports practically we do not take part. The reason for this is partly the significant shortcomings of domestic entrepreneurial culture and entrepreneurial knowledge in the industry. *(Várhelyi* 2009*)*

It can be heard about cases when more than half of the owners of Hungarian hotels and pensions would like to get rid of their establishments, in spite of the fact that sevral tens of billion forints have been spent on building new ones. The money of those being in the worst situation has already been by the bank. *(Galambos* 2013*)*

The impact on the lives of the economic impact of health tourism investments, businesses and municipalities have been examined in other previous studies, such as:

Dr. Mundruczó Györgyné - Dr. Szennyessy Judit (2005): Economic impact of health tourism developments in Hungary

Dr. Mundruczó Györgyné - Dr. Pulay Gyula - Tököli László (2010): Examination of state support for regional tourism development and efficiency of national economy

Péter Zsolt (2010): The processes of regional tourism context in particular the Northern Hungarian Region

Molnár Csilla (2011): The effects of health tourism development, especially in East - Hungary

Molnár Csilla – Kincses Áron – Tóth Géza (2009): The effects of spa development in Eastern Hungary, comparing Hajdúszoboszló, Eger and Orosháza

MATERIALS AND METHODS

I wanted to present these research companies involved in health tourism in the region of Northern Hungary in terms of their relationship and experience concerning health tourism invesmtents.The companies can be divided into two large groups according to their profiles. Firstly, the spa and bath type businesses (I also include the mofetta of Mátraderecske here), and the type of commercial accommodation (hotels and guesthouses).

The scope of the surveyed hotels was definitely the spa and wellness hotels, but considering the fact that wellness is an important element in the service for castle hotels and most hotels of different profile (e.g. urban hotels, conference hotels observed) also supply elements for wellness (to have a more colourful supply), other profiles of hotels and gusethouses have been included within the scope of those surveyed.

Businesses in the sample were selected based on an address list compiled by me in order to fill in the questionnaire.

In the case of thermal baths, plage and swimming pools their health tourism linkage was not a question, but in the case of hotels and motels I could gain knowledge on the basis of their websites, whether they provide some kinds of health tourism services (especially wellness), and the address list was compiled based on this information.

In the case of spa and wellness hotels the connection to health tourism is evident, but as their number is not very high in the region, other types of hotels have been sampled into account, where they also have spa services. The questionnaires have been sent out to about 110 tourism businesses based on the search of the Internet address list. The questionnaire was voluntary, and businesses in the region were reached by e-mail and then I asked the business representatives, senior employees by telephone consultation to kindly help us by filling in the questionnaire research. In many cases, only the fifth or sixth visit by telephone and e-mail led to results.

It was important that the questionnaire should be filled in by the head of the company, or by a specific manager or subordinate.

The spas, thermal baths and swimming pools (and mofetta) sent back 12 pieces, the hotels and guesthouses sent back 48 pieces of questionnaires that counted valid.

This represents more than a 50% return rate, which can be said really good in the case of a 'traditional' research. The questionnaire contained mostly closed questions that have multiple answers in the available categories. The questionnaires were processed in the PASW Statistics software.

From the data I calculated mean, SD (standard deviation), spectrum and examined the crosstab correlations as well. The intensity of the correlations between criteria is examined with the help of Cramer's V associate coefficient and Contingency coefficient. It means to examine to what extent a correlation is close to independence or a function-like connection. Cramer V can be applied with any cross tables and according to many researchers it is the most reliable index. *(Sajtos* and *Mitev* 2007*)* This is the reason for my choice as well.

Cramer associate co-efficient can be between 0 and 1. In the case of 0 there is no connection between the two criteria (they are independent), whilst when it is 1, there is a function-like correlation between them. The intermediate state can rest on the strength of the weak link (from more than 0 to 0,3), medium (ranging between 0,3 and 0,7), or strong (from 0,7 to below 1). *(Korpás* 1997*)*

THE RESULTS OF THE QUESTIONNAIRE SURVEY

Aims, Main Hypotheses

I intend to present with this research the main features of the health tourism business enterprises in the Northern Hungarian

Region (company profile, size, year of establishment, the use of development funds).

It has been assessed how frequently and effectively participated the region's business leaders in health tourism investments and in the various development programs, what developments have been made mainly in the area, what the positive effects of development projects were in the life of the businesses, how successful businesses feel themselves and how their success is manifested. In the case of tourism enterprises in investment, developments generally gave a positive impact on the firm, but there are also examples where the expected positive effects have been missed. A holding company itself is likely to be successful not only in domestic, but in an international competition, too.

During my study I wanted to find answers for the following questions, connections:

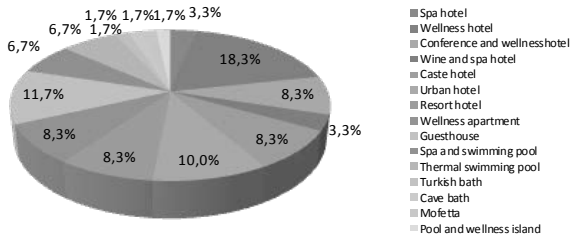
1. Is there a connection between the operation of the company, the date of foundation, size, profile and participation in the various funding programs and development?
2. What type of health tourism investments/developments have been implemented so far by the tourism enterprises concerned?
3. Do health tourism investments have a positive impact on business, and if so, in what form? What changes have occurred in enterprises due to the realized investment in health tourism?
4. Do business executives believe their business is successful (due to the realised health tourism investments), and how are these success factors manifested?

Business location, profile, size, year of establishment, participation in development programs

Based on the questionnaire data it can be known in which county the company operates, what the main profile of the business is, the size of the enterprise (micro, small or medium-sized enterprises –the values required for the classification of domestic SMEs have also been stated, to be clear - , number of employees, annual net turnover, balance sheet total), and the year of the foundation of the company. These data will be important factors in the context of investigations in the future. The companies were selected in the Northern Hungarian region, 48,3% of responses were received from Borsod-Abaúj-Zemplén County, 40% from Heves county, while 10,7% from Nógrád county. Looking at the sample it was representative considering the number of businesses and firms are present in a similar proportion in the three counties.

Businesses profiles were divided into three groups: hotels, guesthouse type of business (48 units), with spa and thermal bath types of businesses (11 units), and mofetta (1). However, since it was possible to add more profiles, it can be seen that a wide variety of hotel types and an en suite types exist, as shown in Figure 1.

Figure 1: Distribution of businesses by profile



Source: Compilation by the author based on questionnaire survey

Many hotels of various categories have been (also on ancillary basis) operating for some time with spa and wellness facilities and some hotels also feature a mix profile (i.e. wine and spa, conference and wellness). According to the companies based on the size of SMEs, micro rating is 23.3%, 50% represents the small and 26.7% of the medium-sized enterprises of the sample. According to the established businesses 21.7% was founded before 1994, those between 1995-98, 1999-2002 and 2003-2006 are 23.3% and 8.3% was founded in 2007-2010 founded in the sample. It was an important consideration in the selection that the given business should have at least a three -year- operating time.

I examined the company's location, profile, size, year of establishment, and a variety of Developed programs such as the Széchenyi Plan, NDP (National Development Plan), NHDP (New Hungary Development Plan) (and various combinations of these, all three or none no electoral alternatives) with regard to the involvement observed in any kind of relationship. As an alternative choice, the New Széchenyi Plan was not included in the questionnaire since during the period of the survey these projects have not been completed fully.

The Cramer V association coefficient of distribution of the test sample profile according to the company size, location and operating profile and according to their creation of profiles showed a weak link (range 0.14 to 0.22), but the pattern for development and distribution of resources according to profiles has moderately strong correlation (Cramer's V: 0.575, contingency coefficient 0, 631).

Table 1: The distribution of the sample according to development resources and profile (number of units)

Development source/ profile	Hotel/ guesthouse	Spa and thermal baths	Mofetta
None of them	30	2	0
Széchenyi Plan	1	1	1
NDP I.	3	0	0
NHDP	8	4	0
Széchenyi Plan + NDP I.	0	0	0
Széchenyi Plan + NHDP	1	4	0
NDP I. + NHDP	4	0	0
All of them	1	0	0
Total	48	11	1

Source: Compilation by the author based on questionnaire survey

The table shows that most hotels and guesthouses do not take part in requiring any resource development, mainly pools benefited from these opportunities. It is relatively rare that a company can take more development cycle funds (in the case of filled in questionnaires).

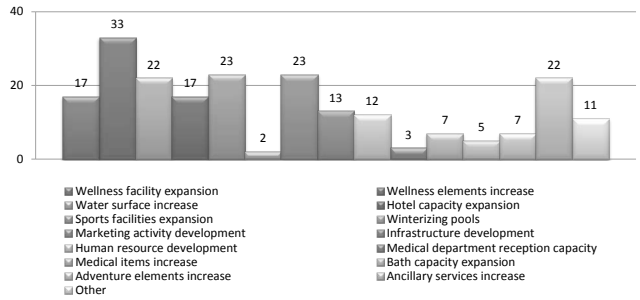
Sample distribution of development resources and operation by location, in the cases of the development fund and the year of foundation show weak ties (Cramer's V: from 0.340 to 0.325), the distribution of the pattern of development resources and size, according to the case, however, shows a moderately strong correlation (Cramer's V: 0.576, Contingency coefficient: 0, 631).

Health tourism investment and development projects implemented by tourism enterprises

For this question businesses could nominate several answer options. The marked answers had to be ranked in terms of importance, what was the most important development (e.g. 1 is the most important). I tried to compile the full range of development opportunities but there are some categories clearly related only to baths or to hotels. There are a number of categories which can be related to both business profiles. Consequently, the results were predictable in advance, for example "Increasing surface water" in the first place was experienced in baths (Cramer's V: 0,502, Contingency coefficient 0,579). According to the survey, winterizing pools for spas was not considered an important development (maybe they have already done that earlier). However, all of the adventure and wellness elements were important for the construction of thermal baths.

In the case of hotel types of enterprises the most representative task was mainly to expand the capacity of wellness facilities and increase the number of wellness items (Cramer's V: 0,542, Contingency coefficient: 0,609), but the expansion of the wellness elements and their role in other ancillary services and development of (although the range of additional services was not clearly clarified for them) marketing activities (Cramer V: 0,439, Contingency coefficient: 0,527) was also important.

Figure 2: Health tourism investments implemented by tourism businesses (pieces)



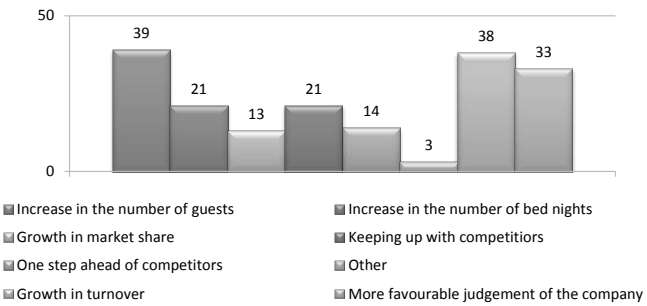
Source: Compilation by the author based on questionnaire survey

Regarding developments it can be mentioned that recreational sports have to be adjusted to the family structure and have to take into account the factor concerning age specific needs, bearing capacity and skilled-related background. Several authors highlight the importance of games, lifetime sports and nature-based sports *(Könyves-Müller 2001, Kerényi at al 2009)* as they can be performed by virtually the whole family regardless of gender and age. These activities have a high potential of shaping communities and it is a beautiful sight when „several generations train playfully together and grandchildren, children, parents and grandparents share the joy of doing sports." Knowledge of fitness and recreation trends is crucial to professionals and companies operating in the leisure sector as the adequate response to changing consumer behaviour can be the key to success. Retaining good health is one such trend and a priority not only in recreation, but in tourism as well *(Müller et. all 2013).* There are several spas that cater for the needs of three generations. In spas where the target audience is the family, services matching the needs of several generations have to be created. *(Könyves* et al 2005*, Bartha* et al 2011*, Müller* and *Kórik* 2009*, Müller* et al 2005*)*

The impact of health tourism investments in businesses and its manifestations

In this section it has been studied if health tourism investments have a positive impact on businesses. If so, in what forms and what changes have occurred in enterprises due to realized investments in health tourism. The vast majority of the respondent firms (implementing health tourism investments) have reported clearly positive effects (there were some who have not). The positive effects occurred is shown in Figure 3.

Figure 3: The manifestations of health tourism investments by businesses (pieces)



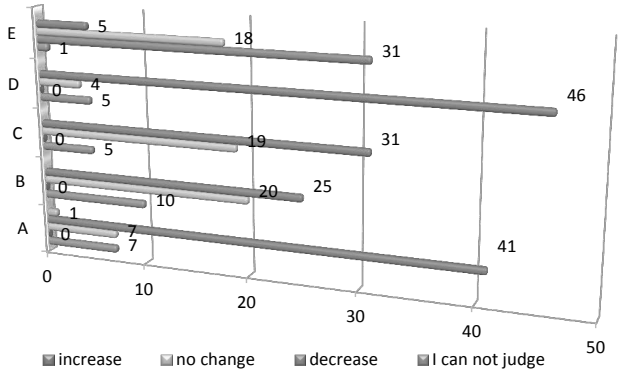
Source: Compilation by the author based on questionnaire survey

The changes (increase, decrease, no change, I cannot judge) could designate the case as follows (To choose from the different levels of increase/decrease was not an option):

A. Company's (positive) awareness
B. Business confidence in the company
C. Number of business partners
D. Value of investments

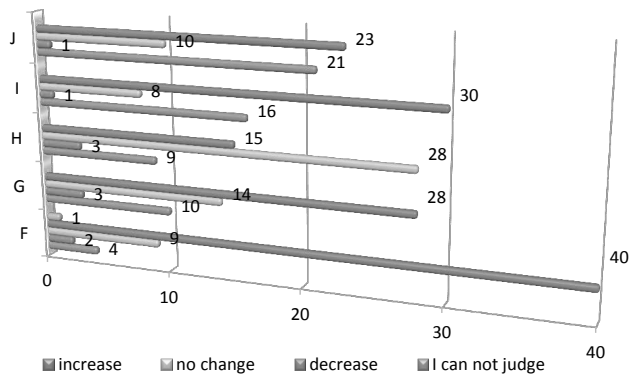
E. Seasonal fluctuations in turnover
F. Turnover
G. Number of bed nights
H. Number of competitors
I. Tax rate paid to local authority
J. Pre-tax profits

Figure 4: What changes have occurred due to the implemented business of health tourism investment? (marked) (1.)



Source: Compilation by the author based on questionnaire survey

Figure 5: What changes have occurred in your business due to the implemented investment in health tourism? (marked) (2.)



Source: Compilation by the author based on questionnaire survey

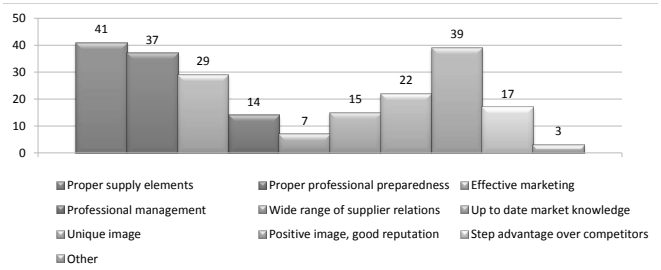
Businesses have seen positive results primarily in the increase of "number of business partners", "value of investments" and "number of bed nights".

The success factors of health tourism investments implemented by companies

In this issue I examined the question if business leaders consider their firms to be successful (due to the realized investment in health tourism) and how these success factors are manifested. The vast majority of respondents (those implementing health tourism investments) judged their business ventures as successful.

Business executives could nominate the following answers, and they also had to prioritize which factors they considered the most important for their sucsess. The hotel businesses considered the supply elements to be the most important, as well as the appropriate professional skills, professional management, positive image and good reputation.

Figure 6: The success factors of health tourism investments implemented by businesses (marked)



Source: Compilation by the author based on questionnaire survey

RESULTS AND CONCLUSION

During my research the following questions were examined:

1. Is there a connection between the operation of the company, the date of the foundation, size, profile and its participation in various funding programs and development? According to the survey, medium-sized enterprises involved in utilised a significant proportion of development resources compared to micro and small enterprises, so it seems that those companies are able to successfully acquire the resources they need for their development which operate under favourable financial circumstances.
2. What type of health tourism investments/ developments have been implemented so far by the tourism enterprises concerned? It assumed that the primary consideration for spas was to winterise their pools (earlier for several baths it appeared as weakness), while for thermal baths to increase the number of adventure elements. As for hotels, I presumed that the most important could be to increase the capacity of wellness section and the number of wellness elements. According to the survey, winterizing pools was no longer considered an important development for spas (they may have it available beforehand). However, all of the adventure and wellness elements were important for the construction of thermal baths. In addition to the expansion of wellness elements, for hotels it was also important to provide ancillary services and develop marketing activities.
3. Do health tourism investments have a positive impact on businesses, and if so, in what form?

What changes have occurred in enterprises due to the realized investment in health tourism? Health tourism investments have a definitely positive impact on a large part of the interviewed enterprises. In addition to their positive awareness, they see the positive effects of the investments in the positive sales growth (turnover).

4. Do business executives consider the business to be successful (due to the realized investment in health tourism), and how are these success factors manifested? Despite criticism it seems entrepreneurs generally consider their businesses to be successful. They see the success of their businesses primarily in the proper supply elements, professional management and positive image.

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SCIENTIFIC PAPER

CAVES, AS TOURISTIC ATTRACTIONS IN HUNGARY: ADVENTURE, HEALTH, CULTURE, ECOTOURISM

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Abstract: *Hungary offers abundant opportunities for discovering the mysterious world of caves. In Hungary there are around 4100 caves; although only a small number of them are open to the public, they offer a variety of attractions. As they are an important part of tourism, switching them, exploring them and making them accessible for a wider audience generates interest for visitors from different parts of the country. The adrenaline releasing sports offers us new ways of coping with stress, and has had an increasing importance in our lives in the 21st century. Discovering these underground miracles presents a new challenge for travelers. The interest in caves exploded in the 20th century, when ecotourism, longing to get back to nature, and the goal of improving one's health became leading motivations for travelling. The present research is aimed at surveying, to what extent students of the recreation department are familiar with the opportunities provided by cave tourism and how up-to-date their related knowledge is. The following work introduces opportunities in cave tourism and intends to expose upon gaps in the related marketing strategy.*
The research questions are the following: Are students familiar with opportunities of cave tourism? What services do the caves they know offer? Are they up-to-date in cave-related news? On what forums do cave tourism appear?

Method: Document analysis Survey research (n=200)
Some results: Unfortunately, Hungarian experts are unfamiliar with opportunities offered by caves. Cave walks are the mostly known by student respondents. Forums are not up-to-date concerning caves.

Keywords: *cave, active tourism, adventure*

INTRODUCTION

Caves are natural underground spaces formed in rocks, which are big enough for a human to enter and which extend at least 2 m, underground. The science of exploring caves is called speleology. The formation and development of caves is a complex process, in which multiple factors are present. The largest caves of Hungary are a result primarily of karsts forming processes. Karsts features, a range of different speleothems, are extremely varied in them.

There are 3 particular types of caves in Hungary. The first type is a spring cave in which a spring erupts inside the cave, then leaves the cave through one of the entrances and appears on the surface. In the second type of caves a single stream or cave river flows and the cave has one single entrance and an exit between which there is a gradual slope, these formations are called stream caves. The third type is sinkhole, which are generally vertical shafts. Hungary offers tourists a wide range of caves, therefore switching, exploring and exploiting them generates a high number of visitors countrywide.

Szabolcs Leél-Őssy, president of the Hungarian Karsts and Cave Research Society (MKBT) said in an interview to Info Radio in 2011 that there are still undiscovered caves in Hungary, though deep underground, and as an example he mentioned Cat Cave (Macska-barlang) which has recently been discovered in Pilis Mountain, the currently explored length of which is 6 km. When the first official caving company was funded in Hungary, less than 20 km of all cave passages in the entire country were known – at present it is more than ten times that. In the second half of the twentieth century there was a rapid growth of interest in caves and from the 1950s onward, a number of karsts caves were explored in Aggtelek as well as in Bükk Mountain (Leél-Őssy Szabolcs, 2011). As an alternative tourism, there are numerous opportunities to visit caves in Hungary. A strong interest in caves was raised in the twentieth century as ecotourism, a longing to be among nature, and health became primary motives of tourism.

The present article intends to highlight that caves are visited by an extremely low number of tourists, a fact which may also be attributed to the lack of related knowledge and information on the part of the experts. Furthermore, the study introduces the development of caves, the wide variety of features, and the numerous ways in which they can be exploited by tourism.

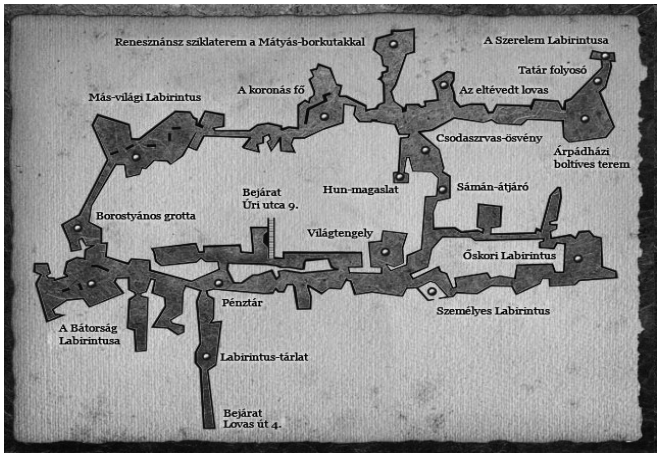


Image 1: Labyrinth of Buda Castle (resource: welovebudapest.com)

THE DEFINITION OF BRANCHES OF TOURISM

A segment of *leisure tourism* is *active tourism*; this is a philosophy of travelling which combines adventure, ecotourism, as well as cultural aspects of an exploring trip. Active tourism is not exhausting, it is compatible both from ecological and a social point of view, plus it offers a high quality of leisure program. The goal of active tourism joins together recreation and education, enriching the tourist and suppliers, as well as the destinations visited by the tourists. Active tourism and ecotourism have numerous common features, but active tourism also includes elements (activities) of adventure tourism[1]. Cave tourism is a great opportunity for participating in the active tourism as well.

Caves which are categorized as protected natural asset are visited by guided groups of tourists who have the opportunity to get acquainted with natural treasures and the values of cultural history all while they relax in an active way. The provision of barrier-free access for visitors with reduced mobility requires significant transformation of the natural conditions. Safety features are conform with European standards. Electric lighting is needed if natural light does not enter (e.g. Baradla Cave, Anna Cave, Szemlő-hegyi Cave).

Image 2: Accessible passage in Baradla Cave (resource: www.barlangtura.hu)

1 http://www.active-tourism.com/HomeFrames.html (letöltés ideje: 2012. április 03.)

Visiting nearly intact protected caves with a small guided group is an example of *green tourism*. In such caves no transformation of natural conditions is permitted and no electric lighting is used. Visits require ability to move and outdoor clothing (e.g. Vass Imre Cave, Rákóczi No.1 Cave).

Image 3: Natural formation (resource: www.barlangtura.hu)

Adventure tourism refers to guided tours for small groups in relatively undisturbed, protected caves for the purpose of seeking adventure and active relaxation. The provision of the conditions of the visit does not require any transformation of nature, only a safe passage (steps, ladders, handrails) is installed. The cave tour with crawling and climbing requires the ability of moving, physical endurance and basic caving equipment (lighting, helmet, wetsuit).

Although caving is an extreme sport, it has much more to offer: a region of caves may not only be famous for 'overall trips', they may also profit from their vaporous air and from introducing their unique geological history. However, profound research is needed to measure all that is given by caves while being able to make profit from them. The sterile, free of dust environment of caves is an important asset in healing tourism too. Thermal water arriving from deep underground generally contains a significant amount of dissolved chemicals, such as carbonic acid and sulphuric acid, which are able to form pits

from joints. When karsts water and ground water mix, the process of mixture corrosion can be explored, this contributes to the formation of the cave.

Benefiting from the climatic aspects of a cave which qualifies as a medicinal cave (medical attendance provided for those visiting with therapeutic purposes in order to alleviate and/or eliminate health complaints and pain) requires a significant transformation of natural conditions. A pavement providing a safe walking passage, electric lighting and a rest area are installed in order to facilitate the patients' stay. Gergely Ferenczy, referent of speleology of the directorate of Bükki National Park stresses that though the caves are unique places of geological demonstration, aspects of environment protection need to be focused on.

There is a small number of so called hospital caves the climatic facilities of which (the special ion content, high relative humidity of the air, the lack of dust, the special radiation, the metabolism of the fungi habiting the caves, the lack of stimuli) facilitate the healing of respiratory illnesses. Moreover, the healing effect of caves is stronger than more alpine hospitals and resorts. The authors believe that this unique opportunity is the only solution for many respiratory problems and must be exploited.

Image 4: Climatic healing venue (resource: www.barlangtúra.hu)

In Hungary Dr. Endre Dudlich was the first expert who pointed out the healing effect of caves and suggested further research. In his opinion caves may become a part of heeling by providing aerosol therapy[2], albeit the caves' air additional advantages is giving to patients is not fully known yet. Accordingly, Dr. Erika Balaicza believes that for recreational and healing purposes the active fluvial caves *(Aggtelek, Jósvafő, Abaliget, Miskolc-Tapolca, Tapolca)* are the most valuable. For instance the caves of Tapolca were explored during World War 2, some bomber made detonations there. In case of this cave, the authorities certified the healing effect in 1969. In Hungary only 3 caves have similar curative benefits, Tapolca, Abaliget and Béke Cave in Jósvafő.

On one hand, Tapolca offers to the visitors with not only passive relaxation, but the time underground is spent in order to strengthen the healing effect, combined with such kinds of activities as relaxation, yoga, music, electrotherapy and expectorant exercises. On the other hand, experts aim at decreasing worries and uncertainties linked to disease, and intend to reflect upon weaknesses or deficiencies in the patients' lifestyle which may have led to disease.

In *mass tourism* cave bathing is a popular recreational activity in Hungary. In the summer season outdoor sunbathing facilities are provided for visitors as well as indoor thermal pools, combining preventive and recreational purposes (e.g. Miskolctapolca Cave Bath).

Image 5: Miskolctapolca Cave Bath (resource: www.termalfurdo.net)

Education has an important role in tourism, and a cave is a perfect site for this function. Baradla Cave has a long educational history. Numerous visitors arrive with the aim of studying, but other fields of tourism are almost neglected. For example the underground geography lessons are more and more popular, visited by school classes in autumn and spring. In recent years the number of team building events has also increased, says Szilárd Regős, tour guide at Pál-völgyi (or Mátyás-hegyi) Caves.

2 belégzőterápia

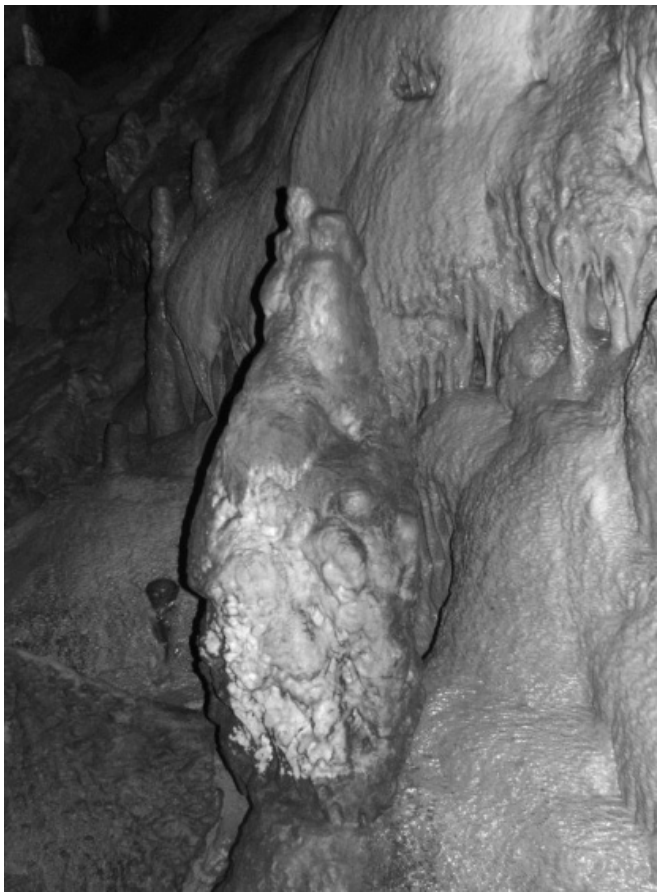


Image 6: Penguin dripstone (resource: www.dzs-z.hu/galeria)

LEGENDARY HUNGARIAN CAVES

There are many legendary Hungarian caves. In general, their names contain words like 'dragon', 'devil', 'robber', 'scamp', 'rogue', 'solitary' and 'king'. The legends linked to them are pretty old and most of them are impossible to track. In the past the legends were spread by word of mouth, but in the last two centuries they were consciously collected. These legends inspired not only cavers, but also famous Hungarian litterateurs. The most well-known collection which contains legends of certain caves, titled Folk legends (Népregék, népmondák) was put together by Mihály Tompa in 1846.

Altogether 8 dragon caves are known in Hungary in volcanic stone (Kisapáti, Rónabánya, Ecseg, Szuha, Fony (2 caves), Drégelypalánk and Parád). The most famous one is Szent György-hegyi cave, firstly mentioned by György Gyurkovits in his work Latin in 1737, and also referred to by Mátyás Bél in his study, titled Notitia (1742). Károly Lukáts wrote in 1943 that the hill was named after Saint George, who killed the dragon in the cave situated between the North and West sides of the hill. People recollected that in Winter time a thick wall of vapour could be seen above the dragon's home, which is the exhalation of the dragon (in reality, it was caused by the differing temperature of the cave and outside air). There is currently a Dragon Ice cave situated differently in Hungary, it is not the same cave mentioned by Gyurkovits and Bél.

Image 7: Dragon-hole (Sárkány-lyuk) in Fony (resource: Országos Barlangnyilvántartás (National Cave Index))

Most caves, to which the legend of witches, devils or hell is linked, are karst caves. Local people named the drives 'devil holes' and believed they were the entrances to hell. In Hungary 3 volcanic (Kapolcs, Regéc and Hegyesd) and 11 karsts devil or witch caves can be found. The best known legendary devil or witch cave is situated in Kámor (Börzsöny Hill), the legend of which was recorded by József Végh in 1994. The legend said that near to the Kámor Peak a witch lived in her hut. The village sent a delegation to investigate the situation, but the woman did not speak to them and hid in her hut. The men thought her behaviour verified her being a witch and set the hut on fire. When the hut burnt down to ground, a cave was discovered behind it. Thus they never knew if the woman had died or survived, but hikers regularly refer to have seen her spirit in the surrounding forests.

Image 8: Entrance of the Kámor rock (resource: National Cave Registry (Országos Barlangnyilvántartás))

RESEARCH

The research we described below was initiated in January, 2012 at Semmelweis University (Budapest), Faculty of Sport Sciences. The target group was the students of the tourism and recreation faculty. The research was aimed at surveying the up-to-date knowledge of future sport experts according to the facilities linked to cave tourism. The research regarded Hungarian university students as future experts.

Having analysed the results, we are highlighting measures by which cave visitation could be increased, and pointing out the faults which have a negative influence on the popularity of cave tourism. Our aim is to introduce assets and deficiencies of related marketing strategies.

The research questions are the following:

- What services do the caves respondents offer?
- Are respondents up-to-date in cave-related news?
- On what forums does cave tourism appear?

The following hypotheses were based on the above research questions:

- Experts do not know the accessible caves of Hungary.
- Future experts do not know on what touristic purposes caves can be visited.
- Touristic interest in caves may be raised by adequate advertising.

METHOD AND SAMPLE

Data to the empirical research were collected via document analysis and survey research. Respondents were university students of physical education and recreation. Documents were analyzed in unit with the survey questions. Answers (n=200) were analyzed with a focus on research questions and preset hypotheses.

RESULTS

Caves in Hungary have been regarded legally protected assets since 1961; their protected status does not need to be proposed. The need for overall protection is explained by the historical and natural value and economic importance of caves. Without being protected by law, they may be destroyed for years. The exploration of cave branches gives experts an opportunity to study the structure of different layers of rock and the unique paleontological and archaeological fossils they hide. Minerals and special cave features give information on geologic epochs. Caves are inhabited by species adapted to the unique environment. The microclimate is apt for healing certain respiratory and locomotor disorders. As dwellings and burying places, scenarios of legends and tales, caves have always been part of the history of mankind. By ex-leg definition, a cave is a natural underground space the longitudinal axis of which exceeds 2 m. In Hungary around 4100 caves are known, 145 of which are under reinforced protection. The National Cave Registry, for which the National Environment Conservation and environment Protection Department of the Ministry of Rural Development is responsible, contains the most important data of caves.[3]

Caves open for tourism have 3 categories:

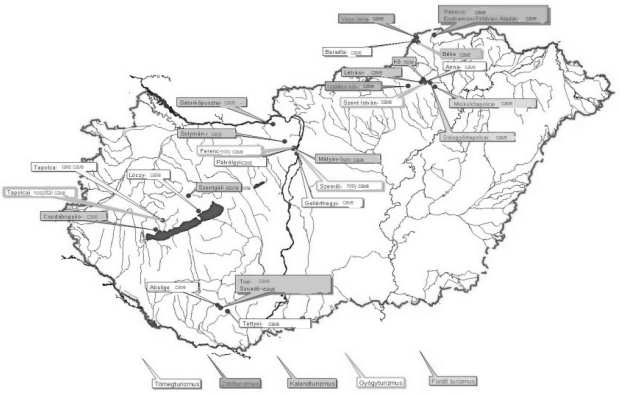
1. Rope cave: most caves belong to this category. Special equipment and knowledge are necessary; cavers need a certain level of experience to be able to descend.
2. Horizontal caves: no vertical tunnels can be visited with basic caving equipment and basic caving knowledge.
3. Accessible cave: no caving equipment and knowledge are needed, open for tourists (in small number).

It is important to know that the average temperature is around 10°C, relative humidity is around 90%. In certain caves visitors must crawl in wet, muddy passages, climb across waterfalls and the water is around 5°C, clothing must be chosen respectively and eventually a wetsuit is needed. As mentioned before, all caves are protected areas; any harm in them is strictly punished. Visitors arrive by car or train and take a walk afterwards. Most cave visits are a day long, but if necessary, several small caves can be visited in a single day. Caving can be practiced throughout the year, in some caves however, a longer, rainy period causes difficulties. The most ideal period for trips is after permanent frost has arrived as water levels are the lowest that time, but approaching caves in altitudes might be problematic due to deep snow.

3 KVVM 2007 http://www.termeszetvedelem.hu (Retrieved: 25 May, 2010)

The analyses of motivations show tourists choose their destinations. The caves of Hungary give a chance both for shorter and longer tours.

As for their depth, 97 caves reach 50m, 3 exceed 200m. Motivating factors are the uniqueness of cave sites, a desire to improve health, the special acoustic experience of concerts in caves, sport, adventure, and extreme challenges.



Picture: The statistic of the caves from tourist aspect (resource: Magyar Turizmus Zrt., 2010)

SURVEY ANALYSIS

200 students took part in the survey research; all were between the ages of 19 and 35 years old. The proportion of female to male was 132/68. Answers show that all respondents participate in sports in their free time. 20 female and 26 male respondents said they have already completed cave trips, both walking and crawling. No respondent were said to have participated only in a crawling trip. The first visit to a cave is for many people a walking trip. In our experience those who like facing extreme challenges are not attracted by crawling trips.

Multiple answers were also offered to the question: 'Do you know how caves can be used in tourism?' It is conspicuous that in the 'other' category no respondent mentioned cave baths and healing caves even though Hungary is abundant in them. Our caves might be profited from in many ways, varying from ecotourism to simple holiday tourism. Unfortunately, the answers also confirm that caves are unknown for most people.

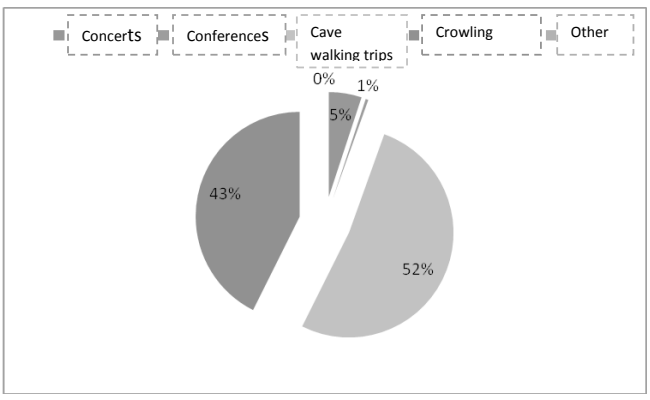


Chart 1: The use of the caves

An open question was asked which intended to investigate how many famous Hungarian caves respondents knew of. We were surprised to realise that, apart from the caves in Budapest and Aggtelek, no other caves were named.

When wording the question 'For which reasons do you visit caves?' we predicted that respondents were motivated to visit caves. All respondents claimed a desire to become familiar with natural resources. Introducing the unique natural assets of caves is a task of education. All our BA respondents, however, took part in a walking trip as part of their studies. No respondent chose the 'other' category, though we deliberately eliminated culture and healing from the possible answers.

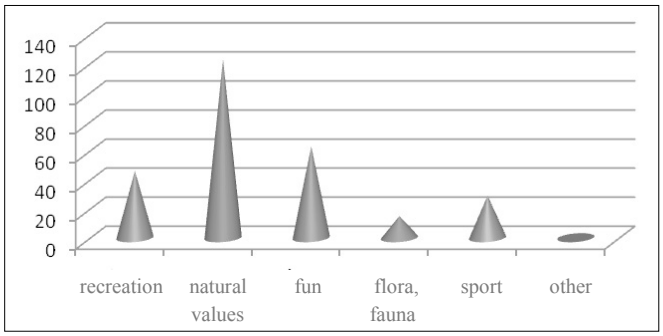


Chart 2: Reason of the visitors

Respondents generally surf for information on caves on the internet (81 %); however information is also spread by friends (26%) and clubs (2%). One-day or even shorter visits are most common. In the case of longer visits, campsites and pensions are favoured. This fact may show that the willingness to spend money on cave tourism is low.

The explorations of the Mátyás and Pálvölgyi Cave occurred at the end of 2011 and these routes become the longest cave system in Hungary. However, 84% of respondents ticked Aggtelek Caves as the longest cave system, which fact may show that news concerning caves scarcely spreads.

Various answers were given to the question on the most characteristic features. Most answers were karst features, dripstones, or dripstones and other features were listed together. The wide range of answers shows that a significant proportion of students of similar Hungarian educational institutes are familiar with the attractions of caves.

PUBLICITY OF CAVES IN TOURISM

In order to achieve its marketing goals, Duna-Ipoly National Park has requested membership in the European Geoparks Network, the proposal is under evaluation. In case of a positive decision, the national park automatically becomes a member of the UNESCO Geoparks Network. Membership is advantageous primarily from a marketing point of view as the 33 members mutually advertise each other.

A small number of campaigns popularising cave tourism appear on the internet, but fail to appear on social networks (facebook, myspace, twitter, iwiw - Hungarian social network, etc.) Experts are aware that updated information continuously

shared on these sites might attract a higher number of visitors.

Several proposals and projects aim at a joint popularisation of Slovakian and Hungarian caves, and a fund of half a million Euros from the European Structural Fund is being spent on the campaign. In Slovakia the Slovak Environmental Agency, in Hungary the Duna-Ipoly National Park are the applicant members. The border areas of the two countries are examined not only from the aspect of nature, but also as a touristic product too.

AFTERWORD

Processes generated by natural powers (e.g. earthquakes, volcanic activity, wind, water and varying conditions of temperature) - which shape the surface - have an important role in the formation of caves, since gradual deterioration is also a part of their history. However a lifetime is generally too short to sense the effect of the above mentioned processes, except for those of eruptions and earthquakes. Noticeable alterations are always caused by humans. The total destruction of caves may occur as a result of opencast mining or road construction, but these activities also endanger caves by modifying natural drainage.

Improper sewerage and waste management, overuse of chemicals and waste storage are hazardous both for caves and karsts water as well. Further hazards are the collection of minerals or archaeological fossils, tourism-related abuse and pollution, throwing away litter, smutting.

Hungary's caves are owned by the state and directed by national park directorates. Results show that all three hypotheses were proven. Caves will be more interesting for people if they become more accessible tourist products. Measures need to be taken in order to provide students more information, and also to protect caves, since all impacts carried out for financial profit harm caves and the environment. The right balance must be found between further exploration, in line with sustainability, and exhibiting the unique underground flora and fauna of caves. A goal of cave tourism must be introducing the diversity of caves in order to multiply the number of visitors, which may best be realised via advertising campaigns.

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SCIENTIFIC PAPER

EXAMINING CAREER ORIENTATIONS AT THE UNIVERSITY OF DEBRECEN

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Abstract: *The paper endeavours to give a narrower definition of the orientation of 'career'. The survey to be discussed examines a sample of 116 full time students of economics and has career anchor analysis as its focus. The study details the result of a questionnaire-based survey, which was carried out with respect to the carrier of university students and was supplemented by surveying motivation, value and work value as well. The analysis finds that "security, stability and organisational identification" are judged to be the primary career anchors among the members of the majority sample. This means that the respondents feel ready to identify themselves with the company and are looking for security to be provided by long term employment, regular earnings and by steady career advancement. The cluster analysis of the questionnaire differentiates four groups: Leaders, Specialists, Entrepreneurs and Employees. The results showed that the Leaders have high capacities of leadership, creativity and autonomy. The Specialists show highly developed functional capabilities in general and they seem to like challenges. The Entrepreneurs have outstandingly high scores concerning autonomy and entrepreneurial creativity. The members of the cluster of the Employees are characterised by a high expectation of security and stability and by low levels of managerial capability and entrepreneurial creativity. Discriminant analysis was applied to select the distinguishing features that can set the clusters apart from each other. The motivations, values preferences and work values inventory will consolidate the differences between the clusters of the career anchors. Using the method in high education within special trainings could be the practical utilization of the study. On the basis of the results a questionnaire can be compiled, which could help uncertain students relating to their carriers and future orientation containing information in connection with their carrier orientation, motivation, value preferences and work value.*

Keywords: *career, career anchor, motivation, value, work values, training (*JEL code: I21*)*

INTRODUCTION

It is important to investigate the norms and value preferences of students of the tertiary education in Hungary, to see the ways they conceptualise careers.

The content of the career meaning construct is complex, which makes it difficult to define. What is meaningful for persons in terms of their career can be different from person to person. The central point here is that persons today have several careers that function in interconnection with each other (Svennungsen, 2011). The word career stems from the Latin word carraria, which means a carriage road. Transforming this Latin meaning into persons' career context will then imply that career has to do with persons' course or path through life, or a distinct portion of life (Cochran, 1997). Researchers and practices in career counselling started to develop perspectives where work was understood only as a part of persons' life and they included, for example, family, leisure and so on in developing a broader concept of career (Super, 1957). One of the latest definitions of the concept of career comes from Hansen (1997) where persons' career is defined as the sum of every experience in one's life. The term "career" can therefore be defined as the sequence of interaction of individuals with society, education and organisations throughout their lifespan. It is necessary, however, to emphasise that the majority of the responsibility now rests on the individual for their own career progression, which requires sustained employability (Beukes, 2009; Herr et al., 2004). Daily career adaptability positively predicted daily task and career performance, as well as job and career satisfaction (Zacher, 2015). Fiori et al. (2015) carried out a research in which they employed a 3-wave cross-lagged longitudinal design with a Swiss representative sample of the active population ($N > 1600$). They found that employees with higher career adaptability experienced higher job satisfaction and lower work stress 2 years later (Fiori et al., 2015).

The trajectory of a career is thought to be determined by three groups of factors. The first is what is called self-perceived talent and abilities, aptitude and family resources. The second is motives and needs represented by the social and economic environment with their potential possibilities and/or limitations. The third involves the intentions and aspirations of the individual toward the achievement of set goals and desires

that rule their everyday activities (Bodnár *et. al,* 2011). This one is the strongest of the factors examined. The individual would never give this up, not even in the face of a very hard and complicated decision. The chance of an individual to achieve success is very heavily influenced by the career self-concept and career orientation of that individual and of the vision by which they organise their career plan. This is what generally is called a career model (Schein, 1978; Schein, 1986, cited by Custodio, 2004). The analysis of the elements of the third group of factors could lead us closer to the understanding of the career concepts and career goals young people may have. Career anchors are important for the influence they have on career choices, on decisions concerning changing jobs; career anchors shape the expectations of life young people may have, they determine their future outlooks, they influence their decisions on selecting a job or a working environment and they influence the responses young people would give to their job experiences.

It is easy to recognise that peoples' career aims may be related to the standards of their values and work values and motivations. Tertiary level students have a variety of preferences of values. The differences may originate from many sources; one of those could be the difference of their career socialisation which begins even before they enter higher education and whose importance will heavily grow during the years of their study for the simple reason that they enter the job market right from the lecture halls (Sőrés, 2012). The decisive importance of the study period in the creation of the career images makes it necessary for teachers to try to prepare the students for their future careers. To be able to do so, the institutions have to develop proactive and comprehensive strategies and methods.

In addition to the career analysis of tertiary level students in higher education, the paper presents the research results of the investigations of motivation, values and work values. This involves the analysis of the career aims and concepts in the sample. The analysis of the career anchors was put in the centre of the research presuming that career anchors influence career choices and that they shape the future perspectives of the students. Furthermore, since motivation and value preferences influence the fine-tuning of the individual career attitudes, their analysis is also very important.

The interpretations of the concept of career are associated with many fields of science and practice like psychology, sociology, education and career advice. The concept of career is flexible, elastic, complex and interdisciplinary (Barsiné Pálmai and Ponácz, 2004). It is often associated with the need of improvement and development (Dienesné and Berde, 2003).

This research paper is an integral part of the research programme *The Functional Analysis of Management* of the University of Debrecen, Institution of Leadership and Organization Sciences. This present research details the results relating to carrier orientation of students in high education. Questionnaire-based survey was utilized, the number of the elements was 116.

This present research program is dealing with the population of 18-21 and 21-24 age groups of the Super (1973) career model. These are the ages when young people formulate the visions of their career and finalise their expectations of jobs. In the view of the author, these age groups do need the help and guidance that the tertiary institutions could offer to them. To be really effective, though, the institutions have to clarify and specify the areas and modes of where and how the actions are needed to effectively promote the students' careers. It is not enough to turn out students with high professional qualification, it is also important to prepare them to recognise and formulate their own career aims.

In the research the career anchor theory by Schein is relied on. The chance of an individual to achieve success is very heavily influenced by the career self-concept and career orientation of that individual and of the vision by which they organise their career plan. This is called a career model (Schein, 1978; Schein, 1986, cited by Custodio, 2004). Schein (1974) differentiates individuals according to the component of their self-image that dominates and rules their goals and decisions. A career anchor is the inner self image of the individual regarding careers. It is called an anchor because it holds the individual in position against biases alien to their inner self images. Schein (1974) differentiates five anchors: technical/functional capability, general managerial capability, autonomy/independence, security/stability and entrepreneurial creativity. The validity and reliability of Schein's Career Anchor Inventory (COI) has been established by several researchers (Custodio, 2004; Danziger *et al.,* 2008; DeLong, 1982a, 1982b; Wood *et al*., 1985, cited by Coetzee *et al.,* 2007). They were later completed by DeLong (1982b) by three further anchors: service or dedication to a cause, pure challenge and life style.

The career anchors make it easier for people to select those of their needs that are of top priority for their work. Individuals with career anchors technical/functional value knowledge and outstanding achievement in a special area very high. If a person has general managerial capabilities, they will take every opportunity to climb to a level high enough to ensure them long term possibility of money-making and wealth accumulation. Individuals having career anchors autonomy/independence want to define their work in their own way, they need jobs that allow them flexibility regarding when and how to work and they like to do their work with a high degree of independence irrespective of others. Individuals with the career anchors of security and stability are characterised by a strong sense of loyalty to the company, they value the security provided by long term employment and regular earnings, but they are ready to change their jobs if this serves the interest of the company. Also, such individuals are strongly tied to the geographical location they live in; they would rather give up some of their life standards than move place. Individuals having entrepreneurial creativity will take every opportunity to create an organisation or enterprise of their own; they are motivated to take risk and overcome obstacles. People having career anchors service/dedication to a cause pursue jobs that serve the benefit of others even by scarifying their own interests. If an individual has career anchors of pure challenge, they would value nothing but big challenges. Individuals valuing lifestyle/harmony do not prioritise jobs that require self-assertion; they would rather work to achieve a balance between different

values like family, friends, hobbies, relaxation, leisure or off-job learning etc. (Iványiné, 2011; Schein, 1974).

A research study was carried out by using carrier anchors. They started from the assumption that personal objectives and values that led to a career choice significantly different from students with talent in the technical domain compared with those of students without outstanding performance. A number of 437 students on Technical University of Iasi participated in the investigation, among them a number of 66 students were identified as talented in technical domain. The results of the investigation revealed that the axis values who determine students' with technical talent career aspirations was shaped by four anchors: pure challenge, service/dedication for the cause, life style, creativity. The results were just starting point for investigations relating to specific professional development of young people with technical talent (Ona, 2015).

In another research the sample was composed of eighty-four pupils in the 12th grade, forty boys and forty-four girls. The results showed that there were no gender differences regarding vocational interests or career orientation, neither at global level or on either of the dimensions described by the authors of the theories which form the basis of the study (Mustata, 2014).

The present investigations were complemented by the analysis of values and work values. Values are important for their impact on goal orientation and goals achievement. A survey of work values preferences conducted by the University of Debrecen involving a sample of 3158 university students used Super's work values inventory. It was a cross-sectional study. The results showed that the students involved in the survey firmly refused or underscored the importance of the quality requirements of hierarchy, material provision, aesthetics and management. There were two groups of values, though, that underwent relevant changes over the years between 2002 and 2008: work related security and altruism. Work related security fell back on the list of perceived importance from place 5 to place 12, whereas altruism moved up the rank from place 9 to place 4. The survey looked into the differences between the faculties, too. Of the results, only those related to the students of the Economics Faculty are cited here. These students demonsrated to value creativity the least, whereas they ranked material provision the highest of the items listed (Márton, 2012).

In another research a survey was carried out in 2010 among BA/BSc, MA/MSc and PhD students participating in full time training at the University of Debrecen. 4193 students filled in the questionnaire. The social background, group interests and value preferences of students were investigated along different dimensions. The researchers found that the students in general have high value preferences related to successful and efficient work performance and production (Márkus, 2012). In my opinion, these results draw the attention relating to the fact that carrier planning, carrier orientation must be dealt with in high education within organized frames, as success in work may be significantly influenced by the decisions of students relating to the carrier.

METHODOLOGY

This paper analyses the career orientation, motivation, value preferences and work values of tertiary students. It aims to show whether the related major clusters of the survey can be divided into smaller subgroups and whether the analysis and understanding of the motivations, values preferences and work values of the students will help to set up the determinants between the groups. The following hypotheses were formulated:

H1: The results of the career anchor inventory show that the students in the sample have managerial capability and functional capability as their primary anchors. The fact that the sample incorporates students of management primarily, justifies the assumption concerning the managerial capabilities. Also, the fact that students undergoing tertiary education involving masters and undergraduate students in general are presumed to be highly motivated to acquire comprehensive knowledge and competences of the science area they study justifies the assumption concerning the functional capabilities.

H2: The students can be differentiated and grouped based on their career anchors;

H3: The motivations, values preferences and work values inventory will consolidate the differences between the clusters of the career anchors.

The formulae of the questions used in the survey were compiled from the synthesis of the literature (Karcsics, 2006; Márton, 1992; Münnich, 2002). They were supplemented by the brief versions of Super's work value (Dienes and Simon, 1987; Super, 1970) and of the motivation and career anchor inventories (Iványiné, 2011; Schein, 1974). Figure 1 illustrates the structure of the questionnaire.

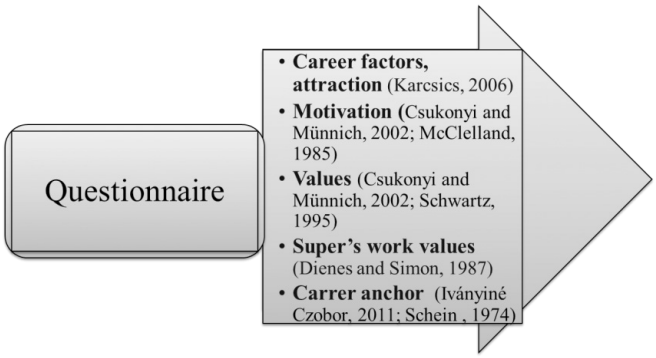

Figure 1: The Structure of the Utilized Questionnaire
Source: own research

One of the question blocks was meant to map the career factors by asking the students which of the factors on the list they consider important in acquiring an ideal job, on the one hand and how important they think these factors are in their future career progress, on the other hand. The same logic was followed when asking them about the factors motivating them in choosing a career. In this section they were asked to assess the attractive power of a series of factors by putting themselves in the shoes of a student, on the one hand and in the shoes of a person having a job, on the other hand.

Table 1: A Few Example Items of the Used Questionnaire

field of the used questionnaire	*question*	*the type of the used scales*	*a few example items*
Career factors	How important are the following factors in order to find an ideal working place? (Present - future)	7 point scale	Connections, knowledge, diligence, aptitude, endurance, support of the family, support of the partners, purity, humility, political affiliation
Career attraction	To what rate the factors listed below inspire you? (Present – euture)	7 point scale	Finances, being independent, power, authority, interesting work, utilizing capabilities, the importance of work, respect for partners, public appearances, political commitment
Motivation	How exactly do the following statements fit you?	7 point scale	I like working hard.
			It is important to concentrate on my task.
			I am glad to undertake organizing and managing tasks.
			If I have the opportunity to choose, I will always choose company instead of being alone.
			It is very difficult for me to feel that I am conducted.
Values	How important are the following factors for you?	7 point scale	-the appreciation of others
			-future planning
			-liberty in opinions
			-revealing self-opportunities
			-continuous development of personality to positive direction
Super's work values	How important are the statements from your aspect relating to work?	5 point scale	I can make decisions freely in my own field.
			I can get authority with my work.
			I can ensure carefree life for myself.
			I am sure that others appreciate my work.
			I can carry out intellectually exciting work.
Carrer anchor	After answering the following questions, think it over, what you really want in your work.	10 point scale	I like tasks where difficult problems must be solved.
			I like inspecting, managing or influencing others.
			I need great liberty and independence in my work.
			I would be unhappy if I did not have a secure employment.
			I like carrying out work which needs up-to-date knowledge.

Source: own research

The survey was also dealing with the analysis of the motivation. The motivation questionnaire developed by Csukonyi and Münich (2002b) on the basis of McClelland's (1985) basic motivation theory was used. McClelland differentiates five dimensions: general achievement motivation, goal-oriented achievement motivation, avoidance achievement motivation, power motivation and affiliation motivation. Individuals with general achievement motivation are motivated to achieve better performance than others. Those with goal-oriented achievement motivation are driven by the desire to achieve in order to succeed. A person with avoidance achievement motivation is driven by the desire to avoid failures and negative outcomes. For individuals with power motivation it is very important that they have influence on others and that they have prestigious positions. Affiliation motivation involves a need for friendly relationships and interaction with other people (cited by Csukonyi and Münnich, 2002).

The questionnaire to assess the students' preferences of values relies on research by Csukonyi and Münnich (2002a). The series of questions are based on Schwartz's (1995) theory of values comprising 12 dimensions of values: recognition, dominance, self-direction, conformity, security, support, independence, achievement, hedonism, self-enhancement, liberalism, conservatism. According to the theory, values determine people's life by setting the overall goals for them.

The next larger block of questions comprises Super's work (1970) values inventory. Work values are measured against the following properties: spirituality, achievement, integrity, material reward, altruism, creativity, social relations, prestige, control, diversity, aesthetics, independence, hierarchy, security and physical environment (Dienes and Simon, 1987). The original questionnaire was composed in 1969 and comprises 45 items and 15 value groups. Super's work (1970) values inventory is suited to interpret individual value preferences and to identify the differences between the groups involved in the test. The items are incorporated in the questionnaire in a random order; one group of values involves three items. In this research the questionnaire published by Dienes and Simon (1987) was utilized.

The last section of the questionnaire is dealing with the career anchors. The short form of the questionnaire was used, which consisted of 32 items.

Table 1 summarizes the investigated field of the used questionnaire, the related question, the type of the used scales and a few example items.

An online survey was conducted among the students of the Faculty of Economics and Faculty of Humanities of the University of Debrecen in academic year 2014/2015. The questionnaire was circulated online; they were filled in by the students anonymously on a voluntary basis. The sample of 125 students was recruited from the Faculty of Economics and the Institute of Psychology of the Faculty of Humanities of

the University of Debrecen. They produced 116 questionnaires altogether with valid responses, 9 students did complete the questionnaire till the end. 87 per cent of the 116 questionnaires came from the Faculty of Economics, while the rest 13 per cent from the Institute of Psychology of the Faculty of Humanities. 63 per cent of the respondents were studying at BSc/BA level and 37 per cent attended courses at MSc/MA level; 69 per cent were women and 31 per cent were men. They belonged to the 19-24 age groups predominantly, there were only few from the age groups 25-30. The majority of the students (87 per cent) come from the Faculty of Economics, which means that the main conclusions of the research will be characteristic of this population.

The compiled data were evaluated by cluster analysis (Freedman *et al.,* 2005), aiming to use the results of the career anchors analyses to create homogenous clusters. By applying discriminant analysis, such variables and scales were generated that could be used to set the clusters apart from each other (Goodwin, 2005). As a first step, differences were looked for between the items of the groups of questions using the Wilcoxon test. Whenever any differences were spotted, their direction was identified by the median values. If a difference was significant, that item was included in the discriminant analysis. The aim is to predict the clusters identified by the career anchors with the help of the questionnaires; this would imply that the differences between the groups could be identified by other variables. The weights of the discriminant analysis are used to determine those of the variables that are best suited to separate the groups from each other. In the discriminant analysis the individual groups are compared against the rest of the groups. To avoid the confusion they may cause in setting the differences, the variables having very low weights were removed. In order to run statistical analysis, the 2.6.2. version of the "R" statistical program was used.

RESULTS

Evaluation of career anchors

Before introducing the results of the research, some information is necessary regarding the career anchors concerned. The reliability of the scales used to explore the anchors showed reliability for the most part. The Cronbach's alpha values of the scales ranged from 0.7 to 0.9, except for the "lifestyle/ harmony" anchor, which Cronbach's alpha value was 0.59.

Reliability was enhanced by excluding the scale "lifestyle/ harmony" and some items on some of the scales.

Figure 2 shows the average values of the career anchors. Originally four items belonged to each carrier anchors, which the students ranked by a scale ranging from 1 to 10.

The anchor "security, stability, loyalty" produced the highest average scores, thus we can consider it to be the primary anchor. The respondents value loyalty to the company very high and they prioritise the security provided by long term employment, regular earnings and a modest career advancement. Success for the individuals with the security anchors involves long term affiliation to the company irrespective the level of their employment. The anchors "Technical/Functional" and "Autonomy/Independence" turn out to be the secondary anchors. Individuals with career anchors technical/functional are motivated to bring their knowledge to perfection and to produce outstanding achievement in a special area. Their self-concept is highly influenced by their achievement of success and recognition in their special fields. Technical/functional capability may yield managerial positions, but the individual will only be satisfied if they take this position in their special field of knowledge. Individuals having career anchors autonomy/ independence want to define their work in their own way; they need a high degree of flexibility. Quite often, such people earn high qualifications in order to secure their autonomy and independence.

The respondents scored "managerial capabilities" the lowest of the anchors. Individuals with general managerial capability will take every opportunity to climb to a level of high responsibility so they can contribute to the achievements of the company and ensure long term potentials of money-making and wealth accumulation for themselves.

The Hypothesis 1 could not be accepted as a feasible one since neither managerial capability nor functional capabilities were top-prioritised by the responding students. Unlike the heavily down-marked managerial capability, though, functional capability was scored second on the list of importance. This result is worth of consideration, since the majority of the sample study in courses that will give them qualifications to fulfill managerial positions in their future careers.

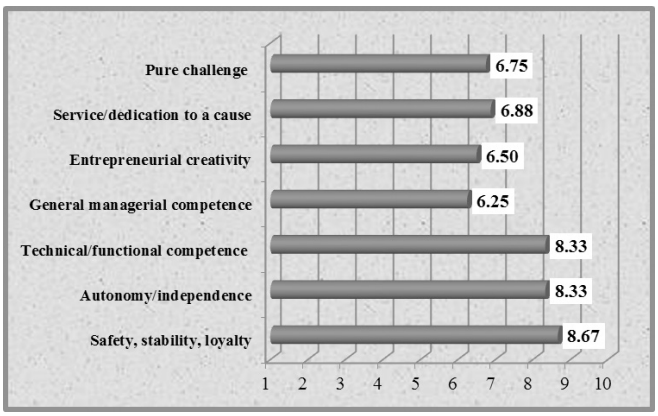

Figure 2: Average values of the career anchor items
Source: own research

Clusters on the basis of career anchors

An aim of the research was to arrange the data in homogenous clusters for which the method of cluster analysis was applied. The data within each cluster are similar to each other according to some dimension. They were arranged in the following four groups:

General managerial capability, entrepreneurial creativity, service/ dedication to a cause, pure challenge → MANAGER (23 per cent)

Pure challenge, service/ dedication to a cause, technical/ functional capability → SPECIALIST (25 per cent)

Entrepreneur creativity, pure challenge → ENTREPRENEUR (31 per cent)

Safety, stability, loyalty; service/ dedication to a cause → EMPLOYEE (21 per cent)

This is in support of Hypothesis 2: the members of the sample can be arranged in well-defined clusters on the basis of their career anchors.

Table 2 shows the relationship between the clusters and the career anchors as represented by the average values of the clusters.

Table 2: The relationship between the clusters and the career anchors

	Safety, stability, loyalty	Autonomy/ independence	Techni-cal/ functional capability	General managerial capability	Entrepreneur-ial creativity	Service/ dedica-tion to a cause	Pure challenge
Manager	9.22	9.21	8.80	8.64	8.92	8.17	8.44
Specialist	8.91	8.40	9.30	6.04	5.29	7.75	7.60
Entrepreneur	8.24	8.36	7.69	5.83	7.12	5.48	6.22
Employee	7.42	6.08	6.56	3.31	3.90	5.44	4.86

Source: own research

We can conclude that the students included in the Managers cluster have outstanding capabilities in the dimensions of management, entrepreneurial creativity, autonomy and security. Specialists are characterised by a high level of functional capability and challenge. Entrepreneurs scored outstandingly high in terms of autonomy and entrepreneurial creativity. The members of the Employee cluster scored high in the dimensions of security and stability, but very low in the dimensions of managerial capability and entrepreneurial creativity.

The results of the career anchor analysis indicate that the BA students tend to motivate to become entrepreneurs and managers, whereas the MA students appear to be more willing to become specialists and less likely to undertake managerial careers in their future lives.

It is interesting to compare these results with the results of their responses concerning their desired jobs. As the denomination of the clusters was not clear at the time of compiling the questionnaire, it is not in full coverage with the denomination of the formulated desired categories. Here, 13 per cent imagine themselves as top managers, 48 per cent as medium level managers, 9 per cent as employees and 28 per cent as entrepreneurs, whereas 3 per cent of the responses fall in the category "Other" (Figure 3). In an ideal case, their responses should fall close to the dimensions they take in the career clusters.

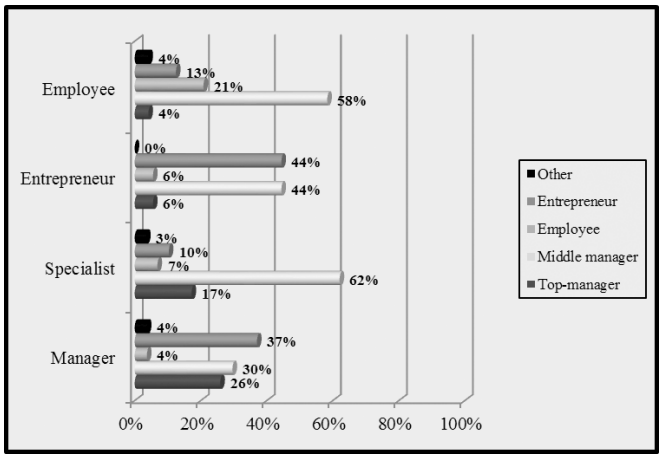

Figure 3: Comparison of the desired positions within the clusters
Source: Own research, 2015

Those students, who fall in the Employee cluster, would typically like to become medium level mangers or employees. Entrepreneurs would like to become entrepreneurs or medium level mangers; Specialists imagine themselves typically as medium level managers, 17 per cent would like to become top managers; 37 per cent of the Managers cluster want to become entrepreneurs, 30 per cent see themselves as medium level managers and only 26 per cent would undertake the positions of top managers.

Characteristics of clusters by investigating motivation and (work) values

Applying the discriminant analysis, those characteristics were identified that are suited to set the generated clusters apart from each other. Hereafter the characteristics of the clusters of Specialists, Managers, Entrepreneurs and Employees will be introduced. The 'Specialists' do not seem to attribute very high importance to the material benefits of a career. Instead, they have high achievement motivation; that is they strive to perform better than their colleagues. Also, they enjoy overcoming obstacles, they want to achieve excellence and they are goal-oriented. Dominance is not important for them; they do not want to influence their environment. They do not require support either, which also means that they do not need the advice of others in making decisions. Of the work values, they consider hierarchy important and they expect to have just appreciation and supervision of their work (Table 3). The correctness of the classification of the Specialists is 80 per cent.

Table 3: Characteristics of the specialists.

Scales	Discriminant coefficient
Materials (career attraction Present)	-0.66
General achievement motivation (motivation)	0.25
Dominance (value)	-0.16

Scales	Discriminant coefficient
Goal-orientation (value)	0.2
Support (value)	-0.15
Hierarchy (work value)	0.22

Source: own research

The 'Managers' tend to attribute much importance to material benefits even while being students (Table 4). Their judgments of power and influence are rather double-faced: as students, they do not think that exercising power over others is important for them. When talking about the future, though, power turns out to be a highly motivating factor of their careers. In the present they find public life attractive. They have a lower motivation of achievement compared to the rest of the groups; unlike for others, out-competing others' achievement is not the most important thing for them. For all this, they have a high level of motivation for power; they want to influence others and they chase prestige and high positions. Material provision as a work value is a less important motivation for them. A job is important for them not because it provides them a livelihood, but because it gives them the possibility of managing and controlling others, organising the work for others and creating the conditions of work. Creativity is not a very important work value for them; they are not very good at innovations and at developing new theories or ideas. Aesthetics, however, is a very important value for them; it gives them satisfaction if every detail of the job they produce is perfect. The correctness of the classification of the Managers is 91 per cent.

Table 4: Characteristics of the managers.

Scales	Discriminant coefficient
Materials (career attraction Present)	0.26
Power, influence (career attraction Present)	-0.21
Power, influence (career attraction Future)	0.12
Public roles (career attraction Present)	0.07
General achievement motivation (motivation)	-0.06
Power motivation (motivation)	0.12
Material benefit (work value)	-0.23
Creativity (work value)	-0.15
Control, management (work value)	0.36
Aesthetics (work value)	0.28

Source: own research

As compared to the rest of the groups, the 'Entrepreneurs' are characterised by lower levels of general and goal-oriented achievement motivation. They do not seem to perform better or more effectively in their jobs and are not more motivated in the achievement of success than others, either. In terms of values, dominance, support, self-confidence and security are less important for them than are for others. This suggests that the Entrepreneurs are not motivated by having influence on their working environment and they do not need the advices of their colleagues regarding their decisions. They consider harmony less important than others do and they do not think that security and stability are the most important values. Independence and conservatism, however, are more important for them then for others. They appreciate independence in making decisions. They want to preserve the actual state of affairs; they respect the customs and the establishment. In terms of work values, they prioritise the dimensions of diversity, independence, creativity and prestige. In sum, Entrepreneurs value diversity because it enables them to enjoy their work and lets them do their jobs in their own way. The members of this group have a motivation stronger than others to develop and introduce innovative products and new ideas and want to create jobs that inspire respect. There are work values, however, that are less valued by them than by the rest of the groups: management, aesthetics, hierarchy, self-assertion and security. This suggests that beauty and organising work for others are not dominant elements of their values preferences. Further on, a fair assessment of their job performance is less important for them. The choice of ideal life style or the safety of job is not on their priority list, either (Table 5). The correctness of the classification of the Entrepreneurs is 79 per cent.

Table 5: Characteristics of the entrepreneurs.

Scales	Discriminant coefficient
General achievement motivation (motivation)	-0.07
Goal-oriented achievement motivation (motivation)	-0.14
Dominance (value)	-0.07
Support (value)	-0.07
Independence (value)	0.15
Self-acceptance (Hedonism) (value)	-0.15
Conservatism (value)	0.17
Security (value)	-0.10
Diversity (work value)	0.13
Independence (work value)	0.07
Creativity (work value)	0.07
Prestige (work value)	0.23
Control, management (work value)	-0.07
Aesthetics (work value)	-0.14
Hierarchy (work value)	-0.06
Security (work value)	-0.10
Self-assertion (work value)	-0.06

Source: own research

The 'Employees' seem to be less concerned about power and influence when choosing a career than their colleagues in the previously discussed four groups are. It follows that they are not motivated by exercising influence over others or by achieving prestige and high positions. They tend to value recognition and support higher than their colleagues do. This suggests that the opinion of the others is important

for them when it comes to assessing their work performance and that they need the support by the others. They value goal-orientation less important, which suggests that goals achievement is not one of their top priorities. The fact that the work values of prestige, management, control and hierarchy do not play a decisive role in their list of preferences suggests that they are not motivated by achieving jobs that inspire respect, nor do they care much about organising and administering work for others (Table 6).The correctness of the classification of the Employees is 88 per cent.

Table 6: Characteristics of the employees.

Scales	Discriminant coefficient
Power, influence (career attraction Future)	-0.23
Power motivation (motivation)	-0.07
Recognition (value)	0.15
Goal-orientation (value)	-0.13
Support (value)	0.08
Prestige (work value)	-0.12
Control, management (work value)	-0.13
Hierarchy (work value)	-0.14

Source: own research

The aforesaid characteristics can help with identifying the differences between the groups and with giving appropriate definitions to the individual groups.

We can conclude that Hypothesis 3 has been approved, i.e. that the career anchors created on the basis of the inventories of motivation, preferences of values and work values are suitable to consolidate the differences between the clusters.

DISCUSSION

The results of the survey of the career orientations of the students revealed that 61 per cent in the sample would be ready to undertake managerial positions. Regarding their values assessment, however, they seem to be less ambitious: as students, they would prefer management positions at the medium level. This can logically be explained by their fears of the responsibilities and challenges associated with a top-manager's position. Only 13 per cent feels like undertaking top-management positions, 48 per cent would rather take the jobs of middle managers.

The career concepts of the students do not always coincide with the career values that were determined. This mismatch suggests that the students are not fully aware of their career potentials, or they do not have the right image of their personal capabilities. At this age, quite often, students are uncertain about their career potentials and they admit that they need information and guidance on this matter as part of their curriculum.

It would be worth organizing trainings for students in high education within organized frames relating to the carrier, in which they could get to know the carrier opportunities and get feedback on their own possibilities. Their experiences gained during the training might help them in making decisions with respect to the carrier.

Using the method in high education within special trainings could be the practical utilization of the study. On the basis of the results a questionnaire can be compiled, which could help uncertain students relating to their carriers and future orientation containing information in connection with their carrier orientation, motivation, value preferences and work value.

Of course their attention was drawn to the fact that they should fill in the test again from time to time, as different effects reaching the individuals may modify the results.

Although several researchers carried out career anchor surveys in the world of work, such investigations in which clusters were formed on the basis of career anchor survey and all these were supplemented by motivation and work values examination have not happened before. Bester and Mouton (2006) revealed correlations between the career anchors and job satisfaction. Sumner *et al*. (2005) carried out a research among IT experts and found that the most frequent career anchors included "Entrepreneurial creativity" and "Autonomy/independence". There were researchers who found connections between the career anchors and organisational commitment. Positive significant correlation was found between the technical/functional capability, the managerial capability and the organisational commitment. In this present investigation the anchor "security, stability, loyalty" produced the highest average scores, thus we can consider it to be the primary anchor. The anchors "Technical/ Functional" and "Autonomy/Independence" turn out to be the secondary anchors.

These results mainly relate to economic students. From these results it may be concluded that the primarily carrier anchor may be different in case of individuals representing different special fields. Revealing them may be important, as it may turn out that which motivating tools prove to be effective in their case. It may be worth spreading the research to the other faculties of the University of Debrecen, or even to several universities in Hungary, on which basis a representative sample may be compiled. Such a sample may be suitable for revealing differences in gender and special fields as well as to discover the differences between MA and BA training.

It would be practical to measure the test in the world of the work. A tool would be useful for helping in getting to know employees regarding their carrier idea, motivation and work value. Such a system would greatly support the carrier management processes of organizations. At the same time it must be highlighted that it is worth repeating these similar investigations within special periods bearing in mind the continuous development of the individuals.

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SCIENTIFIC PAPER

TRADITIONAL RETAIL OUTLETS OR SUPERMARKETS: A PROBIT ANALYSIS OF SHOPPERS IN TRINIDAD AND TOBAGO

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Abstract: *The purpose of this study is to identify consumers' retail outlet choice for Roots and Tubers in Trinidad and Tobago between traditional and modern retail outlets, and also to find out what influences consumers' shopping preferences for one or the other retail format. A Probit model, where both demographics and store attributes were used to predict outlet choice was the methodology utilized in the study. The results obtained suggest that the traditional outlets are the preferred place to purchase Roots and Tubers with 71% of the sample selecting these outlets. Of the fifteen independent variables analyzed in the Probit model, four demographic variables – age, employment status, ethnicity and income – and two latent factors of the store attributes labeled "value" and "location" were statistically significant. Of note, older buyers are 12% more likely to choose the traditional outlet while there is a 16% higher probability that persons in the higher income brackets will choose supermarkets as their retail outlet. These results provide an insight into the choice of outlet of shoppers and the strengths and weaknesses of the two retail formats.*

Keywords: *Traditional retail outlet, Supermarkets, Probit analysis, Trinidad and Tobago, Roots and Tubers*
*(*JEL code: Q13, M31, C25*)*

INTRODUCTION

In Trinidad and Tobago (T&T) there has been a considerable amount of interest in the starchy roots and tubers (R&Ts) in the recent past given the rising food import bill. R&Ts were a major source of carbohydrates in the diets of the Region's people. However, it is a well known "law" of economics that as income rise the per capita consumption of starchy food staples – R&Ts – falls. Durrant (1987) recognized this declining trend when he wrote "Generally, the production and consumption of indigenous root crops have been declining over the last two decades and this trend has been ascribed to a wide variety of factors. Among these factors, the most important would seem to relate to limited forms in which root crops may be consumed – given the low levels of processing technology. In addition, there is the relative inconvenience involved in the preparation of these foods when compared with other high-energy staples such as rice and wheat flour".

To date there appears to be little research undertaken to identify who buys R&Ts, where and why in T&T. Traditionally, in the Caribbean R&Ts were primarily sold at the public markets, roadside stands and farm gate. These outlets were not only a place for selling but also for communing/socializing, particularly for many older folks. Today, with the transformation of the food retailing sector taking place in T&T, shoppers can now purchase R&Ts also from supermarkets[1]. Another key feature of the contemporary food retail sector in T&T is the proliferation of fresh produce roadside stands emerging, many in close proximity to established supermarkets.

The emergence and rapid growth of supermarkets and their impact have been analyzed by many researchers, for example, Reardon, T., Timmer, C. P., Barrett, C. B., & Berdegue. J (2003), Weatherspoon D. D., & Reardon, T., (2003), Reardon, T., Henson, S., & Berdegue, J. (2007), Reardon, T., and Gulati, A. (2008). The impact of supermarkets on the food and agribusiness sectors is so diverse and significant it is commonly referred to as the "Supermarket Revolution". As the literature indicates supermarkets were originally viewed by development economists, policymakers, and practitioners as the rich people's place to shop, however, today supermarkets are no longer found only in strategic locations in capital cities in developed and developing countries but have spread rapidly into low-income rural communities.

Consumers choose different retail outlets as a result of numerous factors such as, store attributes (location, ease of access, ease of parking, and assortment of goods carried, price etc.) and socio-economic factors (income, employment status,

1 For purposes of this study, the term supermarket is used to refer to all self-service retail food and grocery outlets, regardless of floor space and number of stock keeping units (SKUs) carried.

educational level attained etc.). There are numerous different analytical approaches in the literature commonly used when studying retail outlet choice and patronage behavior. These range from simple Chi-square test, Independent Sample T-test, to sophisticated regression models. This study utilizes the Probit Binary Choice Model in an attempt to identify the store attributes and demographics that influences the choice of retail outlet for R&Ts in T&T.

For purposes of this research the R&Ts that are being considered are the starchy ones – Cassava (*Manihot esculenta*), Dasheen (*Colocasia esculenta*), Edo (eddoe) (*Xanthosoma spp.; Colocasia spp.*), Potato (*Solamum tuberosum*), Potato, sweet (*Ipomoea batatas*), Yam (*Dioscorea spp.*) Tannia (*Xanthosoma sagittifolium*). The rest of the paper is organized as follows. The next section provides a brief review of some relevant literature to this study. This is followed by a statement of the problems addressed in the study. Thereafter, the analytical approach and conceptual framework along with data used in the study are described. This is followed by the results, and finally the discussion and conclusions.

LITERATURE REVIEW

Diets and food purchasing trends have changed in T&T in the last few decades. Sustained economic growth in developing countries has resulted in a positive rate of growth in real per capita income. Consequently, consumers' decision of where to shop might not be only driven by price. On one hand due to time-pressured household heads, and more women employed out of the home, the "one stop shop" convenience of supermarkets appears to be giving the traditional public markets and roadside fresh produce stands stiff competition. Further, some analyst are suggesting that based on volume discounts received by supermarkets from their suppliers, supermarkets are able to offer their customers better prices. In the contemporary food market in T&T with more educated, health conscious, and time pressured shoppers, why would some shoppers still want to frequent the public markets? A better understanding of consumers' behavior and those key factors that affect consumers' choice of retail outlet in the highly competitive food retail sector in T&T is a must for retail outlet operators.

The store attributes influencing retail outlet choice have attracted the interest of researchers for many decades. More than five decades ago, Martineau P. (1958) in a study titled 'The Personality of the Retail Store' suggested that the store's personality or image has two components, its functional qualities and its psychological attributes. The functional attributes included such attributes as, location, assortment of products and store layout, while the psychological attributes related to the feelings generated by functional factors such as spacious, not crowded etc. Since then there has been many other aspects of the store that have been identified as influencing retail outlet choice.

Kunkel J. H. and Berry L. L. (1968) suggested that part of the problem academics and practitioners encountered while researching retail image was due to the difficulty in arriving at a consensus of what exactly is store image. They suggested the following definition: 'retail store image is the total conceptualized or expected reinforcement that a person associates with shopping at a particular store'. In an attempt to operationalize their definition they suggested the following twelve components of store image: Price of merchandise; Quality of merchandise; Assortment of merchandise; Fashion of merchandise; Sales personnel; Location convenience, Other convenience factors; Services; Sales promotions; Advertising; Store atmosphere and Reputation on adjustments. Others, such as, Saraswat M. et al (2010) define store image as the symbolic, experiential expression of the manner in which consumers see or visualize a store.

Aaker and Jones (1971) in their contribution to our understanding of store choice behavior looked at the Linear Learning Model. They found that the model was of limited usefulness when predicting store choice and stated "Successful models of store choice behavior depend upon researchers' ability to obtain appropriate definitions of store choice. Under one definition they found the model was viable in representing store choice behavior.

The socio-economic profile of shoppers at different retail formats have been investigated, especially in developed countries by numerous researchers, and with the transformation of the retail sector in emerging and developing economies a number of studies are now being done there. Oghojafor, B. E. A. & Nwagwu, K. O. (2013) examined the influence of income, education level attained, type of employment, marital status and family size on choice of shopping outlets for grocery products in Lagos Nigeria. They found that socio-economic variables such as, income, level of education, type of employment, marital status and family size did not influence retail outlet choice for groceries by Nigerian women.

Panda A. (2013) in a study titled "Customer Patronage towards Food and Grocery Retail – A Case Study" analyzed fifteen variables thought to influence selection between traditional outlets and modern outlets in Odisha state in India, using the Paired t-test approach. The variables analyzed by Panda were convenient location, parking space, product volume, product variety, expected price, phone order service, home delivery, availability of credit, convenience of time, goods return facility, goods exchange facility, bargaining facility, self service facility, sales promotion schemes, and loyalty programs. Opinion of the customers regarding convenient location, parking space, product volume, product variety, home delivery, goods return facility, goods exchange facility, and customer loyalty programs were significantly different in the two formats. Variables like parking space, product variety, product volume to be purchased, sales promotion schemes, self service facility, and customer loyalty programs led the customers to the organized retail formats.

Zameer A. and Mukherjee D. (2013) also studied the food and grocery retail patronage behavior in India between Kirana stores and modern retailers; however, they focused on urban consumers. In this study seventeen factors were analyzed: Distance (convenience of location), Parking facility, Product variety, Product quantity to be purchased, Expected prices, Phone order facility, Home delivery facility, Sales promotion

schemes, Credit facility, Bargaining facility, Product quality, Self-service facility, Time required for shopping (convenience of quick purchase), Goods return facility, Goods exchange facility and Availability of loyalty programs. In this study they found that there was a significant difference in the role played by convenience of location, parking facility, product variety, product quantity, home-delivery facility, sales promotion schemes, bargaining facility, self-service facility, goods return facility, goods exchange facility and availability of loyalty programs between the two formats.

In a study by Iqbal et al. (2013) on Pakistani Society titled, "Impact of Demographic Factors on Store Selection: An Insight in Pakistani Society" they found education level, occupation, income level and household size did influence store selection. Salma Mirza (2010) in her study of urban Pakistanis found that age, gender and occupation had no influence on the choice of retail format, while household income, household size and education does influence choice of retail format. As she reported her findings differed from Prasad, C. J. and Reddy, D. R. (2007) who found age, occupation, educational level, household income level and household size does influence the choice of retail format.

Prashar M. (2013) examined retail outlet attributes that acted as drivers of store selection in the Indian food and grocery sector for three formats, convenience stores, supermarkets and hypermarkets. This study found that availability and variety of products at store, store ambience, service and facilities, and value for money were the key factors in store selection. Further, this study found that store location was outperformed by other store atmospherics. Prasad C. J. and Aryasri A. R. (2011) in their study on retail format choice for food and grocery products in India found that shoppers' age, gender, occupation, education, monthly household income, family size and distance travelled to store have significant association with retail format choice decisions.

Maruyama and Trung (2007) examined the choice of traditional bazaar or supermarkets in Hanoi using a Probit Model. The demographic variables used in this analysis were SEX, CHILDREN younger than six years old in the household, AGE, and average monthly INCOME. Type of TRANSPORT used to go shopping was also included. The following attributes were rated on a scale from 1 to 5, where 1 was not important and 5 very important, FRESH, NEWGOODS, QUALITY, SAFETY, CHEAP, USUALSELLER, CONVENIENCE, SERVICE, and NOBARGAIN, some of which were also used in the three models analyzed – fresh food, processed food and drinks, and non-food products. In the case of the analysis for fresh food FRESH, SAFETY, CHEAP, USUALSELLER, CONVENIENCE, NOBARGAIN, income and type of transport were statistically significant. The coefficients for SAFETY, NOBARGAIN, INCOME and TRANSPORT all had negative signs. In the case of processed foods and drinks SAFETY, CHEAP, USUALSELLER, NOBARGAIN, INCOME and TRANSPORT were statistically significant. The coefficients SAFETY, NOBARGAIN, and TRANSPORT had negative signs. Only four variables were statistically significant for non-food products, with the coefficients for QUALITY, NOBARGAIN and SEX having negative signs and the coefficient for CHEAP positive. The findings indicated that perishable food item had the tendency to be purchased in traditional outlets.

Terano et al. (2014) examined the choice between Modern and Traditional Retailers in Malaysia using a Binary Logit Model. The demographic variables used in the analysis were gender, age, education, accompany (child) and family size. Factor analysis was used to extract four latent factors from twelve statements. The four latent factors extracted explained 65% of the variance in twelve original statements. Seven variables were statistically significant, four demographic and tree latent factors. The decision rule utilized was: reject the null hypothesis if the probability of the test statistic is less than or equal to alpha 0.1. Age, education, accompany (child), family size, packaging, store environment and product price were statistically significant. The coefficients for family size and product price carried negative signs.

It is against this backdrop the following 20 store attributes were identified for this study: Price of R&Ts, Variety of R&Ts available, Presentation of R&Ts, Quality of R&Ts, Ability to self select R&Ts, Ability to argue over price, Availability of other food products, Outlet near home, Ease of parking, Ease of getting to and from outlet, Cleanliness of place, Appearance of place, Crowdedness of place, Speed of being able to select item, Speed of being able to pay for item, Outlet recommended by friends, Outlet frequented by friends, Customer advice offered by sellers, Friendliness of sales persons, and Operating hours. The demographic variables selected were age, employment status, education level attained, sex, ethnicity, household size, household monthly income and being the primary household food purchaser or not.. Using the Probit binary methodology this study attempts to increase our knowledge on food marketing in the Caribbean in general and more specifically on the buyers' choice of retail outlet in T&T for R&Ts.

Research Problems and conceptual framework

Based on the brief review provided above the problems that will be addressed in this study are as follows:

To identify the preferred choice of retail outlet for buyers of R&Ts in T&T;

To identify the socio-economic and store attributes that influences the choice of retail outlet for R&Ts buyers in T&T;

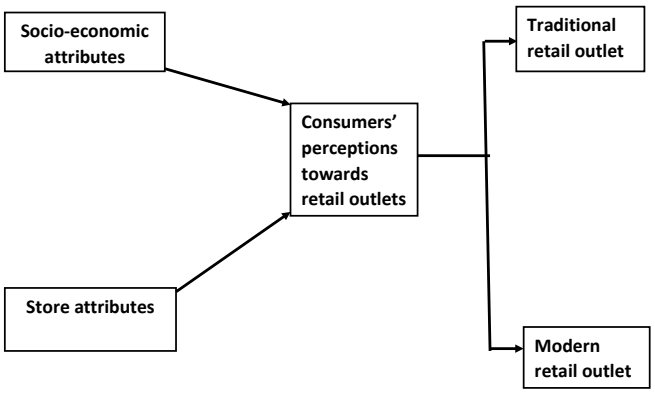
Figure 1 illustrates the conceptual framework used in the study. The demographic variables and store attributes are hypothesized to have an influence on being either a traditional or modern outlet shopper of R&Ts. Since the dependent variable is a dichotomous variable – traditional or modern, and the predictors - demographic and store attributes variables are all categorical the Probit model was thought suitable for this exercise. However, as is pointed out in Maddala (1988) pp. 273 " we are not likely to get very different results using (8.16) or (8.17), that is, the logit or the probit method, unless the samples are large". Further, the estimated coefficients are related by a factor of 0.625.

For purposes of this exercise the dependent variable is defined as follows:

Traditional retail outlet - public markets and roadside stands, and

Modern retail outlet - supermarkets.

Figure 1: Conceptual framework of the study



ANALYTICAL APPROACH AND DATA

To investigate what shoppers' and store attributes influenced the choice of outlet between the modern retail outlets and the traditional formats a questionnaire was developed and pretested in January 2015. The questionnaire tried to identify the main choice of retail outlet used by respondents when purchasing R&Ts. Based on recall, respondents were also asked to indicate the R&Ts purchased the most in the last year from a volume basis. The respondents were asked to rank the selected store attributes on a scale of 1 to 5, where 1 was not important and 5 very important. Socio-economic attributes of the respondents were also collected such as household income, educational level attained, age, family size, ethnicity, sex and employment status. The decision rule employed in this study is as follows: reject the null hypotheses if the probability of the test statistic is less than or equal to alpha 0.10.

Data collection was conducted in both islands, Trinidad and Tobago. Questionnaires were administered to prospective respondents who were willing to participate at banks, hospitals, outside supermarkets and in public markets during the months of February and March 2015. A total of 600 questionnaires were administered of which 498 were fully completed and returned, giving a response rate of 83 percent. The relevant data was analyzed using STATA version 10. The analysis was conducted in a three stage process:

1. Descriptive analysis;
2. Factor analysis; and
3. Probit binary analysis.

Tables 1 and 2 illustrate the coding of the dependent and socio-economic variables used in the probit binary regression. In T&T there is a general belief that the younger generation, 25 years and under, are more convenience oriented, and as such are attracted to shopping in malls and supermarkets. Hence, the reason for coding of the age groups in this manner. With regards to the household size, the average household size is 3.64, so for purposes of this study 4 persons was used as the cutoff point for household size. A two income household in T&T is expected to earn at least TT$15,000 monthly, consequently, the coding of monthly household income in this way.

Table 1: Coding of the dependent variable.

Variable	Coding	Label
Dependent variable	1	Public market
	0	Supermarket

Table 2: The coding of the independent demographic variables

Variables	Coding	Label
Age	1	> 25 years
	0	25 years and younger
Employment status	1	Employed
	0	Unemployed
Educational level	1	Secondary and below
	0	Tertiary
Household size	1	4 and less persons
	0	>4 persons
Income	1	>$ 15001
	0	≤$15000
Gender	1	Male
	0	Female
Ethnicity	1	African descent
	0	Other
Marital status	1	Single
	0	Other
Primary food purchaser (PHP)	1	Primary food purchaser for household
	0	Other

The following Probit model was developed:

$$Y = \Phi (X\beta + \varepsilon)$$

$$\Phi\text{-}1(Y) = X\beta + \varepsilon$$

Where:

Y = is the retail outlet of choice of buyers of R&Ts;

Φ = Cumulative Distribution Function (CDF) of the standard normal distribution

β= parameters to be estimated by maximum likelihood estimation

ε = Error term

X = a vector of independent variables – retained latent factors from the factor analysis and the following demographic variables:

X_1 = Age
X_2 = Income
X_3 = Educational level attained
X_4 = Household size
X_5 = Employment status
X_6 = Gender
X_7 = Ethnicity
X_8 = Marital status
X_9 = Primary food purchaser (PFP)
X_{10}…..... X_i = Latent factors retained from factor analysis

RESULTS

Table 3 illustrates a breakdown of the independent demographic variables into the various categories. The sample consisted of 62% of respondents being over twenty years old and the remaining 38% twenty five years old and younger. The majority (60%) were employed. With regards to educational status, 53% were tertiary level trained with the remaining 47% having secondary and lower levels of education. The majority of the respondents were women (62.7%) with male buyers of R&Ts being 37.3%. The one to four persons household size accounted for 57.8% of the respondents. The majority of the households (75%) had monthly income of less than TT$ 15,0002. T&T is a multiracial nation with Indian and African descendents being the predominant races. $8.2% of the sample considered themselves being of African descent.

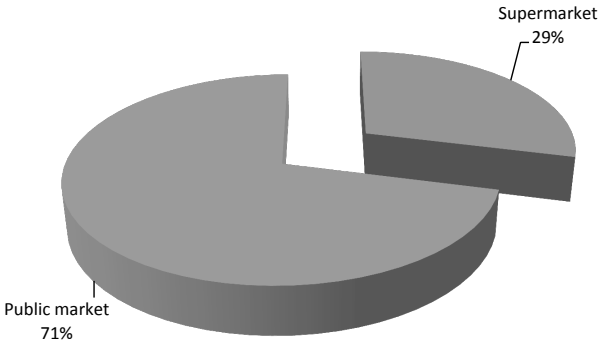
Table 3: Frequencies of demographic independent variables in model

Variables		Percent
Age	25 years	38.0
and younger	>25 years	62.0
Employment status	Employed	60.0
	Unemployed	40.0
Educational level	Tertiary	53.0
	Secondary & under	47.0
Gender	Male	37.3
	Female	62.7
Household size	1-4 persons	57.8
	>4 persons	42.2
Income	<$15000	74.6
	>$15001	25.5
Ethnicity	African descent	48.2
	Other	51.8
Marital status	Single	55.2
	Other	44.8
PFP	Yes	46.6
	No	53.4

Figure 2 illustrates the percent of buyers patronizing the two outlet formats. As can be deduced from this diagram the majority of the buyers purchased their R&Ts from the traditional outlets. This suggests that the traditional outlets are still a force to be reckoned with for R&Ts, and possibly fresh produce on the whole in the T&T food market.

2 US$1.00 = TT$6.27

Figure 2: Percent of buyers patronizing the two retail outlets



There were only twenty store attributes used in the factor analysis and as such the KMO test was used to check for sampling adequacy. The result of the KMO test as is shown in table 4 was 0.820, which indicates sampling adequacy.

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.820
Bartlett's Test of Sphericity	Approx. Chi-Square	4111.02
	df	190
	Sig.	.000

Table 5 illustrates the results of the factor analysis. From the twenty variables six underlying factors were loaded and saved for use in the probit regression. Component 1 loaded heavily on the price, quality and attributes related to value and will be referred to "Value". Component 2 loaded heavily on attributes related to the speed of service and will be referred to as "Service". Component 3 loaded on attributes related to information received from others and would be labeled "Advice". Component 4 loaded on attributes related cleanliness and appearance and would be labeled "Aesthetics". Component 5 loaded on attributes related location and would be labeled "Location". Component 6 loaded on attributes related to ability to bargain and availability of other foods and would be labeled "Assortment". Together the six components accounted for 68% of the cumulative variance. In general, a factor analysis accounting for 60 – 70% of the total variance is considered a good fit to the data. Loadings below 0.40 were suppressed.

Table 5: Rotated component matrix

	Component					
	1	2	3	4	5	6
Price of R&Ts	.786					
Variety of R&Ts available	.762					
Presentation of R&Ts	.703					
Quality of R&Ts	.683					
Ability to self select R&Ts	.511					
Speed to select items		.852				

	Component					
	1	2	3	4	5	6
Speed to pay for items		.811				
Crowdedness of place		.633				
Operating hours		.569				
Outlet liked by friends			.849			
Outlet recommended by friends			.816			
Customer advice offered			.801			
Friendliness of sales persons			.633			
Cleanliness of place				.859		
Appearance of place				.851		
Ease to and from outlet					.855	
Outlet near home					.768	
Ease of parking					.632	
Ability to haggle over price						.857
Availability of other foods						.645

The Scree Plot is illustrated in figure 3. The plot shows that six components had Eigenvalues greater than one. This suggests that the six latent factors can be retained for further analysis.

Figure 3: Scree Plot

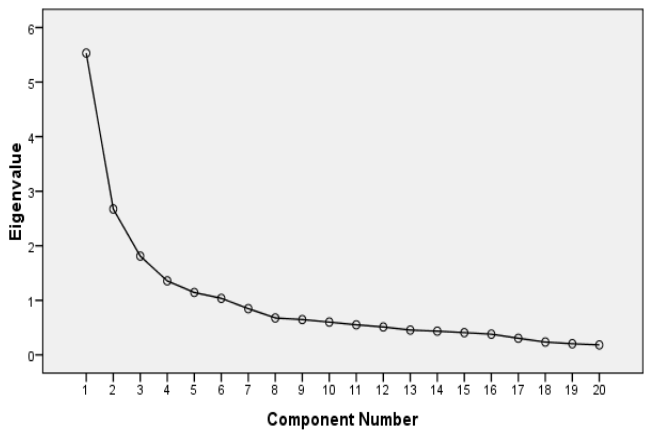


Table 6 illustrates the variables in the equation with the estimated coefficients and other relevant data. The first thing to note here, is six of the variables are statistically significant, four socio-demographic, Age (.057), Employment status (.104), Ethnicity (.004) and Income (.002) and two latent variables retained from factor analysis, "Value" (.000) and "Location" (.009). Also worthy of note is that of the statistically significant variables only two of the estimated coefficients are positive Age and Value.

The estimated model can be written as follows:
Probability (public market) = Probit (B'X)

Where B'X = 1.025 + .347*Age + (-.454)*Income + (-.046)*Education + .089*Household size
+ (-.260)*Employment status + (-.145)*Gender + (-.368)*Ethnicity
+ (-.188)*Marital status + (-.112)*PFP+ .270*Value + (-.077)*Service
+ .025*Advice + (-.032)*Aesthetics + (-.176)*Location + .066*Assortment

Although some of the variables are statistically significant, the low McFadden R2 indicates that the set of predictors as a whole has little explanatory power on the choice of retail outlet. The results, however, tells us that the older buyers – age 25 or older – are 12% more likely to choose the traditional outlet for the purchase of R&Ts. This probability will however decrease by the same amount – 12% - if the buyer is of African descent. The computed marginal effects also give evidence that buyers that are employed have an 8.5% higher probability of choosing supermarkets as their retail outlet. It is also worthy to note that there is a 16% higher probability that persons in the higher income brackets – more than $15,000 per month household income – will choose supermarkets as their retail outlet for R&Ts. Gender, marital status, PFP, education and household size did not appear to be important in the choice of retail outlet.

With regards to the attributes of the public market versus the supermarket, buyers who place greater importance on value are more likely to choose the traditional outlet. The probability of this choice will increase 9 percentage points for each level of a 5-tiered importance scale. Conversely, for a similar importance scale, the effect of location of the outlet is to decrease this probability by almost 6% for each level of the scale. In other words, buyers who perceive location as "very important" have an almost 13% lower probability of choosing the traditional outlet (Note the maximum value for "Location" is 2.245).

DISCUSSION AND CONCLUSIONS

The purpose of this study was to illustrate consumers' retail outlet choice for R&Ts between traditional and modern outlets, and also to find out what determines/influences consumers' shopping preferences for retail format choice. As is the case with many primary research projects there are limitations and this study is no exception. A limitation of the study is the sampling method used and as a result the generalization of the findings. Notwithstanding this, based on the results obtained one can safely conclude that the traditional outlets – public markets and roadside stands – are the preferred places to purchase R&Ts in T&T, with 71% of the sample using these outlets.

In the contemporary food marketing arena factors influencing where one shops are numerous. This study simultaneously used retail outlet attributes and demographics to

Table 6: Results of the probit binary choice model

Variable	β	S.E.	P>lzl	Sig.	Marginal probability
Age	.347	.182	0.057	*	.117
Employment status	-.260	.160	0.104	*	-.085
Ethnicity	-.368	.128	0.004	***	-.122
Education level	-.046	.131	0.728		-.015
Household size	.089	.127	0.485		.030
Gender	-.145	.130	0.267		-.049
Income	-.454	.145	0.002	***	-.159
Marital status	-.188	.153	0.220		-.062
PFP	-.112	.146	0.445		-.037
"Value"	.270	.062	0.000	***	.089
"Service"	-.077	.064	0.229		-.026
"Advice"	.025	.062	0.689		.008
"Aesthetics"	-.032	.064	0.621		-.011
"Location"	-.173	.065	0.009	***	-.057
"Assortment"	.066	.062	0.292		.022
Constant	1.025	.229	0.000	***	
Log likelihood	-272.77				
Number of observations	498				
LR chi^2 (15)	53.44				
Prob >	0.00				
Pseudo R^2	0.09				

****** Significant at the 1% level, ** Significant at the 5% level, * Significant at the 10% level***

identify those factors that influenced the choice of retail outlet. Four demographic variables were found to be statistically significant – age, employment status, ethnicity and income. The results of the study support the view that higher income shoppers would tend to gravitate towards the supermarkets, given the strong negative coefficient. The two statistically significant outlet attributes were related to "Value" of R&Ts and "Location" of outlet. In the case of "Value", shoppers who are more interested in receiving the best quality/price combination are more likely to choose the traditional market for the purchase of R&Ts. The results also support the view that proximity to home and ease of parking are attributes that will strongly influence consumers to choose supermarkets over traditional outlets when shopping for R&Ts.

Customer segmentation provides the opportunity for marketers to better tailor their offerings to target groups that are most likely to respond positively. However, in the food industry where increasing competitiveness is occurring alongside an unprecedented evolution of consumer demand, the diversity of customer needs and buying behaviors displayed by the contemporary food shopper is calling into question some of the traditional segmentation techniques. This study attempted to identify shoppers of R&Ts at traditional and modern outlets based on store attributes and demographics, however, the overall performance of the model left much to be desired. An assessment of the results evinces the need for further research in the dynamic and highly competitive food retail sector in T&T as business operators and other stakeholders try to understand the contemporary food shoppers.

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SCIENTIFIC PAPER

MORAL HAZARD IN PRODUCER ORGANIZATIONS - SOME EXPERIENCES OF AN EMPIRICAL SURVEY

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Abstract: *A wide range of empirical experiences shows that the performance of Hungarian producer organizations (aka TÉSZ) significantly falls behind the activity observed in the developed Western European countries. Regarding this issue, the present study examines how moral hazard - as one of the possible reasons - influences the producers' activities in cooperative organizations. Information for the research was collected with the help of a questionnaire survey among the members of PaprikaKert TÉSZ Ltd.*
A statistical path model has been developed for the research, which assumed that - in addition to a direct effect - moral hazard also affects collaborative activity by eroding trust. The statistical model has been tested both in member-member and members-management relations.
The experiences from the survey clearly show that moral hazard exists in the producer organization. According to my results, though its measure cannot be regarded numerically considerable, its negative effect on cooperative activity can be proved with statistical examinations. Its effect can be divided into two aspects: besides a direct effect, an indirect one can also be detected, which means that moral hazard is able to reduce producers' willingness to cooperate by eroding trust. Moreover, our results have clearly pointed out that moral hazard has a negative impact on member-member and members-management relations to varying degrees and through different mechanisms.
In addition to the above tests, the empirical testing of another model called Sholtes trust model has been carried out, too. The validating was successful, so the model - which attributes trust to the faith in the partner's loyalty and capability - is basically acceptable. The argument says that high-level trust can be observed among partners only when faith both in loyalty and capability is strong enough. The research, however, revealed that the above-mentioned two factors determine it in a different way: regarding trust between members, the faith in capability is more important; while trust towards the management is more determined by faith in loyalty.

Keywords: *trust, collaborative activity, moral hazard, Sholtes (*JEL code: Q12, Q13*)*

INTRODUCTION

By reviewing the related statistical data, it can be stated that the producer organizations (e.g. marketing cooperatives, POs) have a significant part in coordinating the product line in some leading vegetable and fruit producing member states of the European Union. Cooperatives offer a number of economical and non-economical benefits both at micro and macro levels. Szabó (2011) and Szabó-Barta (2014) summarize the benefits obtained through cooperatives as follows:

- Marketing cooperatives and other producer organizations are often able to solve problems connected to producers' vulnerability both in market and technology, and to increase their counterbalancing forces in market and their income;
- One of the most important reasons for having cooperatives is the reduction of the so-called transactional (e.g. informal) costs;
- The bigger bargaining power and the higher market share of producers have a positive message for the whole marketing channel, including consumers, too, who can get more reliable and often better quality products;
- The increasing role of producer organizations in rural development and employment is also important, as well as their contribution to keep the agricultural population.

Despite the significant benefits offered by the cooperatives, the experiences show that cooperatives have a small - under 20% - market share in the new member states of the European Union, like Hungary, (see e.g. Bijman et al., 2012; or Szabó, 2012). The references in this subject unanimously agree that this phenomenon can be explained basically with the low level of producers trust. Taking this situation as a basis, the present study examines the role of moral hazard and trust within producer organizations. First of all, it aims to answer the question how moral hazard and trust in member-member and members-management relations influence the members' activities in the cooperative.

The study has the following structure: the next part presents the most important references, which provide the theoretical basis for the research. Following that, the databases used and the methodological problems of their evaluation are detailed which is followed by the structural part presenting the empirical analysis.

The last chapter summarizes the most important conclusions drawn from the research and suggestions based on these conclusions.

THEORETICAL BASIS

Farmers in the agricultural sector cooperate with different groups, and conclude oral and/or written agreements. Cooperative agreements like these can be very different depending, for example, on whether the agreement is horizontal (agreement among more farmers) or vertical (agreement among farmers and a „regulator"). Furthermore, there can be differences regarding the cooperative partners: whether they are other farmers, employees, regulators, factor owners or government organizations (Larsen, 2008). Analysis of contract agreements (written or oral) of this type concluded among farmers for cooperation activities, as well as the resulting organizational structures is one of the thoroughly examined fields of the new institutional economics (NIE).

The new institutional economics focuses on the analysis of institutions (like, for example: markets, organizations, legal norms) in the framework of which the economical processes are going on. The main target of the analyses made by the institutionalist school is to explain the structure and efficiency of economic institutions and the economic behaviour of people (Schumacher, 1991).

Theories of the new institutional economics have been classified in different ways (see, for example, works of Menard (2004) and North (2015). As regards the present theoretical basis, Kieser (2002) can be regarded as authoritative. He classifies the theories of the new institutional economics as follows: agency theory, property rights theory and transaction costs economics. The general features of the theories are that they have more realistic assumptions about actors of economy than earlier economics theories, and they intend to explain economic events through the individual's behaviour. They assume that the human behaviour includes information barriers, fraud, self-interest and limited rationality.

Both the international and the Hungarian references widely apply the theoretical approaches of the new institutional economics in order to examine agricultural cooperatives and – among others to explain the choice of the cooperative type and forms of property structures. The theoretical approaches focus on different aspects of cooperative agreements, which is extremely useful from the aspect of their differentiated examination: typically, it is the agency theory which deals with problems of asymmetric information, while it is the theory of transaction costs, which concentrates on the fields related to the contract costs; and finally, the property rights theory discusses the issues of the so-called residual control rights. Of course, these theories are often overlapping, but different theoretical approaches are extremely useful for the differentiated examination of agreements. The present study detailes the results of examinations carried out on the basis of the principal-agent theory..

The agent theory – and especially its normative approach, the principal-agent theory -, while examining agricultural cooperatives, puts the emphasis on asymmetric information and the resulting opportunist behaviour (Kieser, 2002). According to the economic literature, there is information asymmetry when one of the partners in the transaction has more or more exact information than the other. As a result, asymmetric information – though to a varying degree - is present in each case when co-operation takes place among two or more partners. Authors distinguish two types of problems within the framework of the principal-agent theory: moral hazard and adverse selection. The issue of adverse selection is not discussed in the present study.

In general, there is moral hazard if at least one input cannot be observed in the co-operative processes or transactions, and its quantity cannot be defined in the contract. This lack of transparency and regulation may become the source of corrupt practices (Royer, 1999).

The analysis of the relation between the principal and the agent is in the focus of the general agent theory (Picot, 1990) in which moral hazard is introduced as follows: the principal, in order to realize his interests, delegates certain tasks and decision-making competences to the agent in a contract who receives a compensation in return for their services. On the one hand, the principal can benefit from this relation since he can use the agent's specialized labour force or information (knowledge) for their own purposes, but on the other hand, it raises some problems, too. Due to the lack of information (asymmetric information) on behalf of the principal, there is a risk that the agent will not act entirely or partly in the interest of the principal; they may act in their own interest, or perhaps to the principal's disadvantage.

This present study is partly based on this above-mentioned theory. Since it is generally true in producer organizations, too, that the management (the agent) have more precise information about the organization which, from the members' (principal) aspect, can be a source of perceived or real corrupt practises.

The other examination aspect of the study is the observation of moral hazard between members. The agent theory provides theoretical basis for this, too. The references about agent theory introduce several special models, out of which the team production model (Alchian – Demsetz, 1972) is the most outstanding. The team production model examines the situation as a basic case, when production is performed by more producers. It was Holmstrom (1982) who introduced the concept of moral hazard into the literature of team production. The essence of his concept is the following: if partners in the same team are rewarded by their joint effort and at least one input cannot be observed by the others, it will stimulate some agents to keep away from the joint effort (free-riding). This type of moral hazard is called effort moral hazard by the references.

Moral hazard presented in economic relations between producers results in the reduction of trust level (Larsen, 2008), that is why it is necessary to expand research to this direction, too.

Trust is especially important in human relations, which explains why it has been put in the centre of interest in several disciplines in the last period. Trust as the subject of research is a relatively new phenomenon in the field of economic sciences, although a large number of publications have been published and several trust approaches have been drafted in the last 25-30 years (e.g.: McAllister, 1995; Borgen, 2001; Hansen, 2002; Szabó, 2011; Szabó et al. (2008) and Dudás – Fertő (2009), Sholtes, (1998) etc.). This present study – on the basis of earlier research experiences (e.g. Baranyai et al. (2013) - takes the Sholtes trust model as its basis.

Sholtes (1998) placed trust in the matrix of loyalty and capability. Provided that faith both in loyalty and capability take up high values among partners, it can develop trust (Figure 1). This research work was carried out by using the relations found in the model.

Figure 1: Trust development between partners on the basis of the level of both loyalty felt towards each other and perceived capability

		CAPABILITY *"I believe that my partner is well-trained and talented."*	
		low	high
LOYALTY *"I believe that my partner likes me and will help me in the future."*	high	SYMPATHY	**TRUST**
	low	MISTRUST	RESPECT

Source: own edition on the basis of Sholtes (1998)

Finally, it is important to underline that this present research is not unprecedented. Among others, I have relied mostly on the work of Baranyai et al. (2013) in research planning and in the development of the methodological background. The authors examined the effect of moral hazard on the collaborative activity in the co-operation in machine use of individual farms using path models. Their results have proved that moral hazard is present, though to a small degree, in co-operations of machine use. They have clearly confirmed that moral hazard, which appears in cooperative agreements, has negative impact on the cooperative activity of farmers by destroying trust. In the framework of the referred research, the authors also successfully tested the Sholtes-model empirically.

MATERIAL AND METHOD

Examinations which are presented hereinafter are based on an empirical database: a questionnaire survey was made among the members of PAPRIKAKERT TÉSZ TERMELŐI ÉRTÉKESÍTŐ Ltd. between May and October of 2015, during which we managed to collect data about altogether 144 member-farms.

The questionnaire compiled by the empirical research touched the following issues - linked to the present essay:

level of activity of the farming members in the cooperative (collaborative activity (COOP));

the issue of trust (trust by the Sholtes-model (TR variable), and its perceived determinants, faith put in loyalty (LOY variable) and in capability (CAP variable)), and

the level of moral hazard experienced in the cooperative (MOR variable).

Quantification of each specified area was realized with Likert-scales, assigned to statements. We used a simple average calculation or a method of PCA weighting to form variables. Furthermore, another piece of important information is that questions used to quantify TR, LOY, CAP and MOR variables were formulated both in member-member (T) and member-management (M) relations.

The effect of moral hazard on the collaborative activity was examined with the so-called „path model" which is a sequence of regression models built on each other. The logical links of the model are shown in Figure 2.

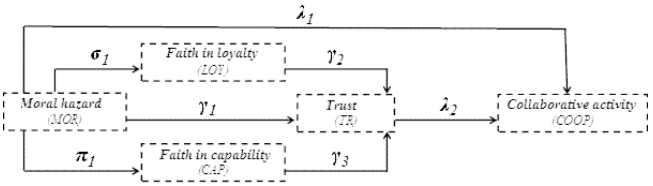

Figure 2: The logical structure of the general path model
Source: edited on the basis of Baranyai et al. (2011)

The model studies how moral hazard (MOR), as an exogenous variable, affects the collaborative activity (COOP). Besides the direct effect of moral hazard (λ1), we can also analyse its indirect effect, which is manifested through trust: using the Sholtes-model we can take into account that moral hazard affects the trust level both in direct (γ1) and indirect (σ1 and ϖ1) ways through forming the trust determinants (*LOY* and *CAP*) which also influences the collaborative activity (λ2). On the basis of Figure 2 we can formulate four regression models:

$$\text{M1.:} COOP = \lambda_1 * MOR + \lambda_2 * \mathbf{R} + RESID_1 \quad (1)$$

$$\text{M2.:} \ \mathbf{R} = \gamma_1 * MOR + \gamma_2 * LOY + \gamma_3 * CAP + RESID_2 \quad (2)$$

M3.:

$$LOY = \sigma_1 * MOR + RESID_3 \quad (3)$$

$$\text{M4.} CAP = \pi_1 * MOR + RESID_4 \quad (4)$$

Where: λ_i, γ_i, σ_i, π_i partial standardized coefficients *(beta);* $RESID_i$: residuals.

Consolidating the equations, the following relation can be written where beta multiplications express the strength of each „paths":

$$COOP = \lambda_1 * MOR + \gamma_1 * \lambda_2 * MOR + \sigma_1 * \gamma_2 * \lambda_2 * MOR$$

$$\cdot \pi_1 * \gamma_3 * \lambda_2 * MOR + \sum_{i=1}^{4} RESID_i \quad (5)$$

THE RESULTS OF THE PATH MODELS

The descriptive statistics of the variable set found in the regression models of the path model is summed up in Table 1. The experiences of the empirical research show that moral hazard is present among the examined group of farmers (MOR_T and MOR_M) but its average value (2,38 and 2,09) cannot be regarded as significant one (the maximum in theory in both cases is 7,00). Moreover, on the basis of the figures in the table, it can be concluded that the responding cooperative members evaluate the level of moral hazard in member-member relation higher than in member-management direction. It should be noted, however, that statistically this difference is not significant because confidence intervals (CI95%) are overlapping.

Descriptive statistics of the variable set
Table 1

Name	Average	Average CI95%		Dispersion	Min/ Max
		Lower	Higher		
MOR_T	2,38	2,05	2,74	1,37	1/7
MOR_M	2,09	1,79	2,44	1,31	1/7
LOY_T	4,69	4,29	5,13	1,75	1/7
LOY_M	4,98	3,95	6,01	1,14	1/7
CAP_T	5,29	4,95	5,63	1,36	1/7
CAP_M	5,31	4,30	6,32	2,01	1/7
TR_T	5.06	4.58	5,52	1,86	1/7
TR_M	6,06	5,65	6,39	1,47	1/7
COOP	7,55	6,80	8,31	2,19	3,5/18,1

Source: own calculation

Coming to the parameters of the Sholtes-model, it can be stated that averages on the 1-7 Likert-scale linked to each variable are higher in the member-management relation. It also means that respondents typically trust more in the management's loyal behaviour (LOY_T vs. LOY_M) and their capability (CAP_T vs. CAP_M) than in their fellow-farmers'. Another especially important experience is that the general trust level of members towards the management is significantly higher than trust expressed for the fellow-members (TR_T vs. TR_M).

Finally, by evaluating the collaborative activity (COOP), it is obvious that it can be regarded as medium-level with significant dispersion. In order to evaluate the activity rate of 7,55 value, it is important to note that there was a farmer who reached the activity value of 18,1 on the basis of the PCA-weighted index.

In the next part of the research, the regression models (M1., M2., M3. and M4.) were run both in the member-member and member-management approaches the most important results of which are summarized in Table 2. The summing statement: each model is statistically validated.

Summary of the results of regression models
Table 2

Model	Standardized coefficients (Beta)	
	Member-member	Member-management
M1.	MOR_T: λ_1= -0.393** (CI95%:-0.628 - -0.128) TR_T: λ_2= 0.297** (CI95%: 0.062 - 0.532) (R^2=0,406; F-szig: 0,000)	MOR_M: λ_1= -0.371** (CI95%:-0.530 - -0.212) TR_M: λ_2= 0.543** (CI95%: 0.384 - 0.702) (R^2=0,476; F-szig: 0,000)
M2.	MOR_T: γ_1= -0.366** (CI95%: -0.555 - -0.178) LOY_T: γ_2= 0.226** (CI95%: 0.079 - 0.373) CAP_T: γ_3= 0.372** (CI95%: 0.172 - 0.571) (R^2=0,639; F-szig: 0,000)	MOR_M: γ_1= -0.192* (CI95%: -0.352 - -0.032) LOY_M: γ_2= 0.495** (CI95%: 0.325 - 0.665) CAP_M: γ_3=0.335** (CI95%: 0.165 - 0.506) (R^2=0,479; F-szig: 0,000)
M3.	MOR_T: σ_1= -0.295** (CI95%: -0.502 - -0.087) (R^2=0,087; F-szig: 0,006)	MOR_M: σ_1= -0.410* (CI95%: -0.615 - -0.205) (R^2=0,107; F-szig: 0,010)
M4.	MOR_T: π_1= -0.713** (CI95%: -0.865 - -0.561) (R^2=0,808; F-szig: 0,000)	MOR_M: π_1= -0.396* (CI95%: -0.601 - -0.191) (R^2=0,325; F-szig: 0,000)

Source: own calculation

In order to introduce and evaluate them more easily, I present the results of path models graphically, too, starting with the presentation of the results of path-model examinations carried out in member-member relation (Figure 3). The most important findings can be summarized as follows: in the first model (M1.) regression estimated the effect of moral hazard (MOR_T) and trust between members (TR_T) on the collaborative activity (COOP). The results show that moral hazard and trust in economic relations affect the collaborative activity, which can be justified statistically: as it had been expected, moral hazard exerts negative (-0, 393) while trust exerts positive (0,297) determination. According to beta values, the partial effect of moral hazard is stronger, which means that it affects the collaborative activity more than trust.

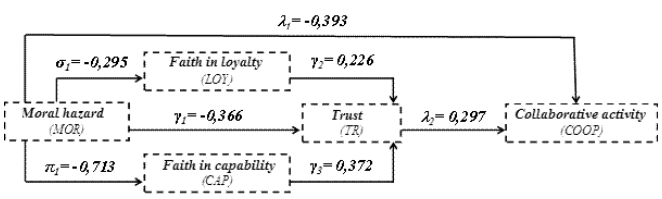

Figure 3: The path-model complemented with regression coefficients (between member-member)
Source: my own edition

Also, in the second model (M2.) the effect of MOR_T, LOY_T and CAP_T independent variables on the trust level (TR_T) between members has been statistically proven.

It can be pointed out, that moral hazard in collaboration reduces the trust level between partners (-0,366). Another interesting experience is that there is a remarkable, though not significant difference between the „strength" of the trust determinants in the Sholtes-model. It means that faith in the partner's capability is probably more important in forming trust between members than the faith in loyalty. It partly contradicts to the assumptions of the Sholtes trust model, which suppose symmetry, meaning that faith both in loyalty and capability are of the same importance in developing trust. This problem will be studied later in this study, when the Sholtes trust model is tested.

The third and the fourth regression models (M3. and M4.) estimated the effect of moral hazard on faith in loyalty and capability as dependent variables. The examinations also revealed significant connections: they showed that moral hazard between partners reduces the faith in capability more (beta value of -0,713 against -0, 295).

The second path-model analysed the effect of moral hazard (MOR_M) in member-management relation on the farmers' collaborative activity (COOP) within the cooperative (Figure 4). The findings lead to the following conclusions, emphasizing especially the differences regarding the above mentioned.

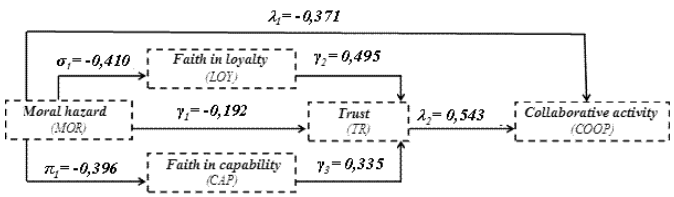

Figure 4: The path model complemented with regression coefficients (between member-management)
Source: own edition

According to the regression model run first (M1), the trust level towards the management (TR_M) has stronger impact on determining the activity within the cooperative than moral hazard (MOR_M) (-0,371). This experience differs from what the previous path-model has shown; where it was exactly the opposite. It is clearly obvious that the level of trust manifested by the members towards the management is one of the most important components of the success of agricultural cooperatives.

The second regression model (M2.) also brought different results, since it shows that trust in the management is based on faith in loyalty (0,495) rather than in capability (0,335). It was the opposite in case of trust between members where faith in capability had a stronger role.

Finally, the third and the fourth models (M3. and M4.) brought different results, too: moral hazard, though just a little, affects negatively the loyalty dimension to a greater degree (-0,396 vs. -0,410).

Following the immanent features of the path-models, it was assumed that moral hazard affects collaborative activity in four „paths": (1) directly, the strength of this effect is $\lambda 1$; (2) through its effect on trust (TR) the strength of which is $\gamma 1 * \lambda 2$; (3) through reducing faith in loyalty (LOY) where the degree of the whole effect is $\sigma 1 * \gamma 2 * \lambda 2$; (4) through developing faith in capability (CAP) the strength of which is $\varpi 1 * \gamma 3 * \lambda 2$. (Table 3).

The strength of each „path" in member-member and member-management relations
Table 3

Relation	Path „strength"				Pearson-coefficient
	$\lambda 1$	$\gamma 1 * \lambda 2$	$\sigma 1 * \gamma 2 * \lambda 2$	$\pi 1 * \gamma 3 * \lambda 2$	
Member-member	-0,393	-0,109	-0,019	-0,088	-0,503
Member-management	-0,371	-0,104	-0,110	-0,072	-0,657

Source: own calculation

To sum it up: the effects of negative experiences coming from the collaboration on collaborative activity were divided in the constructed model into a direct and an indirect effect, where the direct effect was deduced through trust reduction. Actually, nothing else was done, than dividing Pearson-coefficients between the independent (MOR) and the dependent (COOP) variables into two parts. The results show that the direct effect of moral hazard is more remarkable in both cases (-0,393 and -0,371), but it is differentiated! While in member-member relation it gives 78% of the Pearson correlation value, this rate is only 56% in member-management relation. It shows that in member-management relation moral hazard can cause more harms by destroying trust, thus setting back collaborative activity in the given cooperative.

EMPIRICAL TESTING OF SHOLTES-MODEL

The Sholtes trust approach has a key role in analysing the effect of moral hazard on collaborative activity. The model explicitly assumes the same importance for the perceived trust-determinants (faith in loyalty and capability), though the research results show that they probably have different values in developing the trust level, which raises the need for the empirical testing of this model.

Therefore the next step in the research attempts to validate the Sholtes trust model empirically. In order to carry out the test, the LOY and CAP scales were divided into two parts (low and high) by using their averages and as a result, four groups were formed. The general trust level (TR_T and TR_M) in member-member and member-management relations was studied in these groups (Table 4).

The results prove in both relations that the assumption based on the Sholtes trust model is mostly right: provided faith in both capability and loyalty take high values (over the average) (Group 2), the average level of the general trust is higher (5,77, and 6,65) as compared to any other groups which can be statistically justified. Though the average trust

values calculated in Group 3 are well behind the average values of Groups 1 and 2, these differences cannot be regarded statistically significant. Moreover, there is no significant difference between the TR-averages in case of Group 1 and 2. (It is worth mentioning that the results of the examinations with the above-mentioned descriptive statistics were checked by one-way ANOVA statistical models and Post-Hoc tests (Games-Howell Post Hoc Test), and these examinations have not brought a different result.) Naturally, these experiences do not mean at all that the trust model describes reality wrong, that is the model cannot be validated.

Changes in the trust level (TR_T and TR_M) in each group
Table 4

Faith in loyalty (LOY_T and LOY_M)	Faith in capability (CAP_T and CAP_M): low	Faith in capability (CAP_T and CAP_M): high
high	*Group 1* (**SYMPATHY**) **TR_T-average: 3,41** (n=20) CI (95%): [2,16-4,66] **TR_M-average: 5,15** (n=12) CI (95%): [4,51-5,79]	*Group 2* (**TRUST**) **TR_T-average: 5,77** (n=97) CI (95%): [5,39-6,15] **TR_M-average: 6,65** (n=99) CI (95%): [5,95-7,55]
low	*Group 3* (**MISTRUST**) **TR_T-average: 2,05** (n=8) CI (95%): [1,46-2,64] **TR_M-average: 3,86** (n=14) CI (95%): [2,76-4,96]	*Group 4* (**RESPECT**) **TR_T-average: 4,45** (n=19) CI (95%): [3,83-5,07] **TR_M-average: 5,29** (n=19) CI (95%): [4,48-5,74]

Source: own calculations

Continuing the examinations, the Sholtes trust-determinants got tested within the framework of statistical explanatory models. The effect of faith both in loyalty and capability on trust level has been studied with the help of two statistical models. Results of examinations made in member-member relation are summarized in Table 5.

The effect of faith in loyalty (LOY_T) and capability (CAP_T) on trust (TR_T)
Table 5

Factors	Hierarchic ANOVA model				Linear regression model			
	Eta	Beta	*Sig.*	R^2	B	Beta	*Sig.*	R^2
LOY_T	0,419	0,375	*0,000*	0,453	0,391	0,427	*0,000*	0,547
CAP_T	0,524	0,411	*0,000*		0,429	0,502	*0,000*	

Source: own calculations

The results basically validate the Sholtes-model, so it has been proved again that both factors are important in developing trust, both have statistically justifiable effects. Both the ANOVA and the regression model show that the importance of certain background factors is slightly asymmetric from the aspect of trust: faith in capability seems to be a bit more important as compared to loyalty (ANOVA beta: 0411 against 0,375, and the regression beta: 0,502 vs. 0,427). It is worth mentioning, however, that differences detectable in these parameter-values are not significant statistically.

Examinations done in member-management relation also prove the trust-model, although, with a bit different outcomes: in this relation the explanatory models evaluate faith in loyalty as more important from the aspect of trust, although these differences cannot be regarded statistically significant.

The effect of faith in loyalty (LOY_M) and capability (CAP_M) on trust (TR_M)
Table 6

Factors	Hierarchic ANOVA model				Linear regression model			
	Eta	Beta	*Sig.*	R^2	B	Beta	*Sig.*	R^2
LOY_M	0,619	0,422	*0,000*	0,343	0,531	0,548	*0,000*	0,507
CAP_M	0,559	0,391	*0,000*		0,331	0,302	*0,000*	

Source: own calculations

CONCLUSIONS

The study analyses the effect of moral hazard on collaborative activity by means of the path-model. Summing up the experiences concluded from the results, it could be stated that although the statistical analyses justified the negative effect of moral hazard on the collaborative willingness, it has not been proved entirely that the low level of collaborative willingness within producers' organizations can be attributed only to moral hazard. However, one of the most important outcomes of examinations done on path-models is that moral hazard – besides its effect exerted either directly or some other „ways"- has negative impact on the collaborative activity of farmers by eroding trust.

Furthermore, it can also be stated on the basis of our results that the effect of moral hazard, which hinders trust and thus the collaborative activity, is differentiated. The farmers' judgement tolerates the possible opportunist behaviour of fellow-members more than that of the management. As a result, the key to the successful agricultural organizations is the management integrity.

Within the framework of some additional examinations, the Sholtes-model has been tested successfully. According to the experiences, the model, which deduces trust to the faith put in the partner's loyalty and capability, is basically relevant. The argument according to which there is a high level of trust between partners provided faith in both loyalty and capability takes equally high values has been clearly confirmed. The research, however, revealed that the above-mentioned two factors determine it to a different degree: in case of trust between members faith in capability seems to be more important, while trust towards the management is determined rather by faith in loyalty.

It can be concluded from the experiences that one of the

possible ways of trust development within the organizations and collaborative activity improvement is, on the one hand, development of skills-training - for example through the professional training of farmers and the management - while on the other hand, by strengthening loyalty of partners towards each other, for example through team-building programs, events.

Naturally, this research has its own limits. It is difficult to generalize the results because of the sample concentration (only one agricultural organization) and its low number (N=144). The obtained results, however, significantly overlap with what was published by Baranyai et al. (2013) and Vasa et al. (2014) and it makes some level of generalization possible. Nevertheless, it is worth conducting more research in this subject which can have two directions: the quantitative expansion of the research, namely expanding the number and the field of data collection, as well as qualitative expansion, namely expanding more empirical models. Hopefully, by means of the qualitative expansion we will be able to get more precise answers about the factors that hinder agricultural cooperatives the most.

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SCIENTIFIC PAPER

REGIONAL DIFFERENCES IN THE ECONOMICAL SUSTAINABILITY OF SPORTS HALLS

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Abstract: *The precondition of a health conscious behaviour in a community is establishing a healthy development of the community, an important part of which is the community's attitude to sports and health. A basic manifestation of this is whether the leadership of a specific settlement is committed to developing sports facilities and, on the other hand, to what extent residents make use of these facilities. The aim of our research was to point out the number of sports facilities currently available for catering everyday physical education introduced in 2012, leisure sports and competitive sport events in two different regions of Hungary. We also examined the resources available for maintaining the facilities and the degree to which existing facilities are exploited. Existing sports halls of the Northern Great Plain and Central Transdanubia were included in the research. We wish to emphasise, in regards to the infrastructural developments of the coming few years, that it is essential to consider the fact, even in the planning phase of facilities, that sport events in themselves do not make the facilities economically sustainable.*

Keywords: *sport, sport subsidies, sport facilities (*JEL code: Z20*)*

INTRODUCTION

Sports development is fundamental about the supporting participation and the opportunities of participation including its advantages (Shilbury et al. 2008).

Accordingly, three very important components have to be differentiated among others: sports policy, development through sports and sports development. The most general of course is sports policy, which traditionally deals with issues of elite *vs*. grassroots sports, the relationship of political ideologies and sports policy as well as the effects of international effectiveness of athletes (Sam and Jackson 2006).

Development through sport means the role a sport plays in the well-being of a community (Coalter 2007; Harris and Adams 2015). In other words, sport is presumed to be good in itself and to play a role in developing the physical and mental condition of the population. As such, sport is regarded as a tool, which specifies wide social issues and problems, which can originate from industrialisation (Hartmann and Kwauk 2011), at the same time improve areas from crime stats (Houlihan and White 2002), to obesity and general health condition (Edwards and Casper 2012).

However, sports development fundamentally develops sports for itself, in other words, it takes place by keeping the interest of participants of competitive sports in mind. In this approach, the most commonly accepted system is the pyramid metaphor (Bramham et al. 2001), where low-level athletes can be found at the bottom and elite athletes at the top. The basic aim of sport developers is to create a large athlete base, which is more likely to provide competitors for the higher levels or for the top of the pyramid (Sotiriadou et al. 2008).

Sport can be a tool through its peculiar functions to achieve a number of socio-economic objectives, and it is connected to these areas. Its current situation, therefore, requires analysis not in itself but in the light of domestic and international social and economic objectives.

Article 182 of the Constitutional Treaty for the European Union also includes sports among others. According to this, the Union contributes to the development of European sports, considering the peculiar characteristics of sport, the structural properties based on voluntary participation as well as its role in society and education. Its aim is to develop the European dimensions of sport, fairness and openness, promoting cooperation among organisations responsible for sports and safeguarding the physical and intellectual integrity of athletes, especially that of young athletes.

The EU only spends limited resources along clear, well-defined objectives and principles on sports developments:

Municipalities and local governments are the most significant budgetary supporters of sports activities in the majority of countries.

Nowadays, one of the most important national and European Union objective is to increase the ratio of those in the population who perform sports on a regular basis along with the average amount of time spent doing sports.

It is an aim, therefore, to "make people move" and through this:

- achieve improvement in public health;
- assist the youth in preparing for the challenges of an accelerated world by developing skills in lifestyle management and problem solving;
- contribute to the strengthening of community and family relationships;
- increase the productivity of the employed and the community as a whole.[1]

It is thus a fundamental national objective to ensure access to sports facilities for an ever wider public in order to achieve these goals.

Although there has been a significant advance in public health condition in the past hundred years or so (Son et al. 2011), prevention of illnesses and further improvement of health continues to play a fundamental role among policy objectives (WHO 2003). One of the important strategic points of improving public health condition is focusing on communities. According a WHO statement (2012), public health condition in a specific geographical area is similar. Improvement of community health is, therefore, an important part of healthy community development and functioning. This requires development and active involvement in community thinking. An important component of this is commitment to sport and community health in a given municipality (Labonte and Laverack 2001; Edwards 2015), which is partly expressed by developing facilities that provide opportunities for sports in that given area.

In our research, we attempted to determine current availability of sports facilities in different regions of Hungary and to describe what financial or other resources are available for maintaining these as well as the extent to which the sports halls in operation are exploited. In our current research we included existing sports halls of the Northern Great Plain and Transdanubia (*Figure 1*).

MATERIALS AND METHODS

The study was based on a telephone survey, which included factors influencing maintenance beyond the data regarding the facilities.

Our research included altogether 39 institutions (24 in Northern Great Plain and 15 in Central Transdanubia; *Figure 2*).

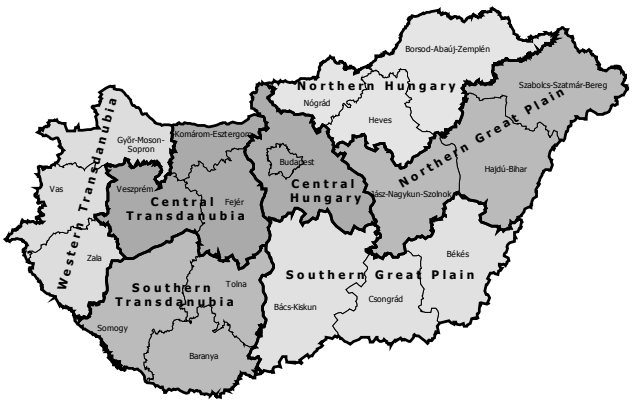
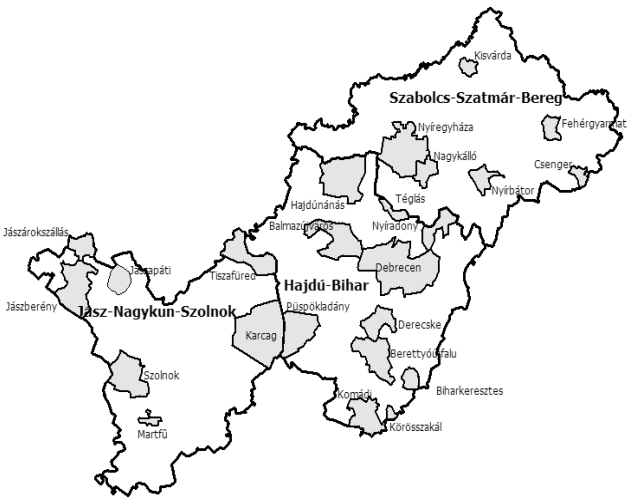
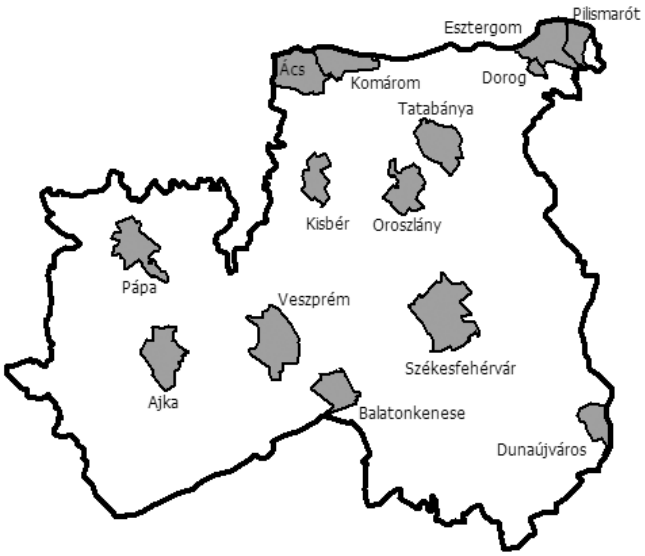


Figure 1 - Regions of Hungary
Source: Own compilation.



Northern Great Plain



Central Transdanubia

Figure 2 - Geographical location of sport institutions involved in the survey within the Northern Great Plain and Central Transdanubia regions.
Source: Own compilation based on our questionnaires.

1 Background material on Sport XXI National Sports strategy

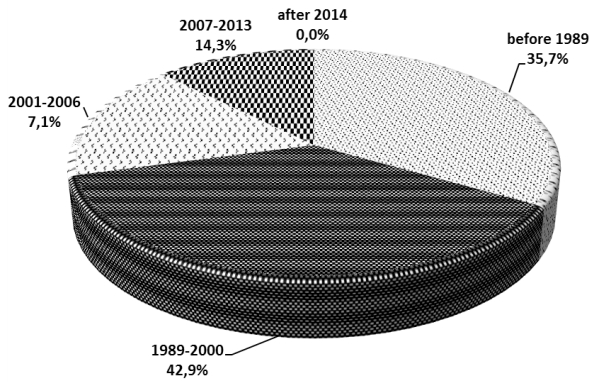
The reason why these two regions were chosen was the aim to introduce an eastern and a western Hungarian region, one from the plains regions and one from Transdanubia. Moreover, we wished to reveal the extent to which the large sports organisations in the Central Transdanubia region influence the exploitation of facilities.

The evaluation was carried out using the EvaSys program (VSL Inc., Hungary; http://www.vsl.hu).

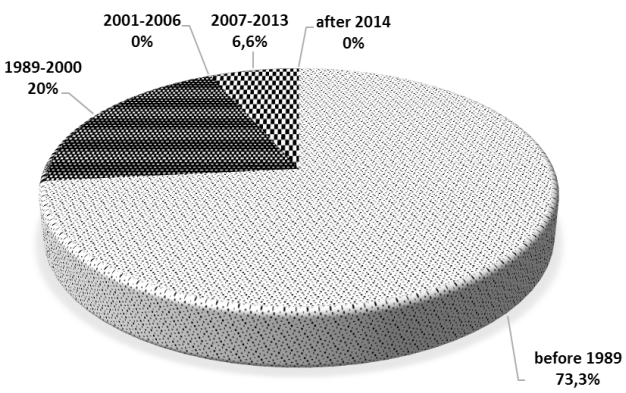
Analysis of data for the Northern Great Plain region was based on accessible, primarily HCSO databases and studies related to the topic.

Correlation between the variables in question – population of the given town versus the capacity of the sport infrastructure or the frequency of events held – was assessed by calculating the correlation coefficient (r) and estimating the statistical significance of this correlation using SigmaStat (Systat Software Inc., San Jose, CA, USA). Significance was assumed when $p<0.05$.

RESULTS AND DISCUSSION



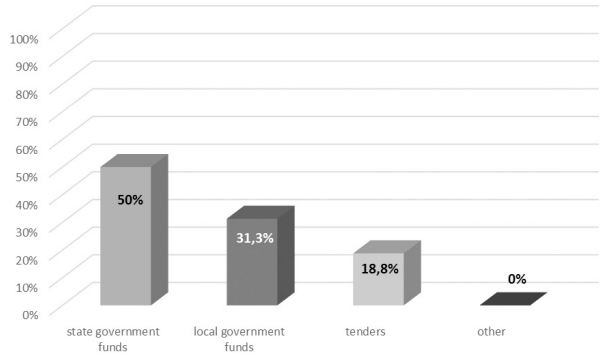
Northern Great Plain



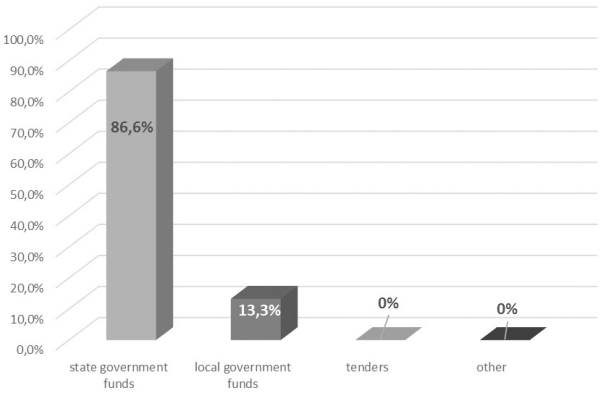
Central Transdanubia

Figure 3 – Dates of facility inaugurations
Source: Own compilation based on our questionnaires.

It is clear when comparing the dates of inaugurations of sports facilities (*Figure 3*) that while almost all periods are represented in the Northern Great Plain region, they primarily occurred prior to 1989 in Central Transdanubia and only rarely following the change of regime (1989).



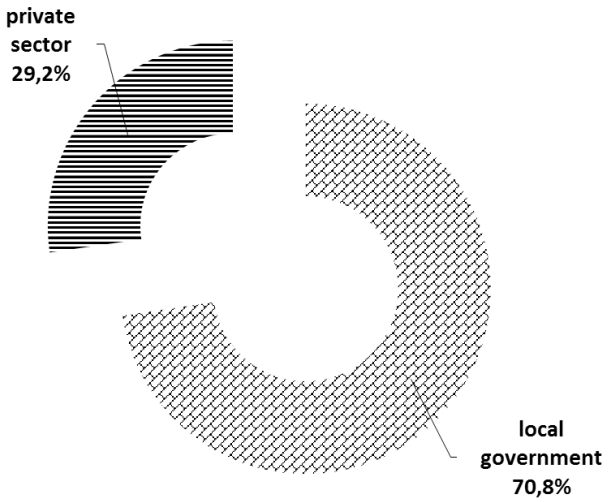
Northern Great Plain



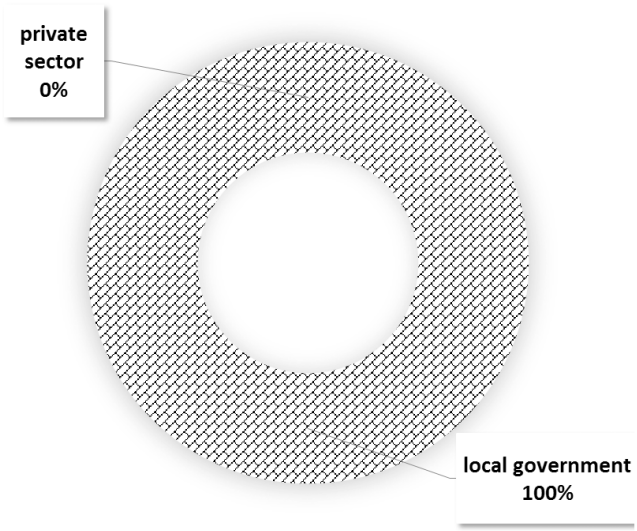
Central Transdanubia

Figure 4 – Resources of sports hall construction
Source: Own compilation based on our questionnaires.

When the resources of constructions are examined (*Figure 4*) – and this also supports the information presented on the diagrams in *Figure 3* – that project financing through tenders is also present in addition to national and local government financing in the Northern Great Plain region, while mostly nationally financed projects are typical in the Central Transdanubian region, as the majority of constructions were completed prior to the change of regime.



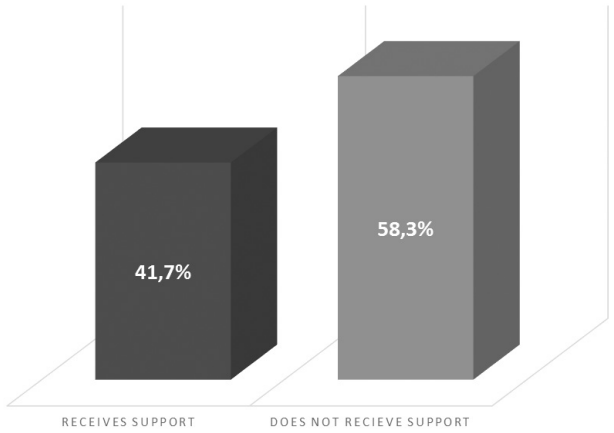
Northern Great Plain



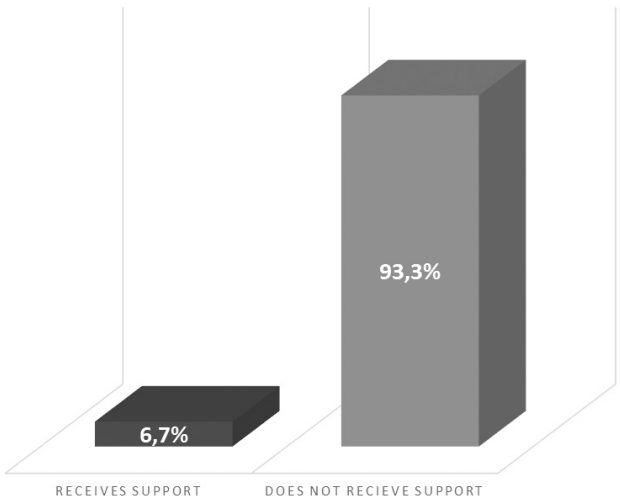
Central Transdanubia

Figure 5 – Facility operators
Source: Own compilation based on our questionnaires.

The two diagrams in *Figure 5* also support the information contained in the above figures (*Figure 3* and *4*), namely that the date of establishment and distribution highly influences who or which legal entity runs the facility. There was no facility operated by the public sector in Central Transdanubia, most likely because the majority of sports halls were constructed prior to the change of regime.



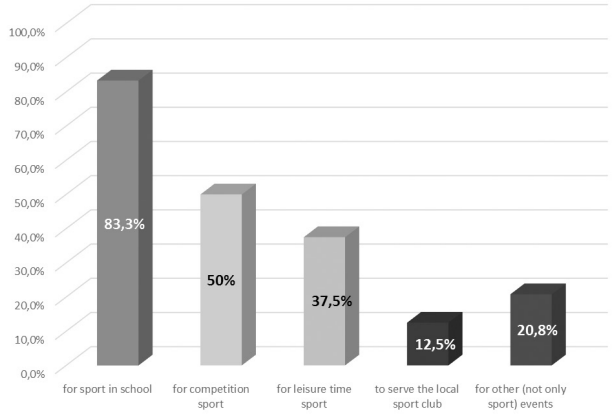
Northern Great Plain



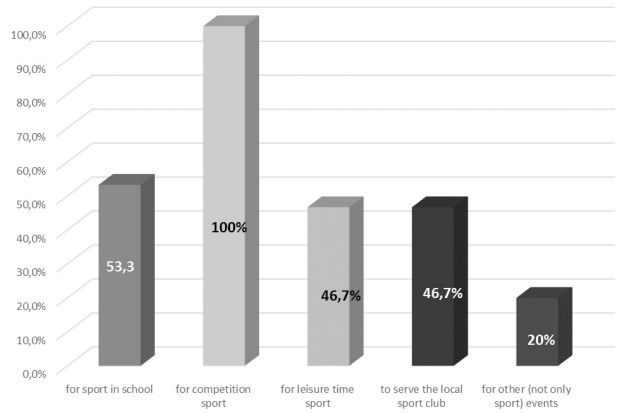
Central Transdanubia

Figure 6 – Does the facility receive any government funds for maintenance?
Source: Own compilation based on our questionnaires.

We obtained even worse results regarding government funding for maintenance in the Central Transdanubian region. Only one facility out of all the sports halls receives government support here while eight facilities receive funds from the state in the Northern Great Plain region (*Figure 6*).



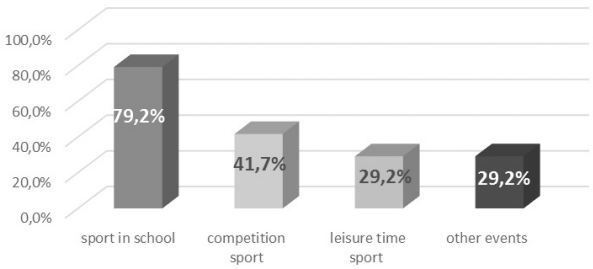
Northern Great Plain



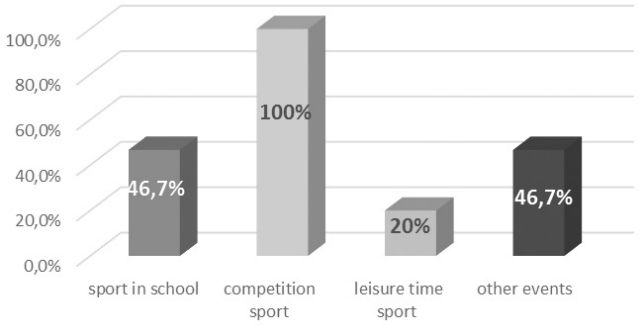
Central Transdanubia

Figure 7 – Aims of establishing sport halls. Note that more than one aim might have been named in the survey.
Source: Own compilation based on our questionnaires.

The aims of establishing sport halls clearly reflects that many large sport clubs exist in the Central Transdanubian region, where locations for practice and playing matches are necessary (*Figure 7*). On the other hand, the tendency which can be observed following the change of regime is clearly visible in the Northern Great Plain region, namely that the support of physical education in schools began by initiating the constructions of sports halls in smaller settlements which also provide a place for physical education classes.



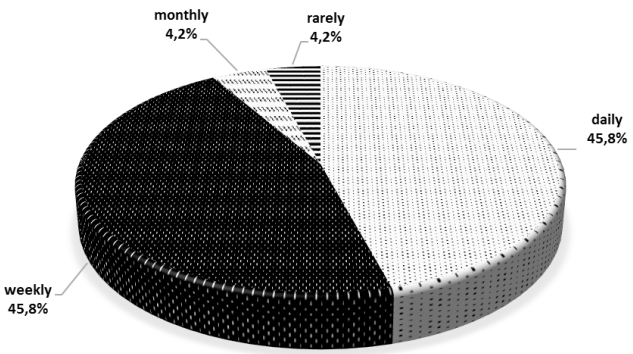
Northern Great Plain



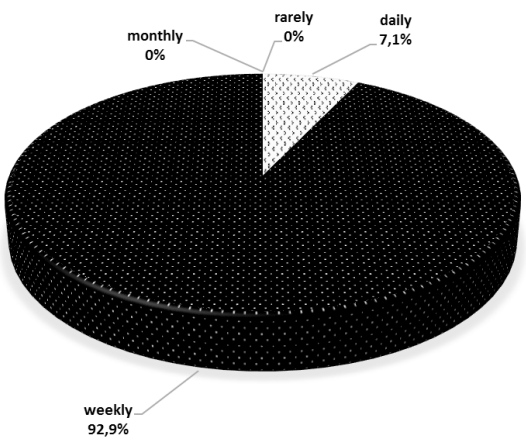
Central Transdanubia

Figure 8 – Types of events organised in sports halls. Note that more than one type might have been named in the survey.
Source: Own compilation based on our questionnaires.

We found it worthy to examine whether the currently most often organised events fit the original purpose or not. It can be clearly seen by looking at the diagrams in *Figure 8* that the events most often organised in sports halls in the Northern Great Plain region are linked to school sport, while most events in the Central Transdanubian region are connected to competitive sport.



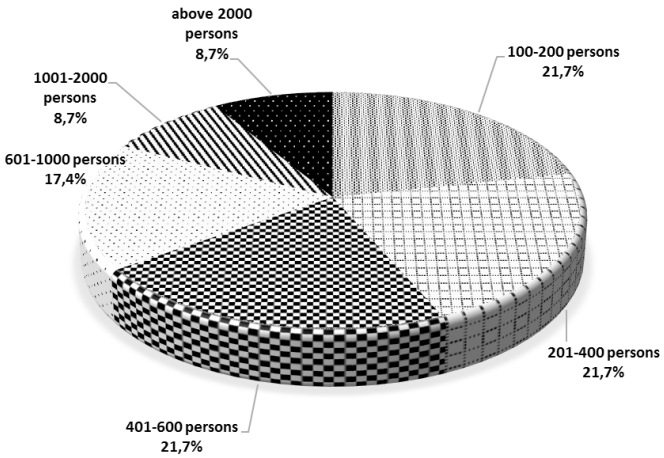
Northern Great Plain



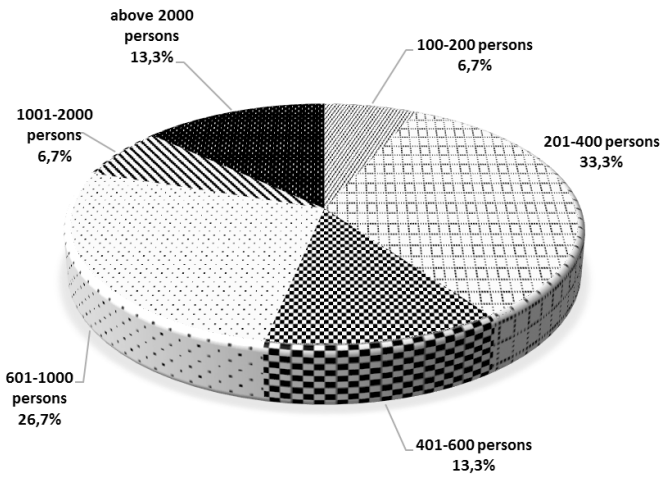
Central Transdanubia

Figure 9 – Frequency of events organised in sports halls
Source: Own compilation based on our questionnaires.

When examining the most frequently organised events it is also obvious that there is a higher ratio of daily events in the Northern Great Plain region while facility utilisation happens on rather a weekly basis – most likely due to the matches and trainings of sports clubs – in the Central Transdanubian region (*Figure 9*).



Northern Great Plain



Central Transdanubia

Figure 10 – Capacity of sports facilities
Source: Own compilation based on our questionnaires.

When examining the capacity of facilities it can be stated that there are an approximately equal number of sports halls with a capacity of 201-400, 401-600, and 601-1000 in the two regions (*Figure 10*).

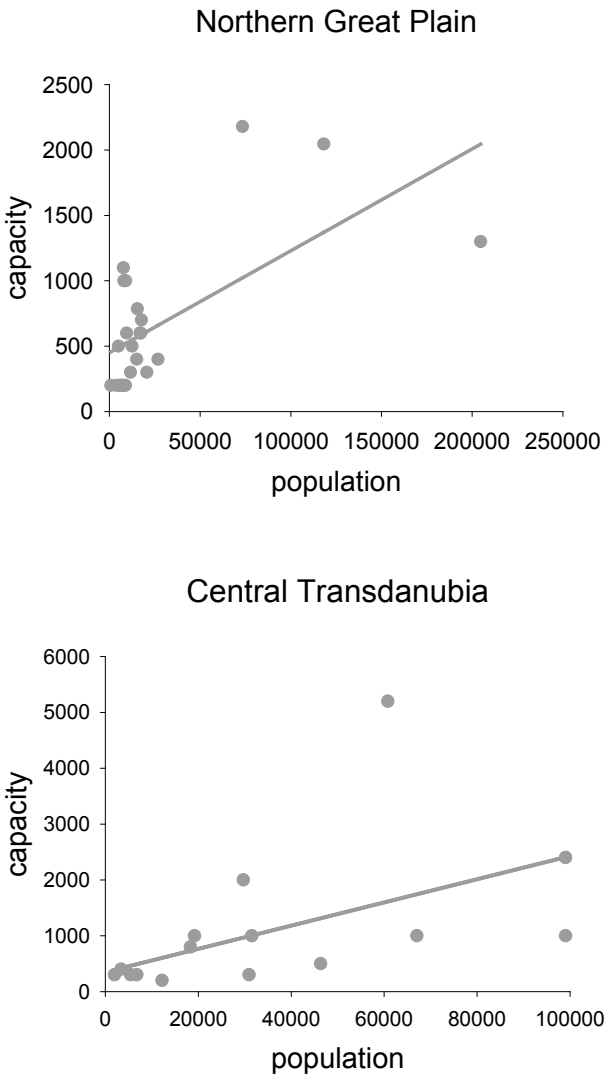


Figure 11 - Relationship between the population of the settlement and the capacity of the sport arena.
Source: Own compilation based on our questionnaires.

Regression lines fitted using the least squares method to the data points in *Figure 11* reveal whether or not there is a correlation between the capacity of facilities and the population of the settlements. It can be said that, as it was referred to in our previous study (Kosztin and Balatoni 2015), correlation can only be observed in the Northern Great Plain region between the capacity of sports facilities and the population of the settlement if the county seats are also included. The situation is similar in the Central Transdanubian region as well. Considering the sports halls in the county seats results in a correlation similar to but not as strong as ($r^2 = 0.269$; $p<0.05$) in the Northern Great Plain. At the same time, if the four sports facilities found in these towns are excluded, the correlation ($r^2 = 0.1771$; $p > 0.19$) ceases.

It can be stated that the capacity of facilities justified by the population of the settlement were disregarded when the funds were used and the sports halls were planned.

CONCLUSIONS

Sport has long been considered as a dominant and practical tool of development worldwide. As Coalter (2010; 2013) also points out, the "sport for development" is a continuously existing topic of community policy in the industrialized and even in some developing countries (Levermore 2008).

This aspect is especially strong in general debates and negotiations on sports and physical education programs recently, referring to the presumed relationship between sports and improved physical and mental health, as well as between the improving ratio of participation in formal training and development of community relationships. In the light of these it is not surprising that certain settlements consider it a priority to develop facilities providing sport opportunities even if no preliminary studies are available regarding their utilisation and sustainability. Our study compared the sports halls of two regions, focusing on the aspects above.

We looked up a total of 39 sports halls in Northern Great Plain and Central Transdanubia, eight of these (7+1) were constructed after 2000.

It was revealed that 100% of the Central Transdanubian facilities are operated by the local governments, while almost half in Northern Great Plain are operated by enterprises owned by the local government.

Funds obtained through tenders were also involved in the construction of new sports halls in the Northern Great Plain region, while this cannot be said in case of the Central Transdanubian facilities.

The primary purpose of sports halls in the Central Transdanubian region is to provide a location for competitive sports, while the Northern Great Plain region concentrates on the trinity of school, competition, and leisure sports.

The state has an important role in operating all areas of sport.

The fact that the sport events in themselves do not make the facilities sustainable has to be considered even in the planning phase regarding the infrastructural developments of the coming years.

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SCIENTIFIC PAPER

THE ANALYSIS OF ABSORPTION CAPACITY OF PROJECT BENEFICIARIES CONTRIBUTING TO CROSS-BORDER PROGRAMMES BASED ON THE MOST FUNDAMENTAL CRITERIA

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Abstract: *Subsequent to the experience with the international aid programmes of the 1990's, from the very beginning of the accession negotiations and since 2004 in particular, the notion of absorption capacity of using EU funds has gradually been in focus. The subject of early scientific investigations concentrated mainly on the analysis of the macro-economic conditions of individual countries; furthermore, on increasing absorption capacities as well as how to develop the institutional system of cohesion policy further. After 2004, however, succeeding further rounds of the enlargement as well as after the programming period 2007-2013 in particular – meaning as well the conclusion of the EU budgetary period – the analysis of absorption capacities could be produced at the level of project beneficiaries.*
The aim of this study is to examine the most prominent determinants influencing successful outcomes and the quality of vigorous projects managed by potent beneficiaries and consortia participating in the European Territorial Co-operation Programmes with the contribution of Hungary. In the course of research correlations between determinants have been subject to econometric analysis revealing the fact that the implementation capacities of state-owned project beneficiaries and those of the non-governmental sector diverge significantly. Moreover, the study aims to show how the institutional system distributing EU funds tends to be rather lax towards the beneficiaries with weak absorption capacities, thus sacrificing the efficiency of developments for pure statistics..

Keywords: *structural fund, cohesion policy, absorption capacity, European territorial cooperation (*JEL code: R58*)*

INTRODUCTION

The use and disbursement of EU funds for the financing period 2007-2013 reached its peak in 2015. In parallel, the programming period 2014 - 2020 also began on 1st January 2014. The new financing period has been amid great disputes since the beginning and it has had its share of failures as well, for example in the case of the EU summit of 23rd November where the heads of states and prime ministers of the Union failed to come to an agreement on the community budget. Naturally, the underlying tension was among net contributor and beneficiary countries in this case as well. The arguments made by net contributor countries and the European Commission – among others – referred to the low absorption capacity of net beneficiary countries, which is a phenomenon that had increasingly been in the focus of research in the years prior to the fifth wave of the enlargement. The authors *Herves* and *Holzmann* (1997) prepared the first such EU study, which included a theoretical and empirical analysis of absorption capacities and problems. Their study can be mentioned among the first such published literature with the aim of providing a theoretical and practical approach to and measuring the problem of absorption following macroeconomic analysis. The authors examined the issue of absorption from a strict economic point of view in the case of less developed regions and countries. Although the European Commission (EC) also examined the structural policy and the efficiency of implementation in a plethora of assessments in the following years (*Bradley* and *Barry,* 1999) – namely whether establishing social and economic cohesion and reducing existing differences was successful – the term of absorption capacity was not used in these documents until the turn of the millennium. In view of the imminent enlargement wave of 2004 – since the countries to join the Community were much poorer than the EU average

– the Commission and professional circles as well began to place increasing emphasis on the issue of absorption capacities (Pires, 2001)..

Nevertheless, studies were commissioned by the Commission for the Third Report on Social and Economic Cohesion (ÖIR, 2003). Within the framework of these examinations the aim was to analyse the rate of fund use in the context of the implementation process with targeted questions and data collection. At the same time, the most relevant documents regarding absorption capacity were made within the framework of the institution development parts of the Phare programmes at the beginning of 2000s. The development of the first set of indicators is linked to these evaluations, which already experimented with the use of qualitative and quantitative criteria in case of Ireland, Spain, Portugal and three former GDR states. The evaluations focused on institutional structures as well as administrative resources. According to a study in 2002 (*NEI,* 2002), the causes of absorption problems can essentially be traced back to the deficiencies of three areas of capacity: macroeconomic, administrative and financing. The absorption capacities of cohesion countries were compared with the capacities of pre-accession countries – such as Hungary and Slovenia. Here, restructuring and system building recommendations were also defined in order to ensure the consistency of the cohesion policies of these countries with that of the EU Structural Policy. The literature pointed out the great impact of macroeconomic factors on the effectiveness of Structural Funds.Yet the success of resources use significantly depends on other factors, fundamentally the administrative and financing absorption capacities of the individual countries. It can also be seen from the abovementioned example that the literature in question placed emphasis on macroeconomic, administrative and institutional system aspects. However, the analysis of the absorption capacities of project beneficiaries has less been the subject of such research thus far. This is somewhat understandable as the programming period 2007-2013 is the first complete financing period, in which the newly joined countries – fundamentally possessing weaker capacities – were involved in using funds throughout the entire period, thus also providing a suitable framework for examining resource absorption capacity of the beneficiary side. Such evaluations can have a great added value as the conclusions on the one hand may promote practical implementation: planning of operational programmes; drafting project calls based on these programmes, the design of monitoring activities, risk management etc. On the other hand, they can orientate the institutional system of Cohesion Policy and the consultancy sector around it on the type of activities project beneficiaries may contribute to increasing the absorption of EU funds while fully exploiting the available institutional capacities and resources with a focus on the capacity building areas on demand. The European Territorial Cooperation Programmes (ETC), with the participation by Hungary, provide a suitable framework for performing such a research as opposed to the so-called „mainstream" operational programmes, since they also allow expanding evaluations on the possible effects triggered by the absorption capacities of the project beneficiaries of the partnering countries coming both from Member and Non-Member States. Examinations related to the absorption capacities of project beneficiaries prove to be very useful from the aspect of the abovementioned practical applications as well, if they are able to reveal (or exclude) possible correlations between certain characteristics of beneficiaries. These include the quality of their submitted project application documents and the success of implementation in case of applications where funding is granted.

METHODOLOGY

If we aim to examine the correlation between the characteristics of project beneficiaries, the quality of applications and the success of the implementation of their projects related to a specific area of EU fund use, then first it is worth doing so along the most cardinal differences of the characteristics among project beneficiaries. Such significantly important characteristics includethe legal status (state organisation or NGO) of project beneficiaries, their registered office, which also includes the essential territorial aspect in these assessments. The first part of the study aims to provide an overview on the application and evaluation phases. The relation between the abovementioned applicant characteristics and the success of the project are examined based on the compiled database in the first part of the study. The aim is to find an answer regarding the existence of a correlation between the attributes of the selected project beneficiaries (legal status, registered office) and the quality of the applications. The subject of the second part of the study is the examination of the implementation phase of projects where funding is granted. By including further relevant data, we aim to quantify and make the degree of implementation success comparable through developing a penalty point system, as well as examining a correlation and links with a univariate analysis between the attributes (legal status and registered office) and the implementation success of projects. This examination hopefully aids in confirming those two hypotheses, which are regarded and used as evidence in making cohesion policy during practical decision-making. According to a widely-accepted perception, the public sector is less capable of drafting a suitable quality application due to its unique decision-making and implementation mechanisms and less experience in fund management compared to that of the civil sector, as well as possessing a lower success rate in implementation. NGO-s, civil organisations reappeared following the change of regime both in Hungary as well as in Central and Eastern European Countries (CEECs). Their maintainance, activities and operational costs could be fundamentally ensured by grants beside the possible low normative support since the beginning of the 1990s. Large scale funds accessible through application for state or local government entities became essentially typical only from the start of accession negotiations since the end of the 90s. On the other hand, consortia with project beneficiaries including countries/territories demonstrating greater experience regarding fund management and its quantity are presumably capable of submitting better quality applications and executing them with a higher degree of success. During

the implementation of cross-border programmes, in the programming period 2007-2013, Hungarian partners had the opportunity to implement joint projects not only with project beneficiaries of other EU member states, but also with IPA (Croatia until mid-2013 and Serbia) as well as ENPI-countries (Ukraine). We apply the hypothesis that projects submitted within the framework of programmes for EU and IPA-states – due to the greater experience of project beneficiaries in these countries – are of better quality and their implementation is accompanied by fewer problems than in the case of ENPI-programmes, because of the relative inexperience of the project beneficiaries in the Ukranian partner country.

Analysing the relation between the legal status of applicants as lead beneficiaries, registered offices according to countries with the quality of the applications for funding

A database was required in order to apply the characteristics of applicants and project beneficiaries for statistical and econometric evaluations. The datafile included project data of programmes financed by the European Regional Development Fund (ERDF), the Instrument for Pre-Accession Assistance (IPA) and the European Neighbourhood and Partnership Instrument (ENPI), where Hungary acted as the Joint Managing Authority in the programming period 2007-2013. The source of data is the Monitoring and Information System (IMIS 2007-2013), which was established to meet and manage the data requirements of organisations (managing authorities, national authorities, joint technical secretariats, information points, certifying authority etc.) contributing to the implementation of the programmes. It also assists communication with partner countries as well as the participants of the institutional system along with project beneficiaries. The database includes the project data submitted for the call for proposals of the bilateral programmes with Croatia, Romania, Serbia, Slovakia and the quadrilateral programme with Romania, Slovakia and Ukraine. The data file includes a total of 3427 items; all items are marked with an individual identification number and identify a project submitted at a phase of project implementation. The individual projects include the following information:

- programme;
- project ID/identifier;
- registered office (0-domestic, 1-partner country leading partner);
- project type (soft or infrastructural development);
- nature;
- partner number;
- evaluation score;
- state or NGO organisation[1];
- formal mistake;
- partner numbers with regard to nationality.

This information and attributes allow tracking and making a comparison between individual programmes, and the early phase of the project lifecycle – submission and project evaluation – both according to territorial and basic quality criteria. During the current and later econometric evaluations of the study, the „applicant" or „project beneficiary" designation indicates the so-called lead beneficiaries acting as heads of individual applicant consortia. Although each consortium must consist of members from many nationalities in accordance with the programme rules, the subsequently evaluated characteristics can also mix even within one consortium, yet leading partners have a significant importance and thus an impact on project quality and implementation success during the implementation of ETC projects. They are responsible for submitting the project, furthermore, it is only the lead beneficiary that signs the contract with the institution system, so in technical, financial and legal sense they are responsible for implementation towards the administration. A precondition of entering the evaluation phase for a submitted proposal is compliance with formal criteria. Noncompliance with this criterion raises the question of deficiencies in project writing capacities, thus we first examined the relation between the "non-governmental organisation applicant" and formal mistake categorical variables with the help of a contingency table based on the hypothesis established above (table 1). The test mentioned examines the question whether two – categorical – criteria are independent of each other. Null hypothesis is the independence, which means that the distribution of one variable does not depend on the value of the other (e.g.: the distribution of the formal mistake variable is the same with state and NGO legal status as well). The application of the method is justified by the fact that in contingency tables – due to the signifantly large sample size –plenty of observations are included altogether and also in each individual cell, and the approach that observations (projects) are independent of each other is acceptable, thus the conditions of probe application are fulfilled.

Table 1
The relation between the formal mistake and the legal status shown in a contingency table

project beneficiaries	formal mistake				Total
	no		yes		
	(number)	(%)	(number)	(%)	
state/local government	1854	78.6	504	21.4	2358
NGO	813	76.0	256	24.0	1069
Total	2667	77.8	760	22.2	3427

Non-governmental nature and formal mistakes are dependent according to our hypothesis. The chi2 probe related to the independence of two variables in the data of the table ($H_{0:}$ the two variables are independent; H1: not independent) *p*-value (0.101) suggest that the two variables are independent of each other. Therefore, it can be stated that non-governmental nature is not linked to the probability of a formal mistake. Following the analysis, the relation between attributes of non-governmental applicants and formal mistakes is examined, while an evaluation of the relation with the score for the previous variable – the consecutive step of the

1 Under state organisations, in this present case, the central public administration bodies as well as the territorial and local bodies are meant, including those entities in which these bodies have ate least 50% direct or indirect ownership. All the other project beneficiariesreceived NGO classification.

application cycle - as the precondition of granting a fund comes next. The scores received in the quality evaluation of the applications can be divided into two groups based on the grouping attributes in the interest of the analysis. We applied the hypothesis that the expected scores for the non-governmental applicants that have a longer history regarding the use funds and the scores of governmental applicants differs significantly in this case as well. Two independent sample *t*-probes (H0: no difference between the value of the two population; H1: there is a difference) were applied during the evaluation of the two groups due to the large sample size. This test examines whether the expected value (average) of the two groups differs from each other with regard to a continuous variable; the null hypothesis is that there is no difference between the expected values of the groups (e.g. no difference between the expected value of state and NGO legal status). The application of the method is justified by the fact that the sample size is large (thus the question of normality is irrelevant), and the sample-taking is independent. Following the 0.003 *p*-value – although there was a statistically significant difference between the two groups – the difference between the points of 68.3 and 70.2 is not noteworthy. Analyis carried out following the evaluations of the relations between the abovementioned categorical variables suggest that the results for participants with governmental and public legal status do not differ significantly.

Beyond the evaluations related to the abovementioned legal status, it is worth examining the issue of registered office as it is of special relevance in case of ETC programmes. The IPA group includes candidate and potential candidate countries with closer political and economic ties to the European Union, while the ENPI-group is made up of countries that are included under the European Neighbourhood and Partnership Instrument. IPA countries can use more significant EU funds considering their closer ties, and have longer history of funding. Based on this, it is a safe assumption that IPA countries possess greater absorption capacities behind old EU and new member states both at institutional and at applicant levels than ENPI counries. Cross-border programmes provide a suitable area for examining the presumed relationships as Hungary jointly manages programmes with new member states (Slovakia, Croatia (July 1st, 2013 accession)) with IPA (Serbia), and with an ENPI country (Ukraine). Layered, descriptive statistics of project scores for the individual states were prepared to prove assumptions. On the basis of these, we examined whether we can conclude a difference between the expected scores of individual programmes submitted for the ERFA/IPA and ENPI programmes. We carried out a single factor ANOVA test (H0: no difference between the expected values of scores for individual countries; H1: there is a difference) due to the large sample size. The test allows for the comparison of a continuous variable (e.g. score) among many groups. The subject of its examination is whether the expected value (average) of many groups differs from each other regarding the continuous variable. The null hypothesis is that there is no difference in the expected values among the groups (e.g. no difference between the expected value among programmes). It is important to note that rejecting null hypothesis does not mean that all groups differ from each other, but it only means that not all match. The application of the method is justified by the fact that our sample size is very large (therefore the question of normality is not relevant), as well as by the fact that the sample taking is independent. Such variables of the ANOVA-probe were also run during the analyses that are not sensitive to the conformity of group deviation. Based on the abovementioned we found that null hypothesis can be rejected (p-value<0.0001), thus the expected value is not the same with all countries. Robust probes, taking the possible damage of deviation homogeneity into account, also gave the same result. A „post hoc" testing was applied to identify which countries would have different values. This method allows for determining which group(s) would show differences from the other groups that cause the null hypothesis not to be present in case of rejecting it. In this present case, the Tukey-B method was applied within „post-hoc" testing, which „aims" to classify groups into homogeneous categories (into such categories that show no significant differences among groups that belong to the same category, on the contrary, in the groups belonging to different ones). The mentioned method formed the following two sets from the countries (table 2).

Table 2
The homogeneous groups of the programmes according to their points created by the Tukey B method

TukeyB[a,b]

Programme	N	Group classification at alpha=0.05	
		1	2
Serbian	487	67.7347	
Romanian	821	68.2957	
Croatian	252	68.3770	
Slovakian	771	70.0663	
Ukranian	336		75.2937

It can be stated that the Serbian (IPA), Croatian (former IPA current ERFA), Romanian (ERFA) and Slovakian (ERFA) applications form a homogenous set from the aspect of average score, the Ukranian programme is the only exception. Therefore, it can be concluded that the post hoc testing lead to a contrary result in case of the individual programmes. Although the homogenous set is disrupted by the Ukranian quadrilateral ENPI programme, the scores of content evaluation differ significantly upwards and not downwards contrary to expectations and the hypothesis compared to the ERFA and IPA- programmes. It is necessary to examine whether the results of formal and quality project evaluations are reflected during the implementation of the project in order to have correct conclusions drawn from the examinations above. Are projects implemented with similar success in the case of state and public projectbeneficiaries, and is the implementation of projects related to the Ukranian programme more successful than the other programmes? Revealing these relationships can

help to determine the objective performance of an institutional system with a unified structure and operating based on the same documented method of procedures even though there is a division according to programmes. Such atype and quality is an essential precondition for appropriate decision-making in cohesion policy, as well selecting possible areas (e.g. capacity building) for development.

The analysis of factors determining the success of project implementation through penalty points and univariate analyses

Factors affecting the implementation of individual funded projects – partly also analysed in the first phase – provide the subject of evaluation in the second phase of the empiric analysis. Penalty points were used to express a delay in project implementation with figures to allow the most objective determination of successful or possibly unsuccessful project implementation. Such evaluations can be of great help when determining territorial and technical focuses related to the capacity building activities of the project beneficiary, or defining resource concentration, as well as in the preparation of risk analysis and mitigation related to monitoring activities, thus reducing the danger of insufficient scale of programme level drawdowns. The examination begins with the assumption that if a project is able to meet requirements included in the contract and sufficiently use granted funds in accordance with the provisions of the document, then the absorption capacity of the project beneficiary can be regarded as sufficient from the implementation aspect. The previously introduced database was expanded in this phase. Only those projects were selected from the database for obvious reasons, where examinations were carried out, so they received funding because of their scores. These are closed, so implemented projects (791 projects – as of April 31st 2014). The following variables - relevant from the aspect of examination - were included in the database:

- document submissions required for the contract before/ after deadline;
- number of requests for amendments submitted during implementation;
- number of irregularity procedures;
- closing, compared to original deadline (delay in months).

Abovementioned variables and the administrative procedures originating from them highly obstruct implementation and extend the completion period. The significant delays of individual projects quickly accumulate at the level of operational programmes, which increases the previously mentioned annually arising repayments originating from the so-called n+2/3 rule.

Completion of conditions included in the subsidy contracts by the deadline has a major role in the future life cycle of a funded project – especially in the case of infrastructural projects – from the successful implementation aspect. Required documents were submitted by the deadline in 79.6% of the projects. 1-3 penalty points were assigned in even distribution to documents required for contracts that were not submitted by the deadline (delays were divided into three identical frequency parts) in order to make variables causing delays based on the defaults of the beneficiaries comparable in later phases of the analysis; the trisect points – so the 0.33 and 0.67 are quantile – there was a delay of 7.00 and 21.24 days). We determined the number of penalty points in all the other categories in later phases of the analysis based on a reference point for non-application of a professional weight in the given category that should be 1 penalty point in this category – that is 1-7 days delay.

Project beneficiaries often face the constraints of submitting amendments to contracts during the implementation of projects. This step is required in an insignificant number of cases due to unforeseen reasons (*vis maior)*, but in most cases because of insufficient planning and/or project implementation/management.The institutional system must assess amendment requests within 30 days based on the so-called internal programme implementationmanual that provides a unified regulation for individual programmes. Consequently, considering the reference established in the case of contracting (1 week 1 penalty point) while 0 in the cases when the amendment request is missing, 4 in the case of one amendment request, and 8 penalty points are assigned to projects with more than one amendment requests.

Delays originating from contracting, as well as delays arising from administration related to the irregularity procedure, which highly influences the completion date of a project beyond the previously mentioned factors. A government decree specifies that the institutional system of cohesion policy must close the procedure within 45 days following the initiation of the irregularity procedure. Projects affected in irregularity receive 6 penalty points – taking into consideration the 45 days of administrative procedures – while following the logic of contracting and amendments to contracts.

Beyond contracting, submission of amendment requests and irregulariry procedures in many cases the deficiencies in management capacities cause months and even years of delays. In this case, ignoring categorisation, 4 penalty points are assigned to the relevant project. Based on penalty point cumulation the distribution of total penalty points originating from planned or actual project closure is rather distorted due to the individual basic causes (we will take this into consideration later). Overall it can be said that the average penalty point is 10.1 (median: 8.0), the minimum is 0, the maximum is 104 points.

In the following part of the evaluation the subject of the examinations – similarly to the assessment part of the application phase and for testing the abovementioned hypothesis – is the correlation of penalty points considering the state/public status of applicants for the individual variables. In the absence of significant deviation found between the two sectors, it can be observed following the test that the average penalty point is lower by about 2 for NGOs (8.86 compared to 10.68). Since the size of the sample is large, it is possible to compare averages with a *t*-probe (H0: the expected value of the two populations is the same, H1: they differ) given that we have reason to assume consistent deviation, thus $p=0.03$, that is the difference can be said to be significant at the commonly

observed significance level of 5%. Therefore, following the examination of these variables it can be stated that NGO/non-governmental sector which possesses more experience in the grant management is more capable of implementing funded projects in accordance with our hypothesis.

ANOVA-type probes are used to compare differences of absorption capacity among the examined ERFA, IPA and ENPI programmes also considering implementation to check whether the expected values of scores significantly differ from each other.

The descriptive statistics of the abovementioned is illustrated in table 3.

Table 3

Stratified statistics of the penalty points according to the programme

Programme	N	Average	Deviation	95% confidence interval for the average		Minimum	Maximum
				Lower limit	Upper limit		
Romanian	354	11.4661	10.16494	10.4036	12.5286	.00	53.00
Slovakian	190	9.1421	14.57750	7.0560	11.2282	.00	104.00
Ukranian	21	15.9048	15.70320	8.7568	23.0528	4.00	72.00
Serbian	127	10.0157	10.22678	8.2199	11.8116	.00	56.00
Croatian	99	6.2828	10.45890	4.1968	8.3688	.00	56.00
Total	791	10.1441	11.71667	9.3264	10.9619	.00	104.00

The difference both with ANOVA (H0: the expected population value matches in all groups, H1: there is at least one group, which has an expected value differing from the others), and also with – justified by the small sample size of one group – robust alternatives (for similar hypothesis pair) is significant at all significance levels. Examinations in this case proved our initial hypothesis that when consortia from EU or IPA countries with more experience implement the projects jointly, they are able to carry them out with a better result than in the case of programmes where project beneficiaries of ENPI with less experience participate as well. Based on the averages of penalty points, a negative difference can clearly be detected in the case of the ENPI Ukranian programme when compared to the results of the other programmes. This result however, is exactly contrary to the previous expectation, according to which we can expect fewer problems in the event of better quality – ones with higher points – projects. Partial results occasionally producing opposite than expected results justify a joint evaluation of the conclusions from the two partial analyses even more so, thus allowing the definition of systemised properties.

FINDINGS AND RESULTS

Our examinations focused on the relations among beneficiaries, proposal writers, planners and project implementation abilities related to applications within the cross border cooperation programmes, in many cases divided according to programmes. Our hypothesis, which assumed that the non-governmental sector with longer history related to project proposals has a higher success rate in receiving funds, was not confirmed during the analysis regarding proposal writing. Our other hypothesis also proved to be wrong, which assumed that poorer quality proposals are submitted to the Ukranian ENPI programme. We have found that the proposals of the Serbian, Croatian, Romanian and Slovakian programmes form a homogeneous set based on their pont averages and though the Ukranian programme was the only exception – contrary to expectations – this was due to higher points.

Examinations on implementation proved that univariate models show a significant correlation with the success of project implementation (contracting within deadline, low number/absence of irregularity and amendment procedures, and appropriate scheduling of project closures) and the state/NGO project beneficiary status, as well as the fund management abilities of the consortium members from the partnering countries participating in the programmes. Our hypothesis compared to the first part of the analysis was proved which assumed that consortia with non-governmental lead beneficiaries are more successful at implementing projects (NGO an average of 2 less penalty points). The univariate examination applying a division according to programmes also handled the Ukranian programme separately from the otherwise homogeneous set. Our hypothesis, which assumed less experience from the Ukranian project partners of the ENPI programme and that they are therefore less capable of dealing with difficulties in implementation, was proved in the part on implementation.

CONCLUSIONS

The significant controversial difference between the results of the two partial analyses precisely indicates deficiencies in the operation and evaluation of the institutional system. The European Commission continuously emphasises the main principle for fund use which can most easily be described as „value for money". This effort is aimed at producing real added value regarding fund use rather than „burning them up". Contrary to and also in parallel with this, it aims to motivate individual member states to use funds in time and sanctions programmes not being able to comply with the previously accepted schedule of fund use with the so-called n+2/3 rule. The compliance with these two directions results in frictions and a kind of balancing in order to meet the expectations of both sides.

In order to practically implement the principle regarding quality developments and objectives, the monitoring committee of the programme approves the evaluation method, which determines the lower point limit required for funding in the initial stage of launching each programme. This also serves as a kind of quality guarantee. However – considering the analysis results contrary to each other – where the projects with the less experienced Ukranian consortium partners receive the most points, it can be concluded that they have an advantage in allocating and spending funds in time against the emphasised „good value for money" principle of the Committee during the evaluation of individual project rounds – presumably due to the insufficient number and quality of submitted proposals.. This, in certain cases, (see e.g. the Ukranian programme) can lead to the systematic „upscoring" of projects. This kind of evaluation deviation – as it is described above – can be counterproductive as project implementation flounder the most in these programmes. Naturally, this „partial" evaluation phenomenon – unfortunately – is a logical reflex from the institutional system if it wants to meet all committee requirements, at least in the beginning it does not want to lose funds, but few sufficient quality proposals are submitted for a call, or it is constrained by different treatments related to proposals submitted by government organisations.

LIMITS AND IMPLICATIONS

The constraints of this study aimed at examining strictly the narrow project cycle must be surpassed to evaluate these system level problems and in many cases the neglected project generation and project tutoring (especially in the case of government institutions and inexperienced (potent) project beneficiaries) must be recognised, which is fundamentally an issue linked to programming cycle.

Good implementation of these activities could greatly contribute to boosting the number of sufficient quality and quantity of submitted proposals for individual project calls. Naturally, this requires both institutional and applicant side as well. The institutional system must ensure the framework during the planning of individual operational programmes, which contribute to defining relevant development needs in time within the operational programmes. At the same time, the predictability of the institutional system is significantly important, which in our case refers to publishing the schedule and content of project calls in time and also following them. From the aspect of the widely interpreted applicant side, it is important to develop those basic capacities that allow individual potent institutions and organisations to submit proposals for project calls with a greater chance. The more such viable organisations are established, the more intense the competition for funds will be, which will also have an effect on the quality of implementation. Our evaluation proved that the systematic development of these capacities is necessary, because the responses (partial evaluations) of the current institutional system distort the system, temporarily cover up problems and are counterproductive, and its negative effects can be detected at the level of implementation, which arise cumulatively at programme and budget levels in the form of fund loss at the end of the years.

The frames of this study do not expand beyond the framework of the project cycle. But in order to define those reasons, factors and deficiencies in capacity, which need to be developed to elevate more and more organisations into the world of potent applicants, the focus of analysis in future research must be shifted. The next step must concentrate on detecting those factors being able to reveal capacity reasons and most importantly deficiencies that disable many organisations even at a theoretical level to exploit EU funds or at least submit a proposal and apply for funds. Succesfully mapping these factors and developing these capacities could boost the number of high quality applications and reduce the number of projects where difficulties are experienced during the implementation phase. The examinations in this study carried out by a programme division pointed out that it is worth focusing on the entitled areas of the ENPI programme from a territorial aspect in the case of entities with basic proposal writing skills. Although, the attributes of lead beneficiaries were used at project level within the framework of this current examination, the previously determined territorial focus is still relevant, as the EU members of the quadrilateral Ukranian programme also jointly manage bilateral programmes from the groups, however only the Ukranian programme formed a separate category during the examinations. It would be important, in the interest of refining the capacity development focus, to concentrate attention on correlations of consortium composition in future evaluations. Such a research direction could possibly point out to the extent of regional differences in absorption capacity within individual countries, equally detectable at the level of project beneficiaries, along with the attributes of organisations making up a consortium responsible for the abovementioned results.

The method of research with such a direction can also mean a significant support even in the case of using mainstream operational programmes for every part of the programme cycle.

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SCIENTIFIC PAPER

DETERMINANTS OF DIVIDEND PAYOUT POLICY: AN EMPIRICAL STUDY OF BANKING SECTOR OF PAKISTAN

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Abstract: *One good way to communicate financial performance of a bank to its shareholders is the payment of dividend. The present study is attempted to explore the influence of financial efficiency, safety, risk and profitability on dividend policy using panel data of 10 commercial banks listed at Pakistan Stock Exchange (PSX) for a period of 9 years between 2006 to 2014. The panel regression technique is used to analyze the data. The analysis shows a positive relationship of dividend payout ratio with safety and profitability in banking sector of Pakistan. The study identifies a negative association of dividend payout measure with financial efficiency and risk. The results show the statistically significant association of safety, risk and profitability with dividend payout ratio. Based on these findings it is concluded that safety, risk and profitability measures are relatively strong measures for defining dividend policy. The results are strongly indicating that safer the banks, the greater payout ratio the bank has. Moreover; banks with higher profitability and lower non-performing loans (NPLs) are believed to pay more dividends.*

Keywords: *Dividend payout, financial efficiency, risk, investment to total assets and profitability (*JEL code: G21, G23, G35*)*

INTRODUCTION

Dividend is an income paid to the shareholders from the company's earning, decided by the board of directors. Dividend per share is the amount received per share. The percentage of earnings paid out as dividends is called the dividend payout ratio. The dividend payout policy determines the pattern of stockholders' earnings distributions. This research paper tries to find the determinants of the dividend payout policy in banking industry of Pakistan. Banking industry is the backbone of the economy of a country and all the banks in Pakistan are listed at Pakistan stock exchange. The study has investigated those listed banks which pay dividends more frequently. The most important determinants of dividend payout in banking industry of Pakistan are financial efficiency, safety, risk and profitability.

It is evident that dividend payout policy is an important decision taken by the board of directors. Therefore, there is a great need to explore the core determinants of the dividend payout policy in banking industry of Pakistan.

It is very important for a public limited company to determine the influential factors of the dividend payout policy. The shareholders have great expectations from the dividends that they receive.

The first aim of the research is to determine the most important factors of dividend payout policy in the banking sector of Pakistan. Secondly, to investigate the relationships among dividend payout and its determinants which are:

- Financial efficiency,
- Safety,
- Risk and
- Profitability.

This research study will help the board of directors of the listed companies especially the banks for rationalization of their dividend policy. Hence this study is useful to understand the determinants of dividend payout policy and could help the board of directors making dividend decisions. An improved understanding of the influential factors could assist the decision makers to determine an effective dividend payout policy.

The results of this study can increase the chances of an effective decision making about the dividend payout policy to effectively target their investors (i.e. stockholders) and to better compete with the competing listed companies.

LITERATURE REVIEW

Different researchers have published diverse findings regarding dividend. Miller and Modigliani (1961) who were considered pioneers in the study of dividend payout policy identified that there is no relationship between market value of a firm and dividend payout policy. They found that firm market value does not depend on dividend payout policy. At the same time many of other researchers came to quite contrasting results. According to Gordon (1963) the firm can raise its market value by paying dividends. Dividend payout provides information to investors about the efficiency of the firm in terms of profits and investment opportunities (Alli et. al, 1993).

Lintner (1962) found that the dividend payouts can positively change the firm market value. Whereas Litzenberger and Ramaswamy (1979) identified that by increasing the dividend the firm value is decreased. Glen et al. (1995) also found that the demand of the share increases due to high dividend payout which also increases the share price of the firm.

Dybvig and Zender (1991) found that as, dividend payout ratio depicts the return on investment for shareholders and a dividend payout ultimately results into a benefit to the shareholders therefore, dividend payout prevents the firm from the agency problem. The notion that dividend payout ratios can prevent agency problem is also supported by other researchers for instance, Easterbook, (1984) argued that the agency problem can be reduced when the company has to pay dividend even it does not have enough profits, in such case the lenders will act as monitoring units and hence exerting a monitoring pressure over the management of a firm. Similarly, Jensen (1986) states that the amount distributed in the form of dividends refrains the management from spending it in activities that best suits them, ultimately preventing the agency problem.

Farrelly and Edelman (1986) found an interesting relationship between payment of dividend and expected level of future earnings. First of all, dividend payment depends on the future earning both are positively correlated and level of earnings supports the decision of board of directors in designing dividend policy. Dividends act as a source of information regarding the future earnings of the firm. Therefore, a decline in dividend payout represents an increase in retain earnings for any future investments or conversely, where the firm is relatively uncertain about its future earnings, then it has to cut the dividend payout. Pruitt and Gitman (1991) described that the dividend payout is determined on current and future profits. Huda and Farah (2011) found that dividend payout decision in banking industry is dependent upon income, earnings per share, cash and retained earnings.

Marfo-Yiadom and Agyei (2011) found that dividend payout policy in the banking sector of Ghana is based on profits, collateral capacity, leverage, and growth rate. Al-Malkawi (2007) and Fama and French (2001) linked the dividend payout with size of firm, profits, growth. Lintner (1956) concluded that dividend payout decision is determined by the present year earnings.

Lee (2009) stated that dividend is dependent upon profit and risk in Korean banking sector. Deshmukh et al. (2013) confirmed that the increase in debt decreases the dividend payout. It's quite logical that debt financing increases interest cost which eventually decreases profit and dividend payments. Lie (2005) also found that firm's ability to pay dividend decreases due to debts; it reduces the availability of free cash flow. Kania & Bacon (2005) explored that dividend payout ratio is dependent on profits, growth, risk, liquidity, ownership control and planning for expansion.

Ho (2003) concluded that risk has negative impact on dividend payout in Japan but also depended on profit, size, liquidity, leverage, asset mix. Aivazian et al. (2001) also confirmed that dividend payout is affected by debts and risk. The underlying risk with debt is nonperforming loans. The nonperforming loans negatively affect the interest income of banks. Gill et al. (2010) found that dividend payout is based on sales, profit, tax and debts to equity ratio. Al-Kuwari (2009) also concluded that the dividend payout is positively correlated with size and negatively associated with leverage ratio. Berger and DeYoung (1997) confirmed that performance of bank is related to asset quality (loan management) which leads to dividend payout decision.

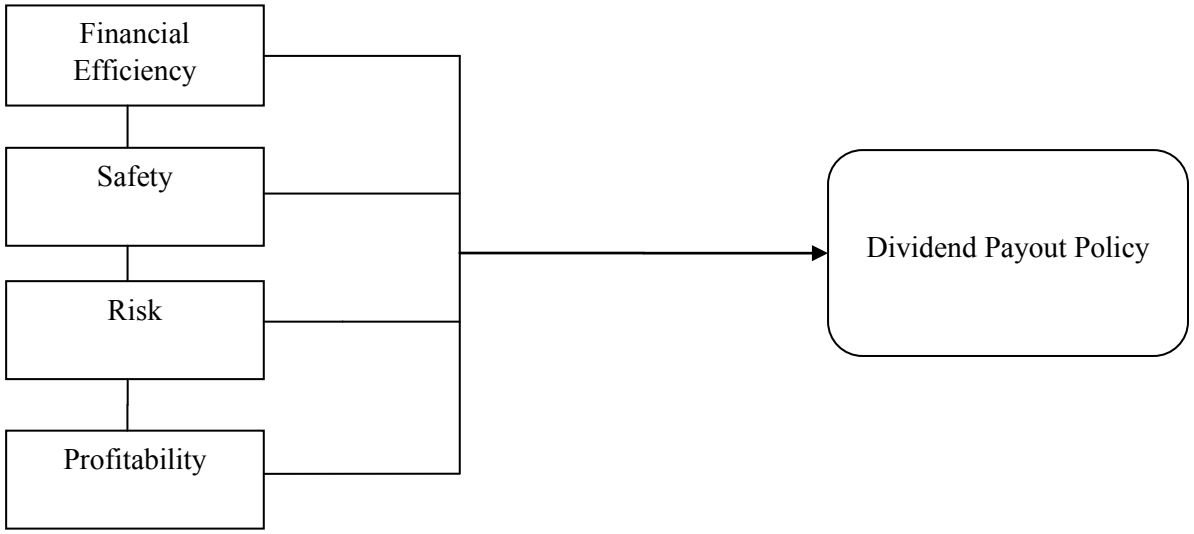
Masood (2009) reported that NPLs is a problem for every bank in the world; it is not only affecting the profitability of banks but also the economic conditions of the country. This situation is more critical in underdeveloped countries; similar in Pakistan. Banking sector in Pakistan is facing destructive problems because of NPLs. It's badly affecting the balance of interest payments and interest incomes.

Jabbouri (2016) found that current profitability, liquidity and size have significant positive association with the dividend distributions. McCann et al. (2012) observed that current ration, leverage ratio, liquidity ratio, ratio of loan to total assets and profitability ratio are the main determinants of loan defaults. They reported that chances of loan default depend on the size of firm; if the firm is getting larger in size the loan default decreases.

RESEARCH METHODOLOGY

The relationship between dividend payout policy and independent variables has been examined by applying statistical tools. The present study has used STATA 11 for data analysis. Commonly, fixed effect and random effect models are used for panel data analysis. The STATA is used for fixed effect and random effect analysis to see the impact of independent variables on dependent variable. The study objective is to underline the key variables that help the banking sector in determination of dividend payout policy. The dividend payout ratio is used as a dependent variable and mainly four independent variables are used (i) financial efficiency (ii) safety (iii) risk (iv) profitability. The panel regression technique is used. More, correlation analysis is also applied.

Research Model



Dependent Variable

Dividend payout ratio serves here as the dependent variable. Dividend is distributed from the profit of the bank. It is expected that banks with better loan management and higher revenues have higher dividend payout ratio. Generally, the matured banks those who have limited investment opportunities pay more dividend as compared to growing banks; because they have to invest in newly available investment opportunities. The growing banks prefer to retain more profit, the rationale behind it to avoid external financing. Internal financing helps to increase the average price of current shares hence maximizing the worth of existing shareholders.

Dividend payout ratio = dividend per share ÷ earnings per share

Independent Variables

Interest Ratio: This ratio indicates the interest payment to the depositors in relation to the amount of interest earned from the borrowers. In banking sector the interest is the primary source of revenue and expense. A higher interest ratio in the form of the higher interest expense indicates a declining profits and hence resulting into a lower dividend payout ratio or conversely, a decreased interest earned also have the same consequences in the form of declining dividend payout ratio. This ratio indicates the risk of a bank; whether bank is capable to pay interest to its depositor or not? The lower the ratio; the less burden on bank for interest payments. Interest ratio acts as financial efficiency and a risk measurement tool for banks. The interest payments are negatively correlated with dividend payout.

Interest ratio = Interest paid ÷ Interest Earned

Investment to Total Assets/Safety: It is expected that the banks with greater investment opportunities in securities and other portfolios will have more revenues in form of interest and dividend at a given market risk. This will enable the banks to pay more dividend to their shareholders. Banks with safer investment are generally considered to pay more dividends. Investment to total assets is considered as a safety measure for the reward of shareholders. Therefore, it is expected to have a positive relationship between investment to total assets and dividend payout ratio.

Investment to total assets = investment ÷ total assets

Nonperforming loans (NPLs) to gross Loans: A nonperforming loan is that part of borrowed money against which the debtor is not in a position to pay it. A nonperforming loan is either in default or going to be in default. But banks can easily evaluate the amount of NPLs on the bases of past experience, financial condition of borrower and prevailing economic conditions in the country. Banks prefer to use factoring for their NPLs, they sell their receivables either to receive the lend money in advance or transferring the risk to other institutions to avoid insolvency. Increasing NPLs amount is a sign of red flag for banks. This ratio indicates the ability of a financial institution in managing its credit risk. The lower nonperforming loan to asset ratio is considered to represent the higher safety and lower risk. NPLs to gross advances is termed as risk of the bank. A negative relationship is expected between bank dividend payout policy and risk.

NPLs to gross advances = NPLs ÷ gross advances

Return on assets: Return on assets (ROA) is a measure of profitability. It determines the efficiency of the banks; how well they have utilized their assets to produce profits? The higher ROA indicates the management efficiency of using resources. A positive relationship is expected between ROA and dividend payout.

Return on Assets (ROAs) = Net profit after tax / Total Assets

HYPOTHESES

H_1:-Interest payments do not have significant influence on dividend payout policy.
H_2:-Investment has no significant influence on dividend payout policy.
H_3:-NPLs do not have any significant influence on dividend payout policy.
H_4:-Profitability has no significant influence on dividend payout policy.

Data Analysis

The panel regression is applied to panel data to see the impact of each independent variable on dividend payout ratio. As per the criteria of Hausman Test ($p \leq .05$), the value of *p .0232;* thus, the fixed effect model is accepted. A fixed effect model refers to time independent effects for each category, possibly associated with the regressors in a regression model. The results are statistically significant in case of fixed effect model. The results regarding correlation and panel regression analysis are presented in table 2 and table 3 respectively. Financial efficiency and risk have lower degree of strength of relationship but both are negatively correlated with dividend payout ratio. Safety has a high degree of strength with dividend payments and it is positively correlated with payout ratio. Profitability has a moderate strength of relationship with dividend payout policy.

On the basis of results it is reported that financial efficiency i.e. measured in the form of interest ratio has negative (-22.010) association with payout ratio and it is statistically insignificant (t -0.76 & p-value=0.449) at confidence level of 95%. A p-value represents our chances of being wrong about the estimates while t-statistics shows the proportionate relation between sample and population mean.

The coefficient on investment to total assets (safety) shows a significant positive relationship (*82.33 & p<0.01*). Banks with greater safe investment opportunities are considered to be safer, especially investment in securities is giving hope for expected future dividend payments. Investment in securities has a positive sign for dividend payments; when banks are investing in debt and equity securities, in return they will receive interest and dividend incomes. These two sources of income will make banks financially healthy and more availability of free cash flow (FCF), then same FCF will be used to pay off dividend to shareholders.

Non-performing loans has negative (-79.065) association with dividend payout ratio; and it is statistically significant (t -2.31) effect on dividend payments. Non-performing loans is a measure of risk; it shows the capacity of debtors to pay off contractual interest plus principal payments to concerned banks. In other words, it evaluates the efficiency of banks in finding out the financially sound customers. The management of loans is crucial for banks survival. Rising amount of NPLs is a sign of bankruptcy and decreases the amount of profit for banks. It is believed that banks with lower ratio of NPLs to gross advances/loans are safer and less risky. The dividend payments are not independent of NPLs to gross advances; as the higher ratio the lesser dividend payments to shareholders. As per the guidelines of SBP for commercial banks & DFIs the bank must make an assessment of risk profile of customer or transaction, this may include (i) the objective of taking credit and what is the source of repayment (ii) repayment history of borrower (iii) credit assessment of borrower's industry and macroeconomic indicators (iv) proposed protective covenants (v) evaluate the capacity of repayment of debt-interest payments plus principal payments (vi) adequacy and enforceability of collaterals in case of default.

The profitability has a statistically significant (t 2.11) impact on dividend payout policy. The tendency of paying dividend might be different in growing and matured banks. The growing banks will prefer to use profit as retained earnings to avoid external financing. In other words profitability helps the bank to increase the wealth of current shareholders in the long run by avoiding the issuance of new shares or bonds. But matured firms use profitability to pay dividend and to increase the wealth of shareholders. Gieseche (2004) reported that profitability and risk management together affect the payout policy; a good management of credit risk is an indicator of sound financial position.

CONCLUSION

The study determines positive relationship between dividend payout policy and safety and profitability measures in Pakistan's banking sector considering data for 9 years 2006-2014. A negative (insignificant) interaction is observed between dividend payout ratio and financial efficiency while a significant negative relationship was noted for dividend payout ratio and risk measures. The loan defaults negatively affects the interest income in the form of decreased profitability and hence low dividend payments, which ultimately increases the risk for commercial banks in Pakistan.

However, findings show a statistically significant association in case of safety, financial efficiency and profitability with dividend payout ratio. The significantly positive coefficient on (investment to total assets) and significantly negative coefficient (NPLs to gross advances) shows that trend of banks with higher safety and lower non-performing loans to pay more dividends is more stronger as the banks have higher return on assets.

From the data of ten Pakistani commercial banks during 2006-2014; we found that results are consistent with prior research that banks with better performance or profitability in general pay more dividend. In addition, we found statistically significant results that safer banks pay more dividends.

Table 1:

Summary of testable predictions

Characteristics	Variables	Predicted relationship
Financial Efficiency	Interest ratio = Interest expense / interest income	Negative relationship
Safety	Investment to total assets = Investment/total assets	Positive relationship
Risk	NPLs = NPLs / Gross advances	Negative relationship
Profitability	ROA = Net profit after tax /Total assets	Positive relationship

Table 2:

Correlation between dependent and independent variables

Correlation with dividend payout ratio	
Financial Efficiency	-0.06
Safety	0.55
Risk	-0.21
Profitability	0.31

Table 3:

Regression Coefficient Estimates

	Dividend payout coefficients	P-value	T-statistics
Intercept / Constant	*4.519*	*.727*	*.35*
Financial Efficiency	*-22.010*	*0.449*	*-0.76*
Safety	*82.33*	*.000*	5.22***
Risk	-79.065	.024	-2.31*
Profitability	.595	.038	2.11*
R-square	.4558		
F-significance	15.91		

Note: ***, ** and * denote significance at the 1, 5 and 10 percent level.

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SCIENTIFIC PAPER

ECONOMICS OF FAIRNESS WITHIN THE FOOD SUPPLY CHAIN IN CONTEXT OF THE EU

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Abstract: *The paper broaches the issue of unfair trading practices (UTPs) at the expense of, economically spoken, weaker actors among the food supply chain in context of the EU. For illustrating the concept of UTPs and delivering a theoretical basis for scrutinizing the term of fairness in respective trading practices the paper suggests the three variables 1) bargaining power, 2) market power/anti competitive practices and 3) unequal gain distribution. Subsequently the article presents selected national food-specific legislative based reactions towards UTPs evolved in context of the three variables. Ultimately the paper presents a qualitatively generated hypothesis which presumes that legislative food-specific measurements focussing on protecting suppliers lead to a beneficial monetary share for farmers, by means of influencing the producer price to a monetarily advantageous extent. The hypothesis was generated unprejudiced in the run-up to the paper. The research design which led to the hypothesis mentioned will be presented.*

Keywords: *Food supply, fairness, bargaining power, EU, unfair trading practices*

INTRODUCTION

Evidence reveals the clear existence of unfair trading practices (UTPs) among different members of the food supply chain within the context of the EU.[1] A significant part of scientific argumentations pursue the assumption that trading practices within the food supply chain can be characterised as being subject to a rather top down hierarchy at the expense of less powerful actors, mainly farmers, suppliers or small retailers (Morgan et al. 2006; Konefal et al. 2005). Sharing this perspective and considering current trading practices as being unjust and to be resigned in the future by means of targeted legislative and binding measurements, the paper sets three focal points.The first part of the present paper will theoretically scrutinize the term of fairness concerning trading practices within the food supply chain. Aiming to underline the alarming position of economically spoken, weaker parts of the food chain, three closely interlinked variables, which shall form the theoretical basis for a judgement of fairness in trading practices, will be suggested.[2] They shall have the names: 1) *bargaining power*, 2) *market power/anti competitive practices* and 3) *unequal gain distribution*.[3]

Having theoretically worked out UTPs by means of the three variables mentioned, the second part of the paper considers EU Member States focusing besides on several forms of legislative actions towards UTPs in economic processes, also exclusively on food-specific legislative measurements to tackle UTPs evolved and being illustrated by the use of the three variables being defined in the first part of the essay.[4] The measurements being referred to, mainly but not exclusively

1 The present paper follows the thematic division of UTPs conducted by Renda et al. 2014. Its definition of UTPs encompasses: 1) Lack of clarity in contract offer, 2) Lack of written contract, 3) Abuse of economic dependence/bargaining power, 4) Liability disclaimers, 5) Unilateral modification clauses, 6) Terms unreasonably imposing or shifting marks, 7) Unfair use of confidential information, 8) Unfair use of confidential information after contract expiry, 9) Unfair breaking off of negotiation, 10) Unfair contract termination and 11) Refusal to negotiate.

2 In order to widen the perspective gradually exemplifying examples for UTPs in the non-EU context, the variable unequal gain distribution will be considered for the context of the USA and Costa Rica.

3 The selection and theoretical arrangement of the variables bargaining power and market power/anti competitive practices was inspired by Commission of the European Communities 2009: 5-13. The variable unequal gain distribution resulted as a key figure in most academic writings referred to in this paper.

4 The paper orientates itself towards Renda et al. 2014 who classified EU Member States which put a legislative emphasis on UTPs in the food sector only (Renda et al. 2014: 14). These Member States are: the Czech Republic, Hungary, Italy, Slovakia, Spain and the United Kingdom. Unlike the rest of the Member States named, the Czech Republic does not cover UTPs selected by Renda et al. 2014 concerning the general retail sector, within their national legislative repertoire (Renda et al. 2014: 12).

address UTPs at the expense of suppliers.[5]

The third part of the paper revealed through case-by-case analyses, that specifically food-related legislative measurements for the benefit of suppliers can correlate with an increased and beneficial financial outcome for producers within nationally carried out economic procedures.[6] This understanding resulted via the consultation of the producer price concerning the indicator "bread and cereals" provided by Eurostat 2015.[7] By comparing national producer prices of the Member States being included in the survey of Eurostat with selected national law, the following hypothesis was generated:

Legislative food-specific measures which focus on protecting suppliers lead to a beneficial monetary share for farmers, by means of influencing the producer price to a monetarily advantageous extent.

The paper concludes by summarizing the main findings and providing an outlook for further research which could be pursued in the connection with the hypothesis generated in context of the present paper.

LITERATURE OVERVIEW

Academic literature reveals a great variety of scientific contributions and critical evidenced reviews on fair treatments among the food supply chain. The key variables emerging from research and regulatory effort shall be in context of the paper: *1) bargaining power*, 2) *market power/anti competitive practices* and 3) *unequal gain distribution*.

In the following the three variables will be investigated from two perspectives. First, evidence for forms of inequality in context the food supply chain by means of illustrating UTPs within the three variables will be provided. Second, selected food-specific legislation measures implemented by the EU Member States which tackle UTPs evolved in context of the variables will be described.

Evidence

The term *food supply chain* appears to be both a dynamic and a rather fixed term at the same time. In general terms it can be stated that it either encompasses the direct exchange of food from the farmer to the consumer, or most commonly, however, the different stages of activities such as the processing of raw agricultural commodities as well as the checking of consumer safety standards and packing or transport activities which add value to food products before they are sold (European Commission 2015: 1). Practically the food supply chain accounts for 5 % of EU value added and 7 % of employment. A special characteristic in this context is that it economically connects the agricultural sector, the food processing and manufacturing industry, wholesale trade, and the distribution sector (Chauve et al. 2014: 304). Important to stress at this point is also the fact that besides the two forms of the food supply chain already presented, different raw products cause different degrees of complexity in terms of actions being realised in it. Whereas milk and sugar enable a production and processing at a local level, the final product can be sold through a rather short supply chain to retailers in national markets. In contrast to milk and sugar, fruits or vegetables, however, demand a high number of atomised producers who sell their goods locally to many wholesalers supplying local retailers in a next step. Above all, manufactured food forces large food manufacturers to operate in many national markets and crossing borders (ibid. 304). As a consequence modern supply chains can be long and complex (Lotta/Bogue 2015: 115). In contrast to these rather diversified characteristics of the food supply chain which complicate a single overall definition, when considering different forms, processes and products involved in it, one striking element seems identifiable in most of its appearances and theoretical representations. Even though the food supply chain implies long-term working processes for all actors involved at several stages during the fabrication of a particular product, it still promotes striking inequalities between its contributors.

As a first indicator for considering unfair trading practices and to scrutinize the term of fairness among the food supply chain for the majority of its members, the present paper suggests the variable *bargaining power.*

"Within the food supply chain, significant imbalances in bargaining power between contracting parties are a common occurrence and this issue was flagged as a serious concern by stakeholders." (Commission of the European Communities 2009: 5)

Asymmetric scopes of power to enforce self-centred profit distributions and/or possibilities to actively influence certain actors to conduct economic performances according to one's own concepts and interests form a threat towards a fair functioning of bargaining practices within the food supply chain. As a result it can be observed that the consensus of many academic contributions ascribe the food supply chain a rather top down hierarchy at the expense of less powerful actors, mainly farmers or small retailers (as informative examples can serve here: UK Food Group 2003, 2004; Morgan et al. 2006; Konefal et al. 2005). In general terms, imbalances in bargaining power can be understood as contractual arrangements, which tend to be imposed to the advantage of more powerful actors (European Commission 2013: 6). Leaving the contractual sphere behind, also spontaneous and unprompted actions, mostly initiated by respectively higher actors of power, can be imposed on the weaker members. As

5 From the legislation being investigated in context of the paper the Hungarian and the British formulate the role of suppliers tendentially more precisely than the Italian and Spanish jurisdiction which target UTPs against economically weaker members from a more general but not less for the intentions of the paper appropriate view. For an overview: Renda et al. 2014: 176-180, 235-239, 184-188, 226-229.

6 The paper uses past tense here, as it worked with the qualitative approach of the case-by-case analysis which according to pertinent literature implies the generation of hypothesis after and not before respective acts of investigation. So did the present paper.

7 The indicator "bread and cereals" appears to be attractive for the essay as it refers to temporally recent data on the one hand and a rather high number of, for the present paper, relevant Member States, on the other hand. Namely: Hungary, Italy, Spain and the United Kingdom. The Czech Republic and Slovakia were not covered in the census mentioned.

concrete examples of these rather spontaneous operations can be considered: late payments, unilateral changes in contracts, ad-hoc changes to contractual terms or upfront payments as entry fees to negotiations (Commission of the European Communities 2009: 5).

Considering the fact that certain actors do have more bargaining powers than others also implies the necessary understanding that power imbalances do affect all members of the food chain, not only producers in form of farmers who falsely tend to be put in the light of the only actor with a very limited capacity of bargaining power (European Commission 2013: 6). The European Commission delivers two comprehensive examples of UTPs by mentioning unequal trading practices between first, a large retailer and a cheese producer and second, a large multi-national soft drink producer and a small retailer (European Commission 2014a).[8] What becomes clear when following the idea of the examples mentioned, is that forms of unequal dependencies exist between several members in the food supply chain, usually for the benefit of the stronger part involved. As one of the main striking reasons for forms of unequal dependencies and thus unfair trading practices, the factor of accessing the market can be named. Whereas producers are mostly forced to accept even very cheap prices for their goods from larger buyers (for example wholesalers, retailers or suppliers) in order to get access to the market, also retailers need to agree on unequal proposals that large multinational food producers suggest, as they offer branded products that retailers economically cannot live without (Commission of the European Communities 2009: 5-6). Despite the circumstance that several actors among the food supply chain have to make concessions to higher settled ones, a significant high number of academic contributions focus on farmers in particular. So Morgan et al. underline the upcoming weak position and disempowerment of farmers in bargaining processes (Morgan et al. 2008: 59, 70). Also Bečvářová and Vorley describe decreasing forms of farmer's possibilities to articulate and eventually realize their opinions of price determination in favour of higher settled actors (Bečvářová 2002: 449; Vorley 2006: 1).

Considering the preceding, the variable *bargaining power* implied unequal and consequently unfair scopes to shape bargaining processes among differently influential actors. The second variable *market power/anti competitive practices* builds up on the findings presented, as it describes unequal economical starting positions of different actors among the food supply chain. By doing so, it aims to explain possible reasons for disparate scopes of bargaining power. According to the OECD the term market power necessarily implicates firms or group of firms which posses a monopoly position in certain areas of economics. Setting this definition for granted, enterprises pertained are able to influence price settings of products without being affected by notably forms of competition (OECD 2012). As a result competitive actions are limited and smaller economic actors are subject to stronger entities. The result can be a market concentration. In other words: the strong market concentration in the food sector allows food processors or especially retailers dispose of a far more stronger bargaining power than suppliers (Vaqué 2014: 294).

Regarding the numbers of actors involved in different parts of the food supply chain the rather aged metaphor of the "hourglass" by Heffernan, Hendrickson and Gronski for the agri-industrial system, could not be more current (Heffernan et al. 1999: 1). Around 12 million farms in the EU produce agricultural products for 300 000 processing enterprises in the food and drink industry. The processors sell the products sprang up, through 2.8 million enterprises within the food distribution and food service industry. In the end 500 million consumers access the products processed (European Commission 2015: 1). What becomes clear now is that the food processing and distribution actors among the food chain appear to be in a strong numeric minority compared to the farmers. Due to this circumstance it seems only logic that they would form the centrepiece of the hourglass, which connects both bigger ends, namely the farmers and the consumers. Unlike the assumption that the most strongly represented actor in the production area is the one with the highest bargaining power, the actors integrated in the hourglasses' centrepiece seem to posses the main part of the defined term of market power (in particular the retailers within the distribution area). Referring back to the term of market power and its indication towards occurrences of monopoly positions as also a resulting market concentration in certain economical areas, a significant trend of single retailers expansions can be observed. The European Commission illustrates the ongoing process of economic expansion and influence of ten retailers for the European context (European Commission 2014b: 51-52). In year 2000 the ten retailers integrated in the observations made up 26 per cent of the entire EU market share already. In 2011 30,7 % were registered.

An even higher tendency of market power of single actors can be detected particularly in the milk sector. A report delivered by Ernst & Young for the European Commission in 2013 reveals the extraordinary high market power of several processors involved in the share of national milk delivery. Especially the processor "Arla Food" in Denmark, "Valio Oy" in Finland and "Friesland Campina" in the Netherlands are closest to possess a monopoly status, as they hold 90%, 85% and 75% of the milk delivery in their particular country (Ernst & Young 2013: 78-79). [9] These three countries are followed by Austria, Luxembourg, Slovenia and Sweden, where the biggest processor particularly provides between 40% and 65% of the nationally consumed milk (ibid. 78-79). [10] The declining

8 The first example describes how a large retailer subtracts 5,000€ from the money owed to the supplier, because of a promotional anniversary campaign run in all retail outlets during a short period of time. The second example mentions a large multi-national soft drink producer who threatens to terminate the commercial relationship when the supplier refuses to conduct actions demanded.

9 The data collected refers to the year 2011 for Denmark and 2010 for Finland and the Netherlands.

10 The data collected refers to the year 2010 for Austria and 2011 for Luxembourg, Slovenia and Sweden.

number of retailers and the growth of single powerful actors among the food chain limit the scope of competition in the retail sector. As a consequence farmers are forced to sell their goods to "a handful of buyers" who thus have a stronger position in bargaining- and price setting processes (Morgan et al. 2008: 59, 64). In contrast to other sectors, especially the food sector is affected by UTPs due to lacking forms of competition. This is because food markets are mainly national or local in scope (Commission of the European Communities 2009: 6). As a result expanded food distribution firms are in the comfortable bargaining position of finding farmers who for two reasons have no real alternative to the prices presented by processors. The symbiosis of first, no real competitive acts between retailers and second, the strong local dependency of farmers, who suffer from the fact that a transport of produced goods to third purchasers appears to be expensive, harms an equal and fair bargaining process between producers and processors. The low rate of competitive actions between retailers and consequential evolving forms of market concentration shown, contribute to disparate starting positions in bargaining processes which are considered to be responsible for harming equal and thus fair scopes of realising trading practices for all, not only several, actors among the food supply chain.

In the previous paragraphs of this paper, inequalities and UTPs were described via disparate capacities of different members within the food supply chain towards having access to bargaining- and market power. As a result but also as a strengthening factor of the two variables already introduced, the third variable unequal gain distribution will be suggested. Taking into account several uneven forms of access to power in bargaining processes, also the gain distribution as the ultimate stage for all entrepreneurial and producing entities seems to be characterized through inequalities.

"The 2011 figures compiled by Eurostat show that farmers receive 21 per cent, the food industry gets 28 per cent and the remainder, 51 per cent, goes to food retail and food services." (Healy 2015)

One of the current figureheads of critical perspectives on UTPs in the European food supply chain is the Irish politician and member of the European Parliament for the Midlands–North-West constituency, Mairead McGuinness. In her quotation which was being published in the "Irish Times", she clarifies extraordinary differences concerning the shared outcome of the economic gain distribution of products for different actors within the food chain. On the basis of these findings she also describes that the producer share dropped from 31 per cent in 1995 to 24% in 2005 and to 21% in 2011. As a result of the numbers raised, she perceives the farmer's reception of slightly more than one-fifth of the consumers price for food as an insufficient share for those who provide the "lion's share" of the input (Healy 2015). As a result of the numbers stated an unfair share of financial resources for products can legitimately be estimated. Staying with the consumer price, but this time for milk only, a similar picture opens up. An analytical two-step can help at this point to reveal the strong correlation between the money supply a farmer receives for a certain quantity of milk and the financial funds processors and retailers get.

Comparing first the farmer's share of the consumer price for milk (in percentage of the consumer price) a great heterogeneity among the Member States of the EU opens up. Ernst & Young reveals an overall trend of decreasing producer prices for the period 2000-2011 (Ernst & Young 2013: 66-67). [11] Whereas in countries like Finland, Germany and Portugal the farmer's share of the milk consumer price stays rather high throughout the period mentioned (mostly between 40 and 50%), countries like Italy, Latvia, Lithuania and Sweden remain on a lower level (mostly between 20 and 30%) (Ernst & Young 2013: 67).

Analysing secondly the share of processors and retailers (Euro/100 kg) for ECM milk it can be observed that the money supply for processors and retailers in the countries where the farmer's share of the consumer price for milk is higher, tends to be lower and vice versa. Taking into consideration the countries already observed in the foregone paragraph, an interesting correlation between the strong decrease of the Finish farmer's share of the consumer price for milk in 2011 (10% less than in 2010) and the share of Finish processors and retailers which increased in 2011 by almost 30€, can be investigated. Compared to foregone increases or decreases of the Finish processors and retailers (between around 2 and 6€) this last one is significantly high. Observing the countries with a rather low farmer's share of the consumer price for milk (Italy, Latvia, Lithuania) the contrary can be noticed for the particular share of processors and retailers. Whereas the average share of processors and retailers lies between around 20€ and 50€ among the European States, Italy and Lithuania show monetary values over between approximately 80€ and 120€ (Ernst & Young 2013: 68-69). [12]

This brief analytical two-step conducted can illustrate a correlation for an opposing movement in economic gain distribution among members of the food supply chain. In general terms a trend between a rather higher farmer's share of the consumer price for milk and a lower share of processors and retailers can be observed.[13] Another indicator for demonstrating inequalities in the profit distribution among the members of the food supply chain can be found in the value-added.

The European Commission introduced a bar chart which illustrates increasing differences in the distribution of the

11 "Only six countries out of the 24 for which data is available have a bigger farmer's share of the consumer price for milk in 2011 than in the first year of collected data. These countries are Bulgaria, Cyprus, the Czech Republic, Lithuania, Poland and Slovakia. If only data from Member States was taken into account (data since the countries joined the EU), then the farmer's share of the consumer price grew in only four of the former. Indeed, in Bulgaria and the Czech Republic, the share was lower in 2011 than in 2008 and 2004." (Ernst & Young 2013: 66-67).

12 Latvia forms an exception as it does not shows rates over 100 concerning its share of processors and retailers (Eur/100 kg). Nevertheless it presents correlations between a lower farmer's share of the consumer price for milk (especially very low in 2008 with 23 per cent) and the share of processors and retailers (the highest farmer's share of the consumer price for Latvian milk can be identified in 2008 with 50,4).

13 As also a higher share of processors and retailers and a lower farmer's share of the consumer price for milk.

value-added in the EU food supply chain. From 1995 until 2011 the distribution of the value-added for the agriculture sector decreased from 31 to 21%. At the same time the share for the food wholesale increased from 11 to 51 % (Matthews 2015). [14] Mairead McGuinness takes these numbers collected as an indicator for illustrating a lower farmer's share of consumer spending on food due to an imbalance of power between producers and retailers in context of the food supply chain (Matthews 2015). Widening ones perspective towards UTPs in non-EU contexts, it becomes clear that inequalities between different members of the food supply chain can be found on a global scale. As exemplifying examples the present paper suggests the USA and Costa Rica (the latter as one representative country which is affected by UTPs in the banana production and supply). [15]

In 2013, the United States Department of Agriculture Economic Research Device (USDA) published a statistical survey which illustrates the economic gain distribution among participating actors forming part of the US food supply chain. It shows that of one Dollar spent by a consumer, only 10¢ reaches the farmer, whereas the food processing (22¢) and the foodservices (31,2¢) receives the highest share (USDA 2013). Building on the insights the variable *unequal gain distribution*, the USDA illustrates a similar picture as it is presented in the EU context. Besides the fact of unequal allocation of financial resources between members among the US food supply chain, the USDA also reveals the amount of money farmers receive for their products once production costs are subtracted (USDA 2015: 1, 7-8; USDA 2009: 6). Especially crop products demonstrate an enormous gap between the prices farmers invest in production and the final financial outcome they receive (USDA 2015: 8).[16] Taking into account the banana production in Costa Rica the Fair Trade Advocacy Office (FTAO) uncovers UTPs in the banana supply chain which appear to be similar to the ones already been taken up in this paper. Compared to all actors involved in the banana production and the eventual supply, the farmers receive the smallest value share whereas traders and retailers benefit from this unequal gain distribution (FTAO 2014: 3). Besides the disproportional divisions of financial resources among the different actors, the minimum wage for agricultural labourers set by the government of Costa Rica appears to be inadequate to meet the needs of a standard family.[17] Aggravating this situation many banana companies do not pay the minimum wage due to the absence of trade unions. A status which is caused by anti-union policies (ibid. 3).

The foregone part illustrated possible threats to fair trading practices among the food supply chain by means of a literature based approach towards three variables. It became clear that trading practices among the food supply chain cannot be characterised through forms of equality or similar access towards resources, neither in a financially sense nor in terms of market- or bargaining power. Setting consequently these forms of unfair and uneven opportunities of shared out components of economically power among actors within the food supply chain for granted the next part of the paper focuses on selected food-specific legislative measurements implemented by Member States to tackle UTPs evolved in the variables.

Measures

Considering the EU context it can be observed that certain Member States pursue specific food-related legislative measurements in order to prevent UTPs at the expense of economically weaker actors to be forming part of national food chains (Renda et al. 2014: 14).[18] These are, as already had been defined in the introduction of this paper: the Czech Republic, Hungary, Italy, Slovakia, Spain and the United Kingdom (ibid. 14, 148, 176, 184, 218, 226, 235).

Through investigating pertinent national legislative actions against UTPs, the deep content related interconnection between the three variables referred to in the foregone passage once more becomes clear. This is especially true for the two variables bargaining power and market power/anti competitive practices which mainly encompassed unequal scopes of realizing actor related interests and starting positions in bargaining processes. In context of these two heavily interconnected variables particularly the jurisdictions of Slovakia and the United Kingdom can be emphasised as they implemented notably precise and comprehensive legislative codes. In the Slovakian case, Law 362/2012 on unfair trading practices related to food, administers conditions on chain stores to prevent them from abusing their strong economic position by imposing unilaterally terms on economically weaker actors (ibid. 219). Concerning measurements of sanctions which are imposed when conditions appear to be disregarded, Law 362/2012 refers to penalties ranging from 1,000€ to 300,000€.[19]

The judicature of the United Kingdom introduced in this context the Grocery Code Adjudicator Act 2013. It imposes legally binding obligations on the ten largest supermarket retailers of the United Kingdom.[20] By addressing the retailers with the highest access to financial capital, the Grocery Code Adjudicator Act 2013 tackles specially the implications of the variable market power/anti competitive practices, as it was characterised in the first part as being responsible for limiting the personal leeway of the actors not to be associated

14 A critical and informative analysis about the findings of the European Commission can be found in Matthews 2015.

15 As the focus of the paper lies upon Member States of the European Union, the USA and Costa Rica will only be considered in context of the third variable: unequal gain distribution.

16 Especially in 2010 and since mid-2013 the prices farmer receive for crop products do not cover the production costs.

17 9,598.73 Colón= $17,75 (Costa Rica Law 2015).

18 An informative and detailed comparison between all Member State's actions towards UTPs in both retail and food sector can be found in Renda et al. 2014: 128-239.

19 The penalties become relevant for disagreeing contracts which had been drafted after 1 January and 28 February 2013 (ibid. 220).

20 It addresses those with an annual turnover of more than £1 billion (ibid. 236).

***Table 1:* Producer Price: Bread and Cereals Unit of measure: Index, 2010/100/Year of measure**

Producer Price: Bread and Cereals Unit of measure: Index, 2010*/100/ Year of measure	January-2005	January-2006	January-2007	January-2008	January-2009	January-2010	January-2011	January-2012	January-2013	January-2014
Member States										
Hungary	72,9	74,3	87,4	122,4	103,4	91,3	130,7	130,8	158,7	132,8
Italy	80,1	79,7	90,6	135,1	109,5	98,9	118	121,7	127,3	117
Spain	85,8	84,69	90,12	120,08	117,03	99,46	112,86	118,36	127,94	119,22
United Kingdom	82,7	83,7	86,9	104,4	107,5	98,9	108,3	114,7	124	118,6

***Source:* Own representation based on Eurostat 2015**

** Eurostat uses the index of 100 to illustrate a financial development over time. The index number abstracts from the real values (e.g. price in certain currencies) and only reflects the change in comparison with the value in a reference period. For simplicity reasons the reference value was set to 100. An index value of 105 would then indicate an increase by 5 per cent compared to the value in the reference period (i.e. 2010).*

with high financial capital. As a result of the Grocery Code Adjudicator Act 2013 obligations are imposed on designated retailers which are in high financial funds, which restrict a haphazard gambling with their market power and influence. Examples for these obligations are the prohibition of delays in making payments or the requirement of payments for resolving consumer complaints. The latter with exceptions (ibid. 237).

Besides legislative measurements of Slovakia and the United Kingdom also Spanish jurisdiction addresses with Law 12/2013 concretely imbalances of bargaining power and closely related to that, anti-competitive trading practices that distort the market and cause negative effects on the competitiveness of the whole agri-food sector (ibid. 227).
In this context also Hungarian law in the form of Act XVI of 2003 "on the Agricultural Market Organisation" and Act XCV of 2009 "on the Prohibition of Unfair Trading Practices vis-à-vis the Suppliers of Agricultural and Food Products" can be considered (ibid. 178-179). Both acts include measurements against forms of abuses of economic dependences and bargaining power. Provisions in Act XVI moreover focus on unfair shifting of commercial risks and abuses of confidential information during contractually caused commercial relationships (ibid. 179).

Together with the Member States mentioned also Italian and Czech legislature present legislative actions towards UTPs being presented through the variables bargaining power and market power/anti competitive practices. In the Italian case Law-decree 24.1.2012, Nr. 1, which was converted with amendments by Law 24.3.2012, Nr. 27, concerning commercial (B2B) transactions in the field of cession of agricultural or agri-food products, Art. 62, inter alia focuses on forms of abuses concerning economic dependences and bargaining power (ibid. 184). So does Czech jurisdiction with Act Nr. 395/2009 Coll. on Significant Market Power in the Sale of Agricultural and Food Products and Abuse thereof (ibid. 148).[21]

It is also the Spanish jurisprudence that calls with Law 12/2013 for the creation of an observatory on the food sector which shall then elaborate a Code of Practice. The new created Food Supply Chain Observatory is supposed to monitor, advise, consult, inform and study the functioning of the food supply chain and mainly its food prices (ibid. 227-229). The fair distribution of financial resources obtained among the different actors within the food chain is a factor of exceedingly importance when tackling UTPs which characterised the variable unequal gain distribution in the present paper. Law 12/2013 reveals a combination between a binding legislative and a rather private approach.[22]

METHODOLOGY

The analysis of the first part illustrated that imbalances in current trading practices among the food supply chain heavily exist: mainly at the expense of economically considered weaker parts involved. The second part showed how selected EU Member States legally reacted towards UTPs. The third part of the present paper investigated by means of qualitatively conducted case-by-case analyses that legislative involvement by EU Member States in form food-specific laws that aim to protect suppliers from UTPs being discussed in context of the three variables, positively influenced the farmers share of money received for produced goods. As a result of the correlation described the coming hypothesis was generated and shall be offered for future research on the topic:

Legislative food-specific measurements which focus on protecting suppliers lead to a beneficial monetary share for farmers, by means of influencing the producer price to a monetarily advantageous extent.

The research which eventually led to the hypothesis being described in the preceding will be explained in the following.

As a first step, the producer price for "bread and cereals" was selected as the indicator of measurement and thus as the good of interest (Eurostat 2015). The table below shows the

21 Renda et al. 2014 classify the frequency of the Czech jurisdiction as being non-existent.

22 An exclusive example for a legislative measurement of fair price settings can be the Portuguese competition law 19/2012 which goes in this specific domain beyond the scope of the European competition law (ibid. 209).

producer price for "bread and cereals" in the period between January 2005 and January 2014. In contrast to part two of the paper, only Hungary, Italy, Spain and the United Kingdom will be illustrated now. This is because the Czech Republic and Slovakia were not mentioned in the census published by Eurostat 2015.[23]

Associated therewith, the exemplary motivated observation with led to the hypothesis of the paper covered second only food-specific legislative measurements to tackle UTPs evolved and being illustrated with the help of the three variables being defined in the first part of the essay. Concerned here were legislative actions being introduced by Hungary, Italy, Spain and the United Kingdom, for reasons already been described in the foregone paragraph. Referring to the respective sections of Renda et al. 2014, that describe food-specific forms of legislation for the four Member States being subject of the study by Eurostat 2015, the paper limited its perspective on the following legislative measurements:

***Table 2:** Considered food-specific law introduced by selected Member States of the EU to tackle UTPs*

Member State	Food-specific law
Hungary	Act XCV. of 2009 on Prohibition of Unfair Distribution Behaviour against Suppliers in Relation with agricultural and food Products (01/01/2010)
Italy	Law-decree 24.1.2012, Nr. 1, converted with amendments by Law 24.3.2012, Nr. 27, concerning commercial (B2B) transactions in the field of cession of agricultural or agri-food products, Art. 62
Spain	Law 12/2013 on measures to improve the functioning of the food chain (04/01/2014)
United Kingdom	Groceries Code Adjudicator Act 2013 (25/04/2013)

***Source:** Own representation based on Renda et al. 2014: 176, 184, 226, 235*

RESULTS

Comparing the value for "bread and cereals" in the Hungarian case it could be observed that right after January 2010 when law was implemented, January of the following year registered 130,7.[24] A constant rise of the numbers was to be noticed in the coming years. Especially 2013 showed a significant increase up to 158,7. Compared to the numbers before 2010, with the exception of 2008 and 2009, 2013 revealed a value which was almost twice as high as the period between 2005 and 2007 has revealed. It also could be observed that even though 2014 showed a decrease after the high value in 2013, it was still marked by a higher value than the period from 2005 to 2012 can offer in total.

What can be noticed from the foregone is that the food-specific law being observed in context of the present paper led to a general increase of the numbers listed in the Hungarian section in table 1. Even though table 1 shows a decrease in 2014 the overall trend, especially when the numbers from 2005 to 2012 are taken into consideration, appears to be notably positive.

A similar scenario has shown the case of Italy. Analogically, January 2008 revealed a significantly high value. In contrast to the Hungarian example, however, it was the highest value in the whole period of measurement for the Italian case. Focusing on the legislative measurement observed, it can be noticed that after 2008 and until 2010 the producer price decreased rather constantly again. One year before the implementation of the coming law, it rose and in 2012 finally appeared to be the second highest of all measurements with a value of 121,7. Likewise the Hungarian case, also the Italian example showed an increased number, one year after the legislative measurement had been introduced. The value 127,3 is now the second highest producer price of the time span being investigated for Italy. Also similar to the Hungarian case is the fact that the last value of the table is decreasing.

Whereas in 2014 the decreased Hungarian value of 132,8 appeared to be still higher than the values being presented between 2005 and 2012 the Italian value of 117 in 2014 is still higher than all the values between 2005 and 2007 as also between 2009 and 2010. Seeing the broader picture also regarding the Italian case a rather positive trend can be observed after law had been introduced.

Comparable with the Hungarian and the Italian case, the value of Spain also appeared to be relatively high in 2008. 2008 had been preceded with more alternating numbers. Following the numbers until 2013, when the observed law had been implemented, numbers were shifting again. This time on a higher level, however. 2013 which was characterized through the highest value of the Spanish section with 127,94 is followed by 119,22 in 2014. A value which is slightly lower than in 2013, but at the same time, apart from 2008, higher than any other value in the whole section.

What can be seen in the Spanish case is to some extend consequently similar to the Hungarian and Italian example. The Hungarian, the Italian and also the Spanish value of 2014 appear to be smaller than the value of 2013. Nevertheless it also can be noticed, that even though the value of 2014 is characterised of its decreased worth it is still higher than other values being observed in the period between 2005 and 2014. In the Spanish case the value of 119,22 is still consequently higher than the values between 2005 and 2007, as between 2009 and 2011.

Looking at the year 2008 the example of the United Kingdom showed the value 104,4. Ever since the start of the statistical measurements in 2005 it appeared to be the highest one presented. As a result the United Kingdom follows a similar trend like Hungary, Italy and Spain which registered rather high numbers around 2008 as well. In 2013 the highest value could be observed with 124. The case of the United Kingdom revealed, even though the value of 2014 is lower

23 The reason why the indicator was chosen can be found in context of the introduction.

24 For reasons of linguistic simplification and more pleasant readability only the year will be mentioned in the following. The month of January mainly will be left out.

than 124 after the concerned law had been introduced in 2013, that the decreased number of 118,6 was still higher than every single value listed in the section of the United Kingdom before 2013 when law had been implemented. An equal trend could be investigated in context of the Hungarian example. Values after 2010 were higher than every number being presented before the law had been implemented. In the Italian and Spanish case the value which was generated after the food-specific law had been implemented, appeared to be only averagely higher than numbers which were raised beforehand. Nevertheless the difference between the Spanish value of 2014, with 119,22 and 2008 with 120,08 was rather null. In other words: After the Spanish case revealed a decrease after the rather successful year in 2008, 2014, after legislative had been implemented, could be a starting point for going back to the monetary peak of 2008.

As a result of the observations described the qualitative investigation in the form of case-by-case analyses, led to the hypothesis that legislative food-specific measurements which focus on protecting suppliers lead to a beneficial monetary share for farmers, by means of influencing the producer price to a monetarily advantageous extent. It could be shown that even when numbers were slightly decreasing after law had been implemented they still appeared to be higher than most of the rest being measured by Eurostat 2015. A positive correlation between legislative food-specific measurements and a more advantageous monetary share for farmers could be observed after the investigation conducted.

CONCLUSION

The occasion for delivering the present paper was based in a deep concern about trading practices in context of the food supply chain. An uneven and unfair distribution to scopes of realizing actions is no exception and characterises daily actions in the food sector. Willing to both raise awareness for UTPs and to clarify that food-specific legislative measurements targeting UTPs at the expense of economically weaker actors among the food supply chain, can have a positive influence on the profit which farmers receive for a produced good, the paper commenced by suggesting three variables which were to illustrate by means of back references to relevant thematically familiar literature. It became clear that scopes of access towards bargaining- and market power, as wells as monopoly statuses and forms of profit distributions, tend to be distributed heterogeneously among the actors involved in the food supply chain. It was shown that mainly farmers, small suppliers or retailers in general make confessions to higher settled actors in the food supply chain. It became obvious that unfair practices in trading and allocated possibilities of asserting economic perceptions cannot be perceived as isolated phenomena.

In a next step the paper presented selected possible and gratifying reactions towards UTPs evolved in context of the three variables, in the form of national legislative reactions towards UTPs in context of the food supply chain. As a result the impression arose that binding measurements in the food sector can be realized in a comprehensive and precise way, as also that legislative actions can be combined with private treatments.

In the run-up to the paper the indicator “bread and cereals” which was measured concerning EU-national producer prices by Eurostat 2015, was set in relation to food-specific legislative measurements being introduced by EU Member States: namely Hungary, Italy, Spain and the United Kingdom.[25] Through qualitative case-by-case studies the existence of a correlation between the implementation of food-specific law and a beneficial shaping of the producer price became clear. Throughout this investigation the hypothesis of the paper was generated. At this point ends the contextual contribution of the paper at hand: not its research interest, however.

The literature report concerning forms of UTPs within the three variables as also the hypothesis generated through the case-by-case studies are considered to serve as a preliminary stage for further investigations. By means of a bigger dataset and quantitative methods the hypothesis which was generated in the run-up to the paper can be subject to coming studies which investigate correlations between food-specific legislative measurements and producer prices. Speaking about producer prices for produced goods, also the selection of different indicators means a scientifically attractive way of investigating if certain producer prices of certain indicators are stronger affected than others, when set into relation with food-specific law against UTPs. Also research on legislative actions which concretely foster on protecting farmers, not primarily suppliers, from being affected by UTPs can interestingly challenge the hypothesis generated in the paper.

As the paper sees its academic value in introducing thoughts and argumentations for further research also the period of examination provides opportunities of change in future studies. The time span observed in the third part of the essay reaches from 2005 to 2014. Nevertheless it also seems a worthwhile goal to go further back in history to even investigate former strategies of EU Member States towards UTPs among the food supply chain. In this context it can also be an enriching focus to integrate non-EU countries in further research which could investigate the veracity of the hypothesis presented for a selected context within the EU. The first part of the paper already started to include the USA and Costa Rica in considerations of UTPs. Besides the information that UTPs at the expense of economically weaker actors in the food sector seem to be a rather global and not only EU-specific problem, also proposals for solutions or ways of effective legislative measurements from non-EU jurisdiction could be extracted and possibly transferred to the EU context.

What became clear once more, not least through the argumentation of the present paper, is that forms of unequal profit distributions and bargaining power mean a great threat to a fair functioning of economical processes among the food supply chain. On an exemplary basis it was shown that a positive correlation between legislative measurements and the

25 Corresponding legislative measurements observed, tackled UTPs being addressed in the three variables.

producer price can be assumed. The task of coming research should be now to deepen the hypothesis suggested in context of the present paper by connecting it in different ways to other products and legislative measurements. If being confirmed for different contexts the hypothesis may accumulate influence and strength. As a tool of political pressure it could thus help to stimulate discussions about new legislative proposals which might start to end UTPs of becoming even more extensive than they already are.

The concept of a fair food supply chain is in many cases not valid as was shown in the foregone. Ideally markets underlie reciprocal relationships, processes, actions and offers. As UTPs occur, the reciprocal dimension is mostly gone and only certain actors are affected by them.

Working on the reduction and gradual termination of UTPs to be forming part in economic processes is surely a matter of justice and therefore to be fostered in the future.

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SCIENTIFIC PAPER

AN APPROACH TO UNDERSTANDING THE SPECIFIC SUBSIDIES RECEVIED BY RURAL CIVIC ORGANIZATIONS: A CASE OF A SETTLEMENT IN SZABOLCS-SZATMÁR-BEREG COUNTY

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Abstract: *Nowadays the sport related civic organizations form a special segment within the civic sector. In particular, the current situation of these organizations – who are operating in rural settlements – should be considered as special. In rural settlements the local sport related civic organizations by all means could be justified to make a difference on the basis of an essential aspect, that how they secure the funds from the external sources, and because of certain aspects it is closely related with the local politics. The purpose of our study was to investigate through the example of a small rural town in Hungary, that what kind of subsidies can the locally registered sport related civic organizations can get by focusing on the local football club's results and the subsidies which were granted to the club between 2007 and 2015. We were also curious about, that is there any possible connection between the club's performance and these certified subsidies.*

Keywords: *NGOs, Sports Economics, Local Subsidies, Political Processes* (JEL CODE: L31, Z20, H71, D72)

INTRODUCTION

Oláh (2003) stated that "*Joining the European Union opened up new opportunities and challenges, and these all affected almost every aspect of economic and social life. The definition of rural areas may be made according to different criteria depending on from where to examine rurality; geographic, social, economic or a cultural point of view.*" Kovách (2012) wrote about the cultural revolution of rural sciences, and also noted that a uniformly accepted definition of the "*rural area*" is still unborn. Examining his academic dissertation we may identify a social scientific, public administration, statistical approach of the rural term, where the emphasis on agriculture, the population density, the settlement classification and the influence of the preparation for the EU programs were also considered. Bell (2006) discussed the role of sport and identified the "*idyll of sport",* where the countryside is considered as playground of adventures involving three important motives of environmental wilderness, physical stamina and endurance. Different forms of rural idyll combines the proportions of nature (natural beauty and proximity to nature), the romanticism, authenticity, credibility and a desire for a simpler and more harmonious life's nostalgia-related element.

According to Glatz (2005) "*in Middle-Eastern Europe the conservative force of the rural area is still dominant compared to Western Europe as a result of it's comparatively poorer developed status. This is the reason why in newer member states the preservation of rural cultural diversity is still not sufficiently recognized, and it may be a real-EU challenge in the future.*" Quite frequently cultural activities are associated to some kinds of sports activities. Brauer-Benke (2011) explains: "*Today, we may hear about increasing number of traditionalist groups, which undertake and maintain a variety of traditional activities. They quite often deal with folk music, dance, food, crafts, folk customs and those of the military guarding preserve traditions. The latter are characterized by a wide spectrum of those events, the origin of which dates back to the Arpad age or earlier (sometimes they cannot be identified at all), and others are active in the latest forms of military activities.*" These kinds of cultural activities obviously have relationship with sports e.g. some cultural preservers tend to simulate fights against the Turkish, the Austrians. The equipment used in sports varies from the simplest forms of bows up to the lately introduced airsoft guns.

Valuch (2006) in his book about the social history of second half of the XX Century Hungary argued that "*Lifestyle*

is the way people organize, plan, live and believe their lives". One of the most typical phenomenon he explained is that "*the amount of free time available considerably increased*". People tend to spend their free time in different ways; many alone, many with others, but it became evident that a possible way of spending leisure time up to the second half of last century is connected to the engagement in different kinds of sports activities. The scholar has written some noticeable books about the national social history. In his excellent writing about the second half of the XX century he emphasized on the role of the amateur sports, since" *for male the Sunday football match was the only leisure activity beside visiting pubs. Football remained a national issue in the '70-80s, although its popularity decreased. Moreover participation in sports events was a popular leisure time activity. Most of the sportsman was principally amateur and they were also employed at large national institutions because of sports. But for masses pursuing sport was comparatively less preferred.*"

Sports activities may be realized in two fundamental forms: in an unorganized or an organized. The latest is often manifested in some kind of sports organization. One of the most frequent sports organizational form here in Hungary is the phenomenon of associations, especially sports associations. The national level associations belong to the group of civic organizations, this sphere lately has received special attention by researchers owing to the change of legislation, and some scholars, such as Bácsné (2012) has analyzed the correlation between human background and social capital, Juhász-Vántus (2012) revealed specialities of expectations regarding human resources, Pierog-Vörös-Dajnoki (2014) and Máté (2014) examined its labour market natures, Gergely-Pierog (2016) in their latest article has focused on the role of motivation factors.

Regarding the Hungarian legislation for these kind of organizations, the Act on Sports (2004. year Act I.), the Act on Civic Organizations (2011. year Act 175.) and the Act on Civic Code (2013. year Act V.) form the most important background for the establishment, operation and even termination. According to the latest statistics (KSH, 2015), out of 42 000 social nonprofits (they can be characterized on the basis of the large number of members), 17% of them are active in the field of sports. We must be aware of the fact that new legislation explains associations as one that cumulates the social capital of the members, the foundations integrate the financial possibilities of the members and the founder whereas the civic society is a less legal form of an association with fewer obligations and cannot take state support, which is a major feature opposite in comparison to the others. Sports, as an activity may be pursued by any type of civic organizations[1], so according to a former statistics (KSH, 2013) we may count 977 sports foundations in Hungary. Another special issue regarding the sport related civic organization is the understanding of what is "*considered to be sports organization*". Existing evidence reveals a particular, strongly subjective way of the consideration of sports activity, and suggests that there is an uncertainty about this category. We may find some general definition on international level about the classification, such as Slack (1997) considers sports organization to be a "

social entity involved in the sport industry; it is goal-directed, with a consciously structured activity system and a relatively identifiable boundary" Gómez et al. (2008) discuss in their article about the definition of sport organizations, where they are making a hypothesis, from which we may assume that those organizations are considered to be sport organizations, which are "operating in the sport industry and which are dedicated to the promotion and development of sport. These are mainly federations, national associations, sport departments, leagues and clubs".

Because of the judgment procedure for subsidies, the number of sports organizations are increased: although there is a narrowly defined classification about sports organizations, which depends on whether sport as an activity is defined in its articles of association or not, in parallel a wider approach exist, which also considers an organization a sport related one even if it does not have any defined sports activity declared in a written format but it depends on the discretion of members to pursue sport or organize a sport event. In this latter case, as justified by the practice, almost anything can be considered to be a sports organization. Regarding the financial sustainability of sports organizations, already referred statistical data revealed that financial exposure to donations is necessary.

Statistics show considerable disparities among them, 43% have yearly income less than 500,000 HUF, 3% manages a budget more than 50 million HUF. This kind of inequality is further highlighted when the source of income is analyzed, on average, 66% of their income comes from subsidy, and almost half of it (31%) is state subsidy. According to the Hungarian legislation, municipalities are considered as subsystems of the government, and beside domestic circumstances civic organization may approach different governmental levels so that they could find financial sources for meeting their objectives. A latest project of 2015 has examined the relationship between the sports organization and local municipalities (Kozma-Perényi-Bácsné, 2015). Regarding the financial subsidization of civic organizations, the authors referred to a specific former act (1990. year Act LXV. on local municipalities, paragraph 8th), where sport subsidy is mentioned, and the latest Act on local Municipalities (2011. year Act CLXXXIX., paragraph 13th) and discussed sport issues in the framework of compulsory municipal tasks or public tasks.

Undoubtedly, the municipality itself rarely pursues any kind of sports (or maybe its officers). But, they have the infrastructure (such as a sport court), and also they may have the financial resources to support civic organizations, and above all, they have the power to influence the local sports issues. In local circumstances, beside local conditions decision makers are not always be fully aware of the different issues of sport organizations, may not know their local civic network and it may also happen that they rarely have thorough

1 Here we must notice that this classification only counts with those kinds of associations, which has selected sports as their prime activity. The nature of this special classification is that only one prime activity can be selected in the ELEKTRA system, which regularly provides data about the nonprofits.

information about needs and legislation possibilities. It may also happen that they do not aspire to have it all. As a result, "the rurality phenomenon" as formerly defined by Bánlaky-Varga (1979) is valid for the intellectuals in small towns may still stand the test of time: "*the restriction of a reference base, the absolutization of local hierarchy and way of life adjusted to local structure of values*." Finally, these all basically influence the local chances of failure and success of these organizations.

RESEARCH METHOD AND MATERIAL

In this article we have applied two research methods, one is the case study (we may also call as field research, participant observation, and direct observation) and in relationship with it, we have also applied interviews. It means the research has gained a qualitative approach and according to Babbie (1992) "*field research is at once a very old and very new in social science. We do field research whenever we observe or participate in social behavior and try to understand it. By going directly to the social phenomenon under study and observing it as completely as possible, you can develop a deeper and fuller understanding of it*." In such studies the author explains the different kinds of practices, behaviors, and organizations that are considered as thinking and examination units.

In this kind of research one will seldom approach specific task with precisely defined hypotheses to be tested. Regarding sampling, the author refers that "*researcher attempt to observe everything within their field of study, thus, in a sense, they do not sample at all. Additionally, field study may not only rely on listening and simply watching what is going on*." This is why this method is quite often supplemented with asking people questions and record their answers. Although surveys and questionnaires are always structured but unstructured interviews are usually more appropriate to field research (Babbie, 1992). So to meet the requirements of the qualitative research, we have been involved in field observation. We conducted some unstructured interviews with employees of civic organizations and asked questions about local practices, procedures, and their experiences. The database of the local municipality was accessed to reveal some kinds of typical results of the local circumstances. "*However, by carefully scrutinizing documented case studies, the manager is in a position to obtain several clues as to what factors might be operating in the current situation and how the problem might be solved*" (Sekaran, 2003).

Unit of analysis of current study is a small town with a historic atmosphere; the first writing about it is mentioned at the end of the XIII. century (Nyírbátor's official website, 2016). Kunszabó (1987) in his monograph explained that "*We do not know when it was established, but it is certain that it was not forever, so some when it has to be established since it is existing"*. Historic storms have deeply influenced the settlement since it laid in the border region of the former country torn apart in three pieces, it was ravaged, robbed, plundered many times. By gaining town privileges it gradually become an agricultural town, and up to the XIV century, it belongs to one of the most developed industrial, commercial boroughs. It is also worth mentioning the technical classification of the settlement. Apart from the industrial park region, agriculture is one of the most dominant sectors that include basic and processed material. The former scholar Erdei (1974) explained the category of horticultural settlement, which may be also applicable for it. In almost all detached houses we may notice some kinds of a leisure garden, and we strongly believe that Kovách (2011) classification about agricultural engagement and conservatisms indicated high value for both of them.

The number of inhabitants is estimated up to 13 thousand. According to Andorka's (2006) this settlement has basically a small town nature. Local political and public nature literatures suggest that this settlement is "*a dynamically developing small town"* (Veres, 2014). A book on the settlement noticed that "*in 2001, 19 associations were operating"* (Szabó, 2004). Owing to the failure in the system of the juridical research webpage, we cannot tell the exact number of the sports related organizations in the settlement, but we may assume that 21 sports organizations totally[2]. We may also refer to another data source, which is the relevant part of the municipal private webpage. According to it, we may suppose 16 operating sports associations, and although the legislation is not including this kind of organization, we may notice 2 sport foundations. The web source unfortunately does not seem to be updated, since for example one of the mentioned sports association has already been liquidated years before.

During the analysis the role of the local elite cannot be eliminated. Valuch (2006) considers elite to be one, who "*bear personally a constant influence in the management of social affairs, are managers of those complex organizations, which play an important role in operating the society, and decisions of whom may influence the process of social reproduction*". Bánlaky-Varga (1979) stated that one of the most dominant social layer is the local intellectual, and the term rurality is defined as "*determined standard live and way of thinking (including personality model). Two basic motives of this model first is about living peacefully, without conflicts, and second is building and maintaining connections, which, properly position the individual into the urban relationship, and is associated with different kinds of benefits. It also includes the absolute approval of preformed human-social relationship*." Mocsár (1967) parallel applied the term "*provincialism*", which also means some kinds of rurality, underdevelopment and limits in mental approach. For the different terms not purely the conceptualization is important, but the phenomenon itself is important, from which different kinds of terms may be deducted. Regarding limitations, sport related issues may grab our attention, especially when they affect some related fields (such as culture). We may also raise the question of efficiency of financial support, which may be explained by the relationship between cost and performances by focusing on a special form of local subsidy.

2 This data comes from the beginning of 2015, when the juridical system has allowed to reveal the number of sports related civics locally.

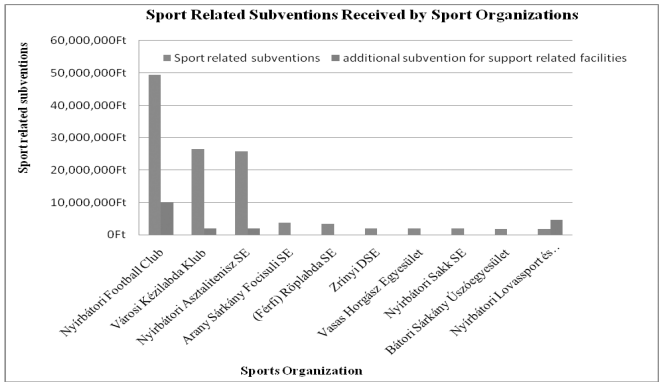
RESULTS AND DISCUSSION

The Analysis of Sport Related Subsidies

A classic instance for that are the role and operation of technical committees, and their participation in the operation of the local subsidy system. It may be approached by a special term in the framework of social responsibility, differentiated from corporate social responsibility; we may call it as institutional social responsibility. The basis for that is the role of the municipality in the local stakeholder model, where they have some specific roles defined by the Act on Municipalities. These roles are often called as public tasks, and since municipalities rarely take all of them, these may be outsourced to different kinds of other stakeholders. Regarding the field of sport they outsource the sport related municipal tasks to sport organizations, namely sports associations. On national level, operational activities of this kind of mechanism in numerous cases are linked to municipal committees, sometime they exclusively deal with only one field (such as sport) or they may also be interested in the operation of 2-3 sectorial fields (Kozma-Perényi-Bácsné, 2015). Based on the research of the scholars, we find that sport may be associated with youth affairs, education, the material examined clearly illustrates this kind of mixture committee, since the municipality's responsible committee deals with education, culture, youth affairs and sport issues (its acronym is OKSI or OKSIB). There are different kinds of subsidies provided by them, as they operate as a support system here in Hungary, since the municipality is a subsystem of the governmental sector, and are regulated by numerous acts: 2011. year Act CXII, on Informational Self-Governmental Rights and Freedom of Information, 2007. year CLXXXI, act on Transparency of Subsidies Provided from Public Sources, 2003. year Act CXXV, on Equal Opportunity and Promoting Equal opportunities, the 2011. year CXCV, Act on General Government, the 2011. year Act CLXXXIX, on Municipalities, the 2011. year CXCVI and Act on National Property are few acts relevant to civic organizations, and also other sources of laws, regulations (such as local sports enactment) must be considered and observed. It seems obvious, that when so many acts regulate a professional field, it seems to be a challenge and often it is hard to meet so many expectations. Naturally, they obviously have to meet all, despite the difficulties. This is not the objective of this current article to discuss the legal operation of the municipality; still, regarding the availability of the financial subsidy we may identify certain, necessary related notices. One of them includes the call for the subsidy, which so far has been established on system of relations, which suggests the exclusion of those, who are not included in it. The local municipality –in accordance with the national sports regulation- has its enactment on sports. 15. § of it says: "*The municipality promotes the locally seated sports organizations, depending on its possibilities, through call (data service) announced by the relevant committee.*" In practice, the municipality regularly supports civic organization in the form of "*activity support*" or "*infrastructural support*". Regarding it, we may assume some difference in the promotion/committee practices from the legal perspective, according to law they should announce calls but instead they maintain a different mechanism. This practice means that the need for subsidy should be handed in by a so called "*subsidy data sheet*", this is disseminated among organizations in the relationship network possibly in December, which are returned and filled by the deadline given.

Hence, there are limitations for gaining the support for those civic organizations, which do not know this data sheet, or do not have know how to get into the system of relations and as a result bleed even under the best of intentions while accessing the financial support. [3] Another interesting issue is in connection with group dynamics, which is to do with the political composition of the relevant committee, which can be examined by the structure and distribution of the subsidies awarded from 2010 till 2014. First, the committees from 2010 till 2014 were dominated by the current governmental members, now the situation is completely different; currently opposition parties dominate the committee. Secondly, behind decisions there are rigid mechanisms and attitudes, as evident from the results of the support (Figure 1):

Figure 1: Total Amount of Subsidies received by Sports Organizations from 2008–2015



Source: Private edit from municipal sources, 2016

Figure 1 shows the total amount of sports related subsidies received by different sport organizations over the period of eight years from 2008 till 2015 (no earlier or later data were available). The amount of subsidies can be categorized in two parts: one is basic amount of subsidies received by all organizations and other part consists of the additional subsidies for operational support related facilities such as maintenance. The figure clearly illustrates that for last eight years Nyírbátori Football Club as recipient of subsidies has clearly outperformed others in both categories.

From the start of (2008) almost all the applicant civic organizations received the same proportion and same amount

3 This kind of mechnism has already been suspended and changed from 2016, at the period of the preparation of this essay a complete call for support and data sheet will be announced after the approval of the actual municiplaity budget. In the center if this mechanism, the local major will have a central role, supported by advisors he solely will make decisions about subsidies.

for subsidies yearly by the decision committee. It was difficult to reveal the concrete amount as it required much effort from us, especially for the last year, since the availability of these could have only been provided on special request. After analyzing the data that was available there are some considerable issues that are worth to be emphasized.

In 2008, of the total amount half was donated to only one organization, the three largest gained 89% of the available sum. In 2009, of the approximately total 15 million Fts, the same three organizations gained 11.4 millió Fts, and two of the three have additionally 5 million for maintaining the sports facilities. In 2010 of the 12.5 million Fts, the dedicated 3 organizations have received 10.3 million as subsidy. From there on the situation didn't change considerably. Regarding the latest subsidies, the three emphasized organizations have received 9 million for maintaining sports facilities, and have also received 12.6 million Fts for maintaining their activity. So as to make comparison, same year the other 14 "*sports organizations*" have only received 3.66 million Fts for their operations, and nothing for their up keeping sports facilities. The other civic organizations, since they were not considered as "*emphasized*[4]" ones, could not sign public service agreement to transfer public tasks, which may prevented them from receiving infrastructural type subsidy. An additional comment directly comes from the committee itself, saying that "*till level may be observed dominantly regarding the distribution of the support*".

This kinds of mechanism may strengthen the symptoms of the rurality of Bánlaky-Varga (1979) authors, the absolutization of local hierarchy. All societies are naturally complex systems, local residents may not be aware of the structural hegemony, as there is no appeal there are no conflicts. An other civic organization, freshly came to the settlement has already made some attempts to get financial support, and although its efforts were appreciated for many times, it has not received any sports related support, even though it was performing sports activity for years now.

An interesting issue raised by the authors is about the effectiveness of the supports criteria for the civic organizations. Management literatures emphasizes the role of organizational effectiveness, where development and performance goal is essential (Dixon et al. 2008) and it is central task of the sport manager (Slack-Parent, 2006). Vos et al (2011) discuss the influences, demands from resource providers, where governmental subsidies is of importance. In a talented, intellectual organization the decision makers must be aware of how different kinds of supports prevails, that means whether beneficiaries deserve the financial support, and whether is there any connection between the amount of support given and the performance of the dedicated organization. Owing to limitation, we consider the situation of the largest beneficiary as an example to illustrate whether there is connection between the performance of the civic organization and the subsidies it received.

4 Locally used term for the largest organizations, altough we could not find any reason for their distinction.

The Case of a Local Football Team

The data was available from 2007, owing to the Hungarian Football Federation's (HFF) database and the local newspaper of Nyírbátor called "Bátor". During the processing and analysis of the sources, our goal was to gather information about local football team in Nyírbátor – Nyírbátori Football Club. Primarily we were curious about the team's results and the various developments, which were carried out from 2007 till 2015. In addition, we wanted to investigate, whether is there any connection between the team's results and the funds which are granted to the Club. Let's start with the first part, which represents the Club's results in the investigated years.

Before the beginning of the 2007/2008 season, there were number of significant infrastructural developments and renovations in the Club (Vadon, 2007). They started the season in Szabolcs-Szatmár-Bereg County's championship, in division 1. During the season break in winter, the team reached 8th place out of the division's 16 teams (Vadon, 2008/a). By the end of the championship, the Club closed at the 7th position (Vadon, 2008/b).

After a tranquil summer, the Club started the 2008/2009 season in the same division. At the end of the first half of the season, they went for the winter break at 5th place (Vadon, 2009). The second half of the season was a pleasant surprise for the football-lovers of Nyírbátor, because the result of the team's performance in spring won them 3rd place (HFF, 2009).

In the following – 2009/2010 – season, the Club continued the solid performance. They showed a gradual improvement week after week and at the end of the championship reached the 3rd position again like a year ago (HFF, 2010).

After two successful seasons the Club management's unconcealed aim was to obtain the 1st place in the 2010/2011 season, and by the title enter a higher place – in their case the National Championship's 3rd – division (Janovics, 2011/a). The season start was in accordance as per the expectations, but after 8 matches an unexpected deadlock occurred. This time the management made risky decision with a coach-change during the season. Yet the results of the following matches confirmed this decision to be effective, and the team reached 1st place at the end of the season's first half. In preparation for the spring continuation, the team did a hard training session including many training matches; also the management worked diligently in the background. Nonetheless the spring season not lived up to the expectations, which led to a fierce struggle for the team and it ended at 2nd position behind the great rival Várda SE. Although the team had not obtained the championship title, another goal was fulfilled, they reached a higher division (Janovics, 2011/b).

The 2011/2012 season was the team's first season in the 3rd division of the National Championship. This time the 3rd division had 6 sub-groups and the Nyírbátori Football Club was in the group called "Tisza". During the summer there were major changes, with multiple transfers many players left the team but to counteract this, many new players arrived (Janovics, 2011/c). After a cumbersome season start the group

did a flawless "sequel", which meant that the team was placed 1st before the winter break. That was an excellent debut, but everybody in the Club knew, that this result had to be taken in the right place. Despite the debut beyond expectations the Club aimed for a podium place at the end of the season. In addition to this, during the winter, a successful collaboration between the Club's management and the council of Nyírbátor resulted into 2 new training grounds with artificial grass, a new grandstand with 300 seats, a new gym, a new team bus and other new sport equipments were built and purchased (Janovics, 2011/d). Like the first half of the season, the second half was also great. Although the team finished at 2nd place, it was an enormous performance for a "rookie" team to reach a podium place in their first season (Janovics, 2012/a).

At the beginning of the 2012/2013 season the Club's goal was similar to the previous season – the acquisition of the podium. Like in the summer break of 2011, there were also huge changes in the team's lineup, 7 players left, 8 arrived, so during the summer preparation the coaching stuff aimed to make the team as consistent as possible for the season start (Janovics, 2012/b). The team went for the winter break at 3rd place, which was the result of their solid performance. Before the start of the spring season, the Hungarian Football Federation laid the foundation of a large-scale reorganization, which included considerable changes in the 3rd division of the National Championship. Following this announcement, the Club's goal was still the same: to reach a podium place. Although there were some weaker moments during the second half of the season, in a big sprint the team reached 2nd place, so they ensured their place for the next season in the 3rd division. Besides the successful completion of the season, there were new plans for future developments. All these developments contributed to improve both the conditions of competitive sport and the nurturing of junior players (Janovics, 2013/a).

This brings us to the 2013/2014 season's start. One of the HFF's most important change was about the 3rd division was to halve the 6 sub-groups to 3. The new sub-group, which included the Nyírbátori Football Club entitled "Keleti". The other major change was that in each team it was mandatory to include 4 players with Hungarian citizenship and of minimum age 21 and moreover 2 out of 4 players had to be in the field for the whole 90 minutes. There were also changes in the Club's life, 8 of their main players left the team, and for the first time it seemed like that the management couldn't replace them with players of similar qualities. It compounded the problems, that there was a coach-change too. Knowing all this, the Club's objective was to stay in the middle of the division's table (Janovics, 2013/b). The team's performance was uneven in the early stage of the season. There were matches with great victories and disappointing defeats equally. For the winter break the team took 10th place on the table (Janovics, 2013/c). The second half of the season was better than the first, and the team ended at 8th position by the end of the season. Despite the significant changes which happened both in the championship and the Club's life too, their targets have been met (Janovics, 2014).

Without any groundbreaking changes in the team – only 2 players left and 2 arrived – the whole 2014/2015 season was very similar to the previous one (Janovics, 2015/a). Throughout the entire season, the team's performance was very undulating, because after one week's magnificent result, the other week ended with a frustrating defeat. After the last match of the season, the team finished at 8th place like one year before (Janovics, 2015/b).

Here it is important to analyze that how the above mentioned performance of the Nyírbátori Football Club affected the subsidies it received. As the data show that the Club is the top recipient of the subsidies**.** It can be argued that one of the possible reasons for getting highest subsidies can be its performance. Better performance could have leaded to securing more subsidies. Here we can assume that there is positive relationship between performance and subsidies received by Nyírbátori Football Club. Therefore to test this hypothesis the correlation between ranking of Nyírbátori Football Club that is used as measure its performance and the subsidies (subventions) it had received in the subsequent years is calculated.

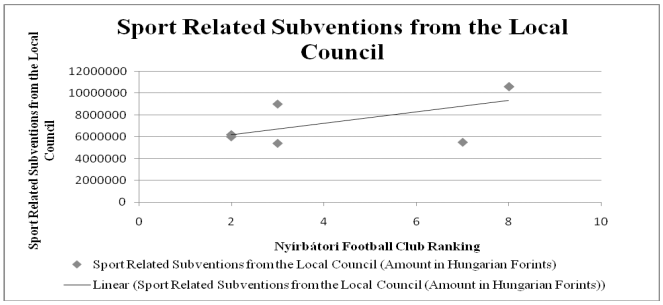
Table 1: Nyírbátori Football Club ranking and Subventions from the Local Council from 2008–2015

Sr. No	Years	Nyírbátori Football Club Ranking	Sport Related Subventions from the Local Council (Amount in Hungarian Forints)	Sport Related Subventions Adjusted for Inflation (Base Year: 2015; Amount in Hungarian Forints)	Change of Sport Related Subventions adjusted for inflation (Base Year 2008, in percentage)
1	2008	7	5,500,000	6,721,232	100
2	2009	3	9,000,000	10,555,066	157
3	2010	3	5,400,000	6,037,216	89,8
4	2011	2	6,000,000	6,456,225	96,1
5	2012	2	6,191,000	6,302,505	93,8
6	2013	2	6,191,000	6,197,154	92,2
7	2014	8	10,600,000	10,631,800	159,1
8	2015	8	10,600,000	10,600,000	158,6

Source: Private edit from municipal sources, 2016

Table 1 shows the Nyírbátori Football Club ranking and respective sport related subventions from the local council over the time period of eight years from 2008 till 2015. The ranking of Nyírbátori Football Club ranged from minimum of 2 in 2011, 2012 and 2013 to the maximum of 8 in 2014 and 2015 respectively. Similarly the subvention ranged from minimum of 5,400,000 HUF in 2010 to the maximum of 10,060,000 HUF in 2014 and 2015. Table 1 also shows inflation adjusted amount of subventions.

Figure 2: Scatter Plot of Nyírbátori football club and subventions received



Source: Private edit from municipal sources, 2016

The figure 2 indicates the upward sloping trendline in the scatter plot which means that the ranking of Nyírbátori Football Club and subventions that it received are positively associated with each other i.e. the increase in one leads to increase in other. But to statitsitically test this relationship correlation is calculated and the results are reported as follows:

Table 2: Descriptive Statistics and Correlation (N = 8)

Variables	Mean	SD	1	2
1. Nyírbátori Football Club Ranking	4.38	2.77	1	.636
2.Subventions from the Local Council (HUF)	7435250	2252726	.636	1

Statistical significance: *p < .05; **p < .01; ***p < .001
Source: Private edit from municipal sources, 2016

Table 2 show the mean, standard deviation and Pearson correlation coefficient for Nyírbátori Football Club ranking and the subventions that it received from the local council. The results reveal that the mean ranking of Nyírbátori football club is 4.38 with the standard deviation 2.77 and whereas the mean of subventions it received from the local council is 7435250 with the standard deviation 2252726. Moreover, the value of correlation coefficient is $r = .636$, $p > .05$ illustrating that the ranking of Nyírbátori Football Club and the subventions received are positively correlated. However, the relationship is statistically insignificant that leads to the rejection of our hypothesis.

CONCLUSION

This article was intended to provide the detail perspective of rural civic organizations specifically dealing in sports in Hungary. The civic organizations rely on the different funding sources and the local municipalities as formal subsystem of the government serve as the major source of funds for such organizations. Although there are strong legislations regarding how these funds will be administered but in reality the politics and composition of the committees can strongly influence the decision of who will receive the subsidies and how much they will receive. This situation creates difficulties for those civic organizations that are eligible for getting the subsidies but don't receive it because they are not part of network. Another key factor that can influence the amount of subsidies received by the sport related organizations can be the performance and in this study it is argued that better performance lead to getting higher amount of subsidies. To test this relationship the case of Nyírbátori Football Club is discussed. The data for eight years is analyzed. The ranking of the Nyírbátori Football Club has been taken as measure of its performance. The Pearson correlation coefficient is calculated and the results reveal that the relationship between ranking and subsidies received by Nyírbátori Football Club is positive but statistically insignificant that shows that performance of the civic organization might not be the sole criteria for decision makers while allocating subsidies there can be other factors that are already mentioned above e.g. strong networking that have role in such decisions. These factors need to be further explored in the future with empirical data.

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SCIENTIFIC PAPER

COMPARING OLS AND RANK-BASED ESTIMATION TECHNIQUES FOR PRODUCTION ANALYSIS: AN APPLICATION TO GHANAIAN MAIZE FARMS.

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Abstract: *This paper introduces the rank-based estimation method to modelling the Cobb-Douglas production function as an alternative to the least squares approach. The intent is to demonstrate how a nonparametric regression based on a rank-based estimator can be used to estimate a Cobb-Douglas production function using data on maize production from Ghana. The nonparametric results are compared to common parametric specification using the ordinary least squares regression. Results of the study indicate that the estimated coefficients of the Cobb-Douglas Model using the Least squares method and the rank-based regression analysis are similar. Findings indicated that in both estimation techniques, land and Equipment had a significant and positive influence on output whilst agrochemicals had a significantly negative effect on output. Additionally, seeds which also had a negative influence on output was found to be significant in the robust rank-based estimation, but insignificant in the ordinary least square estimation. Both the least squares and rank-based regression suggest that the farmers were operating at an increasing returns to scale. In effect this paper demonstrate the usefulness of the rank-based estimation in production analysis.*

Keywords: *Production function, parametric and non-parametric regression, rank-based estimation, ordinary least squares estimation*
(JEL CODE: Q18, D24, Q12, C1 and C67)

INTRODUCTION

Cobb and Douglas (1928) propose an econometric methodology to investigate production functions. This entails specifying a linear relationship between inputs and outputs and estimating the linear model using ordinary least squares estimation technique. Consequently, the parametric estimation of the production function has dominated the literature. However, the Cobb-Douglas econometric technique comes with associated constraints imposed on the data.

Some studies highlight the limitations of the parametric approaches and propose a non-parametric estimation of the production functions. For example Henningsen and Kumbharkar (2009) advertised a semi parametric approach to efficiency analysis that estimates production function by a non-parametric regression approach. Furthermore, some studies (Czekaj and Henningsen, 2011) suggest the use of a non-parametric method to scrutinize the traditional parametric estimation method. Subsequently they provide comparison of parametric and non-parametric estimates of the production function. However these studies proposing a non-parametric estimation do not consider the rank-based non parametric estimation technique. This study expands on the parametric and non-parametric estimation of production functions by exploring the rank based estimation. Rank-based estimators have been developed as robust non parametric alternative to traditional least squares estimators. Rank-based regression was first introduced by Jureckova (1971) and Jaeckel (1972). Mckean and Hettmansperger (1978) developed a Newton step algorithm that led to feasible computation of these rank-based estimates. Kloke and Mckean (2015) developed a package (Rfit) for rank-based estimation and inference for linear models using R programming language. This paper demonstrates that the rank-based non-parametric regression offers an alternative and useful approach to estimating the production function. The paper is outlined as follows. The introduction is followed by the methodology which discusses Cobb-Douglas Production Function, Parametric and non-parametric regression approaches, Ordinary Least Squares and Rank-Based Estimations, Returns to Scale, Results and Discussion, and Conclusion.

METHODOLOGY

The methodology describes the data and the parametric and non-parametric econometric techniques employed in the study. Econometric techniques such as ordinary least squares and rank-based non-parametric regression analysis and the Cobb-Douglas model are emphasized.

Cobb-Douglas Production Function

The Cobb-Douglas function is most commonly used in applied production economics. The Cobb-Douglas production function with *N* inputs is defined as:

$$y = A\prod_{i=1}^{N} x_i^{\alpha_i} \qquad [1]$$

This function can be linearized by taking the (natural) logarithm on both sides:

$$\ln y = \alpha_0 + \sum_{i=1}^{N} \alpha_i \ln x_i \qquad [2]$$

where α_0 is equal to $\ln A$.

Thus, the Cobb-Douglas production function is a linear model of the natural logarithm of both the dependent variable and the independent variable(s). In this study, estimation of the parameters of linearized Cobb-Douglas production function is done using Ordinary Least Squares (parametric) method and Rank-Based estimation (non-parametric), and the results were compared.

Parametric and Non-parametric Regression Approaches

The goal of regression analysis is to estimate the relationship of one or more explanatory variables with a single dependent variable. This is done by evaluating the conditional expectation of the dependent variable given the explanatory variables, which can be expressed as:

$$y_i = f_0(x_i) + \varepsilon_i \qquad [3]$$

$$i = 1, 2, \cdots, n,$$

where $i = 1, 2, \cdots, n$ denotes an observation of a subject, y_i is the response variable, and x_i is a $k \times 1$ vector of predictor variables, $f_0(x_i)$ is the expectation of y_i conditional on x_i (the unknown regression function), and ε_i is the error term.

The traditional parametric approach to regression analysis is to assume that $f_0(x_i)$ belongs to a parametric family of functions: $f_0(x_i|\beta)$. So $f_0(x_i)$ is known to have up to a finite number of parameters. Most importantly, parametric approach to regression analysis requires the specification of a functional form for $f_0(x_i)$.

In non-parametric approach we do not assume a certain parametric functional form for $f_0(x_i)$ but is constructed according to information derived from the data. Nonparametric regression requires larger sample sizes than regression based on parametric models because the data must supply the model structure as well as the model estimates.

Ordinary Least Squares Estimation (OLS)

In this approach, the most crucial decision is the specification of the functional form for $f_0(x_i)$. It is assumed that y_i in the model is linearly related with x_i, and ε_i is independent and identically distributed (iid) with $E(\varepsilon_i) = 0$ and variance σ^2. Consider the following model:

$$f_0(x_i|\beta) = \beta_0 + x_i'\beta \qquad [4]$$

Thus a linear regression model is written as:

$$y_i = \beta_0 + x_i'\beta + \varepsilon_i \qquad [5]$$

where β_0 is the intercept and β is $k \times 1$ vector of parameters. For convenience, Equation 5 can be written as: $\boldsymbol{y} = \boldsymbol{X\beta} + \boldsymbol{\varepsilon}$, where $\boldsymbol{\beta}$ is $p \times 1$ vector of parameters, $p = k + 1$, $\boldsymbol{y}$, is $n \times 1$, $\boldsymbol{X}$ is $k \times p$ design matrix, and $\boldsymbol{\varepsilon}$ is the $n \times 1$ vector of error terms.

Under Gauss-Markov assumptions, the estimators of $\boldsymbol{\beta}$ is the Best Linear Unbiased Estimators (BLUE), and can be estimated by using OLS. Using the OLS method of estimation $\boldsymbol{\beta}$ can be estimated by $\widehat{\boldsymbol{\beta}}$ which is given by the explicit formula:

$$\widehat{\boldsymbol{\beta}} = (\boldsymbol{X}'\boldsymbol{X})^{-1}\boldsymbol{X}'\boldsymbol{y} \qquad [6]$$

The matrix $(\boldsymbol{X}'\boldsymbol{X})^{-1}\boldsymbol{X}'$ is called the Moore-Penrose pseudo inverse matrix of $\boldsymbol{X}$. After $\boldsymbol{\beta}$ has been estimated, the fitted values (or predicted values) from the regression will be:

$$\widehat{\boldsymbol{y}} = \boldsymbol{X}\widehat{\boldsymbol{\beta}} = \boldsymbol{X}(\boldsymbol{X}'\boldsymbol{X})^{-1}\boldsymbol{X}'\boldsymbol{y} \qquad [7]$$

In the case of simple linear regression (one predictor variable) the model is written as:

$$y_i = \alpha + \beta x_i + \varepsilon_i, \qquad [8]$$

and α and β are estimated as:

$$\hat{\beta} = \frac{n\sum x_i y_i - \sum x_i \sum y_i}{n\sum x_i^2 - (\sum x_i)^2} \qquad [9]$$

$$\hat{\alpha} = \bar{y} - \hat{\beta}\bar{x} \qquad [10]$$

After we have estimated α and β the fitted values (or predicted values) from the regression will be:

$$\hat{y}_i = \hat{\alpha} + \hat{\beta} x_i \qquad [11]$$

Notably, the OLS estimator is the minimizer of Euclidean distance between $\boldsymbol{y}$ and $\widehat{\boldsymbol{y}} = \boldsymbol{X}\widehat{\boldsymbol{\beta}}$.

It is assumed that the errors are independent and identically distributed (iid) with mean 0 and variance σ^2, thus $\boldsymbol{\varepsilon} \sim N(0, \sigma^2 \boldsymbol{I})$. Now since $\boldsymbol{y} = \boldsymbol{X\beta} + \boldsymbol{\varepsilon}$, implies that $\boldsymbol{y} \sim N(\boldsymbol{X\beta}, \sigma^2 \boldsymbol{I})$, which is a compact description of the regression model. From this it can be found, using the fact that linear combinations of normally distributed values are also normal, that:

$$\widehat{\boldsymbol{\beta}} \sim N(\boldsymbol{\beta}, (\boldsymbol{X}^T\boldsymbol{X})^{-1}\sigma^2)$$

Inference on all the predictor variables can be tested by testing:

$$H_0: \beta_1 = \beta_2 \cdots = \beta_k = 0$$

H_0 is to be rejected if

$$F = \frac{(TSS - RSS)/(p-1)}{RSS/(n-p)} > F_{1-\alpha, p-1, n-p}$$

where $TSS = (\boldsymbol{y} - \bar{\boldsymbol{y}})^T(\boldsymbol{y} - \bar{\boldsymbol{y}})$ which is sometimes known as sum of squares corrected for the mean, and $RSS = (\boldsymbol{y} - \boldsymbol{X}\widehat{\boldsymbol{\beta}})^T(\boldsymbol{y} - \boldsymbol{X}\widehat{\boldsymbol{\beta}})$ which is the residual sum of squares.

The approximate $(1-\alpha) \times 100\%$ confidence interval for β_j is

$$\hat{\beta}_j \pm t_{1-\alpha/2, n-p} \mathrm{se}(\hat{\beta}_j)$$

where $\mathrm{se}(\hat{\beta}_j) = \hat{\sigma}\sqrt{(\boldsymbol{X}^T\boldsymbol{X})^{-1}_{jj}}$, and $(\boldsymbol{X}^T\boldsymbol{X})^{-1}_{jj}$ is the jth diagonal element of $(\boldsymbol{X}^T\boldsymbol{X})^{-1}$.

Rank-Based Estimation

In contrast, the non-parametric approach to regression analysis does not require any presumptions for the functional form of $f_0(x_i)$. As with OLS, the goal of rank-based estimation is to estimate the vector of parameters, β, of a linear model in Equation 5. For convenience, Equation 5 can be written in matrix notation as:

$$\boldsymbol{y} = \alpha\boldsymbol{1} + \boldsymbol{X\beta} + \boldsymbol{\varepsilon} \qquad [12]$$

where $\boldsymbol{y}$ is the $n \times 1$ vector of responses, $\boldsymbol{X}$ is the $n \times k$ design matrix, $\boldsymbol{\beta}$ is $k \times 1$ vector of parameters, and $\boldsymbol{\varepsilon}$ is the $n \times 1$ vector of error terms. The only assumption on the error term is that it is continuous; in that sense the model is general. The geometry of the rank-based procedures is the same as OLS, except that instead of the Euclidean distance, the Jaeckel's dispersion function is used which is based on a pseudo-norm $\|\cdot\|_\varphi$. The Jaeckel's dispersion function is given by:

$$D(\boldsymbol{\beta}) = \|\boldsymbol{y} - \boldsymbol{X\beta}\|_\varphi \qquad [13]$$

where $\|\cdot\|_\varphi$ is a pseudo-norm defined as:

$$\|\boldsymbol{u}\|_\varphi = \sum_{i=1}^{n} a\big(R(u_i)\big)u_i\ , \qquad u \in R^n,$$

where the scores are generated as $a(i) = \varphi\left(\frac{i}{n+1}\right)$ for a non-decreasing square-integrable function $\varphi(u)$, defined on the interval $(0,1)$, and $R(u_i)$ is the rank. Assume without loss of generality that it is standardized, so that $\int \varphi(u)du = 0$ and $\int \varphi^2(u)du = 1$. Two of the most popular score functions are the Wilcoxon $\big(\varphi(u) = \sqrt{12}[u - (1/2)]\big)$ and the L_1 $(\varphi(u) = \mathrm{sgn}[u - (1/2)])$. Because the scores sum to zero and the ranks are invariant to a constant shift, the intercept cannot be estimated using the norm. Instead it is usually estimated as the median of the residuals. That is, $\hat{\alpha}_s^c = \mathrm{med}\{Y_i - x_i^T\hat{\beta}_\varphi\}$, where x_i^T is the ith row of $\boldsymbol{X}$.

The rank-based estimator of $\boldsymbol{\beta}$ is defined as:

$$\widehat{\boldsymbol{\beta}}_\varphi = \mathrm{Argmin}\|\boldsymbol{y} - \boldsymbol{X\beta}\|_\varphi \qquad [14]$$

This estimator is a highly efficient estimator which is robust in the Y-space. A weighted version can attain 50% breakdown in the X-space at the expense of a loss in efficiency; see Chang et al. (1999).

$\widehat{\boldsymbol{\beta}}_\varphi$ is the Hodges-Lehmann estimate (i.e., the median of all pairwise differences between the samples) if the Wilcoxon scores is used. Let $f(t)$ denote the probability density function of ε_i. Then, under regularity conditions:

$$\begin{pmatrix} \hat{\alpha}_s \\ \hat{\boldsymbol{\beta}}_\varphi \end{pmatrix} \text{ is approximately}$$

$$N_{k+1}\left(\begin{pmatrix} \alpha \\ \boldsymbol{\beta} \end{pmatrix}, \begin{bmatrix} k_n & -\tau_\varphi^2 \bar{x}^T(\boldsymbol{X}^T\boldsymbol{X})^{-1} \\ \tau_\varphi^2(\boldsymbol{X}^T\boldsymbol{X})^{-1}\bar{x} & \tau_\varphi^2(\boldsymbol{X}^T\boldsymbol{X})^{-1} \end{bmatrix}\right)$$

where $\hat{\alpha}_s = \hat{\alpha}_s^c - \bar{x}^T\widehat{\boldsymbol{\beta}}_\varphi$, $\quad k_n = n^{-1}\tau_s^2 + \tau_\varphi^2 \bar{x}^T(\boldsymbol{X}^T\boldsymbol{X})^{-1}\bar{x}$, $\tau_s = [2f(0)]^{-1}$,

$\tau_\varphi = [\int \varphi(u)\varphi_f(u)du]^{-1}$, and $\varphi_f(u) = -f'(F^{-1}(u))/f(F^{-1}(u))$.

Depending on knowledge of the error probability density function $f(t)$, appropriate scores can result in asymptotically efficient estimates. This result can be summarize as follows:

$$\widehat{\boldsymbol{\beta}}_\varphi \sim N\big(\boldsymbol{\beta}, \tau_\varphi^2(\boldsymbol{X}^T\boldsymbol{X})^{-1}\big)$$

An estimate of τ_φ is necessary to conduct inference. Denote this estimator by $\hat{\tau}_\varphi$. Then Wald tests and confidence intervals can be calculated. Let $\text{se}(\hat{\beta}_j) = \hat{\tau}_\varphi(\boldsymbol{X}^T\boldsymbol{X})^{-1}_{jj}$, where $(\boldsymbol{X}^T\boldsymbol{X})^{-1}_{jj}$ is the jth diagonal element of $(\boldsymbol{X}^T\boldsymbol{X})^{-1}$. Then an approximate $(1-\alpha)\times 100\%$ confidence interval for β_j is

$$\hat{\beta}_j \pm t_{1-\alpha/2,n-p-1}\text{se}(\hat{\beta}_j).$$

A Wald test of the general linear hypothesis

$$H_0: \boldsymbol{M\beta} = \boldsymbol{0} \text{ versus}$$

$$H_1: \boldsymbol{M\beta} \neq \boldsymbol{0}$$

is to reject H_0 if

$$\frac{(\boldsymbol{M\hat{\beta}_\varphi})^T[\boldsymbol{M}(\boldsymbol{X}^T\boldsymbol{X})^{-1}\boldsymbol{M}^T]^{-1}(\boldsymbol{M\hat{\beta}})/q}{\tau^2_\varphi} > F_{1-\alpha,q,n-p-1}, \text{ where } q = \dim(\boldsymbol{M}).$$

Returns to Scale (RTS)

From the Cobb-Douglas production function, the output elasticities with respect to the factors of production (inputs) are equal to the corresponding coefficients of the Cobb-Douglas regression model. Based on the farmers' output elasticities, it would be known whether the farmers' exhibits constant returns to scale, decreasing returns to scale or increasing returns to scale and its implication to the farmers. The returns to scale is the summation of all the output elasticities of the factors of production. It is specified mathematically as:

$$RTS = \sum_{i=1}^{k} \epsilon_i = \sum_{i=1}^{k} \beta_i \qquad [15]$$

where ϵ_i is the output elasticities with respect to the ith input, and β_i is the coefficient of the ith input of the Cobb-Douglas regression model.

SAMPLE SIZE AND DATA ANALYSIS

In this study, simple random sampling technique was used to select 306 maize farmers from the Ejura Sekyedumase District. The analytical tools used for this study were descriptive statistics and parametric and non-parametric regression analyses. The dependent variable of the production function is the farm's output measured as total maize yield. The independent variables used in the regression analyses were six: labour, land, equipment, agrochemical, fertilizer, and seeds. The R programming software was used to analyse the data. The Cobb-Douglas production function was estimated using the ordinary least squares estimation and the rank-based estimation. The R packages Rfit was used for the rank-based estimation.

RESULTS

Descriptive statistics of the regression variables are presented in Table 1. Findings from Table 1 indicate that on average a yield of 7396.37kg was obtained. This output was obtained by combining 170.65 person-days of labour, 16.06 acres of land, 15.82 litres of agrochemicals, 140.98 kilogram of fertiliser, 5.03 kilogram of seeds and GHS15.68 of equipment.

Table 1: Descriptive Statistics of Regression Variables

Variable	Unit	Mini-mum	Maximum	Mean	Std. Dev
Output	Kg	480.00	52200.00	7396.37	6919.31
Labour	P-D	28.00	469.00	170.65	75.91
Land	Acres	2.00	60.00	16.06	10.60
Equipment	GHS	2.40	72.00	15.68	14.04
Agrochem-icals	Lit.	3.00	63.00	15.82	10.65
Fertiliser	Kg	25.00	300.00	140.98	43.33
Seed	Kg	3.00	9.00	5.03	1.12

OLS estimation results of the Cobb-Douglas regression model presented in Table 2, reveals a significant and positive relationship between land and equipment as explanatory variables and maize yield as the dependent variable. There is also a significant but negative relationship between the use of agrochemicals (weedicides, pesticides, fungicide and insecticide) as an explanatory variable and maize yield as dependent variable. There is also a negative relationship between seed as explanatory variable and maize yield as dependent variable. However, this relationship is not significant.

Table 2: Ordinary Least Square Estimates

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	5.25876	0.32104	16.380	2e-16 ***
log(Labour)	0.05309	0.04625	1.148	0.25194
log(Land)	1.25648	0.06183	20.321	2e-16 ***
log(Equipment)	0.06933	0.02410	2.876	0.00431 **
log(Agrochemicals)	-0.13983	0.06493	-2.154	0.03207 *
log(Fertilizer)	0.05092	0.05449	0.935	0.35076
log(Seed)	-0.15117	0.07853	-1.925	0.05518
F-test	**Sig.**			
319.3	2.2e-16***			
R-squared				
Multiple R-squared	0.865			
Adjusted R-squared	0.8623			

Sig. codes: ''p< 0.001, '**'p< 0.01, '*'p< 0.05***

Similarly, rank-based estimation results of the Cobb-Douglas regression model presented in Table 3, shows a significant and positive relationship between land and equipment as explanatory variables and maize yield as the dependent variable. Additionally, there is also a significant but negative relationship between the use of agrochemicals (weedicides, pesticides, fungicide and insecticide) and seed as explanatory variables and maize yield as dependent variable.

Table 3: Rank-Based Estimates

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	5.308942	0.331579	16.0111	2e-16 ***
log(Labour)	0.052293	0.047737	1.0954	0.27421
log(Land)	1.271812	0.063816	19.9292	2e-16 ***
log(Equipment)	0.060810	0.024877	2.4444	0.01509 *
log(Agrochemicals)	-0.136052	0.067015	-2.0302	0.04322 *
log(Fertilizer)	0.049349	0.056235	0.8776	0.38089
log(Seed)	-0.181732	0.081055	-2.2421	0.02569 *
Reduction in Dispersion Test		**Sig.**		
163.696		0.000***		
R-squared				
Multiple R-squared (Robust)	0.7666207			

Sig. codes: ''p< 0.001, '*'p< 0.05***

Table 4 presents the elasticities and returns to scale for the OLS estimation and the Rank-based estimation. On the basis of the rank-based Cobb Douglas model, inputs used in producing maize (i.e. labour, equipment, agrochemical, fertilizer and seed) were all inelastic with the exception of land. This was also the case of the OLS estimation.

Table 4: Elasticity of Production and Returns to Scale (RTS)

	OLS Estimation		**Rank-Based Estimation**	
Variable	**Elasticity**	**RTS**	**Elasticity**	**RTS**
Labour	0.05309	1.14	0.052293	1.12
Land	1.25648		1.271812	
Equipment	0.06933		0.060810	
Agrochemi-cal	-0.13983		-0.136052	
Fertilizer	0.05092		0.049349	
Seed	-0.15117		-0.181732	

DISCUSSION

The maximum and minimum yield obtained in Table 1 indicates that there is a large variation in maize output among farmers in the District. The wide variation in output could be attributed to differences in technical efficiency levels of farmers.

In the OLS estimation results of the Cobb-Douglas regression model presented in Table 2, the significant and positive relationship between land and equipment as explanatory variables and maize yield as the dependent variable suggests that an increase in each of these explanatory variables will lead to an increase in the output of maize. The significant but negative relationship between the use of agrochemicals (weedicides, pesticides, fungicide and insecticide) as an explanatory variable and maize yield as dependent variable suggests that the output level of maize would decline as the use of agrochemicals increased. The negative relationship may result from the wrong application of the agrochemicals. For example excessive use of agrochemicals could lead to a decline in yield. There is also a negative relationship between seed as explanatory variable and maize yield as dependent variable. However, this relationship is not significant.

The significant and positive relationship between land and equipment as explanatory variables and maize yield as the dependent variable in the estimation results of the Rank-based Cobb-Douglas regression suggests that an increase in each of these variables will lead to an increase in the output of maize. These results are consistent with the OLS estimation. Similarly, the significant but negative relationship between the use of agrochemicals (weedicides, pesticides, fungicide and insecticide) and seed as explanatory variables and maize yield as dependent variable in the Rank-based regression suggests that the output level of maize would decline as the use of agrochemicals and seed are increased. For example excessive use of agrochemicals and seeds could lead to a decline in yield. In effect if the seeds used by farmers are higher than the recommended seed rate, yield will decline. This may lead to overcrowding which makes seedlings compete for nutrients, space and air. This result is consistent with the studies by Battese and Hassan (1999).

A comparison of the estimation result from the Cobb-Douglas model using the least squares method and the rank-based regression approach indicates that the estimates obtained in the alternative methods are similar. These results are consistent with Kloke and Mckean (2015) who demonstrated that the rank-based regression output was similar to that of the linear model and can be interpreted in the same way.

The productivity level of the farmers were examined by investigating their output elasticities and returns to scale. If the farmers increase input (labour, equipment, agrochemicals, fertilizer and seed) by one percent output changes by less than one percent whilst if farmers increase input (land) by one percent output increases by more than one percent. Noticeably, land which is positive and significantly related to output had the highest elasticity. This suggest that increasing land used in maize production will lead to increases in maize output. The importance of land in production is also noted by Rahman, Wiboonpongse, Sriboonchitta and Chaovanapoonphol (2009). On the basis of the rank based estimation, a one percentage increase in the use of agrochemicals and seed reduces output by 0.13 and 0.18 percent respectively. These reduction in output may be due to incorrect application of inputs such as seeds and agrochemicals.

Noticeably, both the OLS and the rank based estimation techniques suggest that the maize farmers were exhibiting increasing returns to scale. Thus output grows more than

proportionately with any increase in input. This evidence is consistent with Wu, Devadoss and Lu (2003). This means the farmers could increase output by using more of the inputs (e.g. land, equipment and fertilizer).

CONCLUSION

This paper proposes a non-parametric rank-based estimation method to modelling the Cobb-Douglas production function as an alternative to the parametric ordinary least squares estimation approach. A comparison of the result from the Cobb-Douglas model using the least squares method and the rank-based regression approach indicates that the estimates obtained in the alternative methods are similar.

On the basis of rank-based Cobb-Douglas estimation, farm inputs such as land and equipment had a significant positive effect on maize output, whilst agrochemicals and seed had a significant negative effect on output. Furthermore, the rank-based analysis suggest that the farmers were operating at an increasing returns to scale. In summary, this paper has demonstrated that the rank-based non-parametric regression offers an alternative and a useful approach to estimating production functions.

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SCIENTIFIC PAPER

FACTORS INFLUENCING ALBANIAN CONSUMER PREFERENCES FOR STANDARDIZED OLIVE OIL

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Abstract: *Albania is considered one of the most important countries where olives are cultivated due to its geographical position and climate conditions. The country is facing many problems with the quality of olive oil which is related to cultivation methods and agronomic techniques. The economic value of the sector is calculated almost €20 million per year. For years the cultivation of olives and associated products have been considered an important sector within agriculture and are an integral part of the Albanian diet.*
The current study aims to analyze the factors influencing consumer preferences for a standardized olive oil. The data collection was conducted through a socio-economic survey. The survey was an important element which provided general and specific information linked to the study area. The interviewees were selected randomly. Descriptive and multinomial logistic regression analyses were used to evaluate the survey data. As a result, we conclude that Albanian consumers prefer domestic olive oil because they are familiar with the taste and believe in its qualities. Usually, Albanian consumers choose the quality of olive oil at the purchase moment, due to their close relationship with the seller.

Keywords: *consumer preferences, olive oil, standardization, Albanian consumer, quality*. (JEL CODE: D12)

INTRODUCTION

During centuries, olive has played an important role in the development of rural communities, as a consistent source of income and employment in the Mediterranean countries. Albania has the lowest rate of olive oil production in the Mediterranean and only in recent years are efforts being made to increase the amount produced. Annual production is around 98,000 tons of olives and approximately 13,800 tons of olive oil (INSTAT, 2015). The olive oil produced is used mainly for domestic consumption. Despite the increase in the production of olive oil, imports have continued to grow, reaching 10,600 tons in 2014, marking an increase of 85% compared to 2007, while exports are very low and sporadic. The quantity exported is decreasing from 20 tons in 2009 to 10 in 2014 (MARDWA, 2015).

Olive groves consist of approximately 8,994,000 olive trees, from which 5,803,000 are in production and are distributed throughout 118,000 in small farms (INSTAT, 2015). Olive groves occupy nearly 5.9% of arable land in Albania (MARDWA, 2015). The economic value of the sector is calculated almost €20 million per year. For years the cultivation of olives and associated products have been considered an important sector within agriculture and are an integral part of the Albanian diet. The annual consumption rate in Albania is 0.6 kg per head (FAOSTAT, 2015). Also, in many Mediterranean countries the cultivation of olives is the main economic activity and forms the basis for many other sectors (Beaufoy, 2002). The world production of olive oil is concentrated in the Mediterranean countries. (Turkekul 2010).

The quality of olive oil in Albania is subject to many issues related to the methods of olive cultivation, the agronomic techniques that follow, along with processing and storage in production phases, all of which directly affect the quality of the oil. Low quality production is derived from two main elements: i) Olive cultivation and harvesting, ii) Product processing and promotion. The transition period has negatively impacted either olive cultivation and growth or oil production through compliance with European standards. The objectives of this study are to:

Detect the factors influencing consumer preference towards standardized olive oil.

Find a possible correlation among consumer preferences and olive oil quality certifications

MATERIAL AND APPROACH

The aim of the survey was to obtain information and analyze the main factors influencing Albanian consumer preferences in the purchase of olive oil. It is difficult to identify the factors that motivate consumer preferences and olive oil purchase (Delgado and Guinard, 2011). It has been found that consumers try to evaluate product quality attributes before purchasing (Nelson, 1970; 1974). Trognon et al. (1999) agree that consumer behavior regarding in determining quality is influenced by socio-demographic, perceptive, knowledge and attitude factors. Also, Del Giudice, (2015) concludes that olive origin is a key element in individual consumer choices

Several authors have proposed different classification methods to estimate consumer preferences and attributes relating to olive oil; these include Conjoint Analysis and Random Utility Models (RUM), both of which are the most widely used (Del Giudice et al., 2015). Similar studies in Albania (Chan-Halbrendt et al., 2010; Mane-Kapaj et al., 2010; Imami et al., 2013) evaluate consumer preferences according to price, olive oil type, origin, taste, purchase location, label, and seller or producer information. Following similar analysis relating to consumer preferences in Albania and other countries, we will measure consumer behavior attitudes in terms of education level, origin of olive oil and food safety.

The surveys were conducted in Tirana and Vlora, considering that:

1. The largest part of the Albanian population lives in these regions;
2. They boast the main proportion of oil production in the country;
3. The highest level of olive oil consumption has been observed in these districts.

The data employed to analyze factors influencing consumers' purchase of olive oil were obtained through a marketing survey approach. The instrument used to collect the primary data was a questionnaire. We interviewed 700 respondents through a closed questionnaire. Only 643 questionnaires were correctly completed which retained for analysis.

All respondents were selected randomly. Random sampling is the best single way to obtain a representative sample. That said, no technique guarantees a representative sample, although the probability is higher with this method than any other (Henry, 1990).

The questionnaire was divided into three parts as follows:

1. Questions on demographic information, including characteristics such as age, gender, education, family members, dwelling place and income.
2. Questions about the factors that influence consumer choices, such as olive oil origin, mode of olive oil consumption (cooking, or dressing), purchase location, and olive oil quality.
3. Questions regarding food safety, such as standards identification, seller loyalty, and information about manufacturing.

Data elaboration was conducted using the statistical software, Statistical Package for Social Sciences (SPSS) ver. 17, which aimed to model and achieve a direct analysis of consumer preferences regarding olive oil standards. This study intends to define the meaning of variables used to define the following: "A variable is something that can take more than one value, and those *values can be words or numbers*" (Bernard, 2011). A descriptive and multinomial logistic regression analysis is used to evaluate the survey data. This model is a flexible method of data analysis that allows us to examine the dependent variable which is the categorical variable (discrete not continuous) with more than two possible values (Hosmer and Lemeshow, 2000).

Quality is evaluated as the dependant variable which is divided into three categories according to customer estimations.

Following the data analysis, some of the independent variables are considered to be important and others are not. Logit multinomial regression is as follows:

$$\ln(pA/pC)=\beta ao + \beta a_1x_1 + \beta a_2x_2 + \beta a_3x_3 + \beta a_4x_4$$

$$\ln(pB^{(1)}/pC)=\beta bo + \beta b_1x_1 + \beta b_2x_2 + \beta b_3x_3 + \beta b_4x_4$$

Table 1. Variables description

Education (years)	(%)	Origin of olive oil	(%)	Food safety	(%)
High school	40	Imported	17	According to standards	23
Elementary	45	Domestic	68	Loyalty to seller	49
University	15	Both markets	16	Loyalty to producer	29

Source: Authors' estimation

Information that fits the model is based on the output derived from the SPSS calculations of the survey participant database. The likelihood ratio chi-square result was 48.23, compared with a p-value < 0.0001. Thus numbers tell us that our model fits significantly as a whole.

There are various pseudo R-squares that in statistics can be used to measure the strength of the connections between dependent and independent variables, for this model those used are Cox and Snell, Nagelkere, and McFaden. Cox and Snell is 0.215, Nagelkere is 0.258, while McFaden is 0.198. Pseudo R-squares should be accepted as a group because this paper's model contains more than one independent variable (Robin P. 2014)

In the same line of calculation by SPSS for this model we have results for parameter estimates on coefficients B, Stand. Error, Wald test, Sig. (2-tailed), Exp.(B), and a Confidence interval for Exp.(B).

RESULTS AND DISCUSSION

We focus on the impact of quality standards on Albanian consumer preferences. Therefore, this analysis aims to verify

Table 2. Model parameter estimations

Quality	B	Std. Error	Wald	df	Sig.	Exp(B)
Quality II	2.536	.317	16.586	1	.004	
Educations (Elementary) =1	.896	.365	2.867	1	.020	1.627
Educations (High school) =2	.468	.266	2.641	1	.022	.836
Educations (University) =3	.325	.107	2.251	1	.018	.725
Origin of olive (Domes.) = 1	1.895	.637	5.219	1	.016	2.368
Origin of olive (Imported)=2	.607	.219	2.137	1	.012	.994
Origin of olive (Both) =3	.345	.116	3.615	1	.009	1.085
Food safety (Standards)=1	.267	.108	2.329	1	.024	.932
Food safety (loyalty to producer) =2	.895	.340	1.364	1	.073	.976
Food safety (loyalty to seller) =3	2.146	.452	12.657	1	.009	3.963
Quality III	1.918	.382	22.994	1	.000	
Educations (Elementary) =1	.562	.321	6.157	1	.003	1.362
Educations (High school) =2	.375	.279	2.082	1	.037	.883
Educations (University) =3	.249	.103	1.926	1	.023	.654
Origin of olive (Domes.) = 1	1.297	.363	5.310	1	.021	1.906
Origin of olive (Imported)=2	.782	.267	2.427	1	.016	1.137
Origin of olive (Both) =3	.456	.168	3.618	1	.006	.936
Food safety (Standards)=1	.243	.113	3.367	1	.036	.794
Food safety (loyalty to producer) =2	.738	.326	4.255	1	.002	1.371
Food safety (loyalty to seller) =3	1.235	.368	9.234	1	.003	2.873

Reference category is: Quality I.

whether local consumers are aware of the importance of standards. According to the questionnaire, consumers are not influenced by the price of the product. The analysis does not show any correlation between oil prices and consumer preference. For this reason, the price was not considered to be an important variable in our evaluation. Following consumer preference analysis, we evaluate just the color as a sensory characteristic. Those interviewed were asked to express their opinion on olive oil color (yellow or green). In the past, the taste and color were considered to be two of the attributes that most influenced consumer perception and purchase choice, without, however, identifying them individually as being present (Guidice et al., 2015). The Albanian consumer perception of olive oil color is relegated to second place compared with other indicators taken into consideration. But, according to our estimations the most preferred color is green, with the following reasons identified:

1. The color of olives are green and so the olive oil should be green.
2. The quality of olive oil is higher.
3. Level of acidity is lower.
4. Green color shows that olive oil is not mixed with other vegetal oils.
5. The origin of olive oil is from the south of Albania and is not imported.

According to the results, the explanatory variables that have an important influence in consumer behavior were identified as the education levels of the customer, origin of olive oil, and food safety of olive oil according to its quality.

The output was divided into two parts, labeled with the categories of outcome variable quality.

As can be seen from the data output above (Table 2), all the parameters for the first model (Quality II) are significant (sig. $<$ 0.05). We can argue a little for Food safety (loyalty to producer) =2 (sig. 0.073), but even for this parameter we can conclude that it is significant for 92.7% security. While for the second model (Quality III), we can see that all the parameters are significant (sig. $<$ 0.05).

The relative log odds of quality of olive oil being ranked first or second will increase by 0.896 when moving from the highest level of education (education = 3) to the lowest (education = 1).

Table 3. Predicted probability for outcomes of consumer behavior on quality of olive oil on education level 1, 2, 3.

	Quality of olive oil (II)	Quality of olive oil (III)	Quality of olive oil (I)
Education =1	0.5146211	0.3027945	0.1825844
Education =2	0.4678695	0.3157824	0.2163481
Education =3	0.3264872	0.2658677	0.4076451

Source: Authors' estimation

The relative log odds of quality being ranked third versus first quality will increase by 0.562 when moving from the highest level of education (education = 3) to the lowest (education = 1)

The relative log odds of quality being ranked second versus first quality will increase by 1.895 when moving from non-identified origin (origin = 3) to domestic origin (origin = 1)

Table 4. Predicted probability for outcomes of costumer behavior on quality of olive oil and origin of olive oil.

	Quality of olive oil (II)	Quality of olive oil (III)	Quality of olive oil (I)
Both origins	0,50462	0,18434	0,31104
Imported origin	0,32782	0,19547	0,47671
Domestic origin	0,58612	0,29346	0,12042

Source: Authors' estimation

The relative log odds of quality scoring in third place versus first will increase by 1.297 when moving from non-identified origin (origin = 3) to domestic (origin = 1). The relative log odds of quality being ranked second versus first will increase by 2.146 if moving from the highest level of food safety (safety = 1) to the lowest (safety= 3)

Table 5. Predicted probability for outcomes of costumer behavior on quality of olive oil in food safety

	Quality of olive oil (II)	Quality of olive oil (III)	Quality of olive oil (I)
According to quality certifications (HACCP, ISO)	0,268723	0,188912	0,542365
Loyalty to seller	0,584153	0,233457	0,18239
Loyalty to producer	0,563424	0,235872	0,200704

Source: Authors' estimation

The relative log odds of quality being scored third versus first will increase by 1.235 when moving from the highest level of food safety (safety = 1) to the lowest (safety= 3).

We estimate coefficients that "capture differences between all possible pairs of groups. Or we can apply a model that incorporates the ordinal nature of the dependent variable" (Norušis, 2008). So, we can certify that the model estimated in this paper is statistically significant (Mittlbock and Schemper, 1996; Agresti, A. 1996; Long and Scott, 1997; Menard, 2000).

Table 6. Predicted probability for outcomes of loyalty to direct seller, loyalty to producer standards (HACCP/PDO/PDI etc.) on marketplace level 1, 2, 3, 4.

	Loyalty to direct seller	Loyalty to producer	Standards (HACCP/PDI/ PDO)
Marketplace =1	0.7957489	0.1298675	0.0743836
Marketplace =2	0.0656879	0.7895647	0.1447474
Marketplace =3	0.0435769	0.2627584	0.6936647

Source: Authors' estimation

As can be observed from the table above, Albanians buy olive oil based on family tradition and information passed from generation to generation over time. These preferences can be listed, starting from education level followed by the market place and home city.

The Albanian consumer is very attached to the seller which translates into certainty about the quality of olive oil. Even when the price is low or high (depending on season), consumers buy it because they trust the seller. Furthermore, if this relationship is long-term, consumers benefit from discounts. In cases where consumers choose to buy the product directly from the producer the price charged is at average level.

Customer interaction with the seller or the oil production facility is very important since part of the population has moved from rural to urban areas, although consumers continue to maintain direct relationships with the village. They usually buy olive oil from their acquaintances or use olives inherited themselves to produce their own olive oil. However, they do not have the information or adequate knowledge to produce quality olive oil.

Furthermore, this trend has begun to be embraced by the urban population who have no connection with rural areas. Some consumers have established trusted links with oil-producing facilities or traders during their holidays (especially those holidaying in Himara, Qeparo, etc.). Another section of the population prefers to go directly to the mills/producing facilities in villages near towns, where the olive oil is packaged in plastic bottles. This fact confirms that Albanian consumers have little knowledge on quality of olive oil.

Such product selection behaviors are fanatically followed by Albanian consumers, as they trust in the direct relationship with the manufacturer or maintain loyalty to selected products in any of the organized retail market forms (supermarket or convenience stores). Therefore, customers do not take into consideration the necessary indicators created by standardization aiming at the consumption of a healthy product. Concluding, it can be said that Albanian consumers choose the quality of olive oil at the moment of purchase. Generally, this cohort establishes close relationships with the seller.

The Albanian olive oil market does not offer high quality since the quality as required by its consumers is also low. This

is due to the lack of information regarding the product's high quality features and also as a result of the price which reflects quality. However, consumers, according to Réquillart (2007), in the absence of a quality certificate cannot understand the quality of the product they buy, hence the «average» level of quality.

CONCLUSIONS

Albanian consumers generally create trust relationships with the supplier because they lack other information for olive oil quality at the purchase moment. Consumers prefer domestic olive oil because they are familiar with the taste and believe in its qualities. This belief is based only on customer perceptions and does not reveal the real quality of the olive oil. Thus, Albanian consumers have the wrong perception about olive oil quality.

High price and low income cause elasticity of demand in non-traditional areas of olive oil consumption. In non-traditional olive oil production areas (mainly north-east of the country), many consumers consider olive oil as a non-essential product, therefore the demand has a tendency to be more flexible than in traditional production regions. In traditional areas, increases of prices (up to a certain level) causes only small temporary decrease of consumption, while in non-traditional areas increases of prices may cause the substitution of olive oil with other types of oils (olive oil may be substituted with other types of vegetable oils).

European quality standards (HACCP, ISO) are unlikely to be followed by consumers. The Albanian olive oil market is not of high quality in terms of domestic producers because the quality demanded by customers is low. This is as a result of the lack of information offered regarding the product's high quality features and the price which goes along with quality. So, the goal should be to communicate to consumers the manner of cultivation and production of secure olive oil (Guerrero, 2012). Local consumers should be informed about the quality standards of olive oil because consumption of bad quality oil can have severe consequences on human health.

The main objective at this stage should be to inform consumers about the origin of olive and characteristics of the area where olives were cultivated. Certification of autochthon varieties, in the future, will be a significant opportunity not only for export purposes, but also for enhancing the reputation of Albanian olive oil.

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SCIENTIFIC PAPER

HUNGARIAN SPIRITS PALINKA AS A "HUNGARICUM" II. THE EFFECT OF TAX-FREE PRODUCTION IN HUNGARY AND IN THE EUROPEAN UNION.

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Abstract: *Palinka is a traditional Hungarian fruit spirit prepared exclusively by the distillation of fruit mash or fruit pulp. As an alcohol product, it is subject to the Act CXXVII of 2003 on Excise Duties and Special Regulations on the Distribution of Excise Goods amended several times. The present government of Hungary pledged to grant the right of free palinka distillation again in the previous election campaign. As of 27 September 2010, the excise duty of subcontract-distillation was repealed, and the previously non-existent "official" home distillation was introduced, which resulted in explicit revenue losses for the state budget. The modification of the law mentions distillate instead of the word palinka. The difference between the two notions will be discussed in the present study. Presumably, lawmakers did not consider the fact that at the time of Hungary's EU accession we entered into an agreement stipulating that the tax on subcontract-distillation should not be lower than 50% of the tax on alcohol products. Having been unable to agree on a solution to the problems in question, Brussels launched an infringement procedure against Hungary. Finally, Hungary was convicted; therefore, tax exemption or palinka distillation shall be ceased. This regulation came into force on 01 January 2015. The reactions of those who used the services of subcontract distillation were negative; turnover plunged by approximately 85% compared to the year of 2014. The present research will present the amendments concerning home distillers due from 2016 and the elements of the bill intended to amend the Act LXXIII. of 2008.*

Keywords: *subcontract-distillation, excise duties, Excise Act, infringement procedure, home-distillation, palinka, distillate* (JEL CODE: K34, L51, L66)

Introduction

Palinka. This seven-letter short word is mentioned increasingly frequently in various media. Almost everybody has memories about the first or the latest "meeting" with the spirits at parties, during visits to relatives in the country, on the occasions of pig-killings, palinka festivals or dinners. Through christening and marriage ceremonies, Palinka accompanies human life from birth to death.

Since the transformation of the regime (1989), producers and tourism industry professionals have made great efforts to revive traditional Hungarian palinka culture. We talk increasingly more about the "Renaissance" of Hungarian palinka. Evidently, the onset cannot be attributed to a single year, but the review of the past two decades reveals that the 1990s saw a slow process of awakening and preparation, whereas the 2000s a spectacular revival and a series of successes in the history of Hungarian palinka. As of 01 June 2002, merely spirits produced from 100% fruits shall be labelled "palinka".

The EU has introduced the range of products bearing a protected geographical indication, including eight Hungarian palinka types up to the present. Furthermore, there exists a Hungarian protected local regional indication, compiled by the Program of Traditions, Tastes and Regions (Le Groupment Europeen d'Interet Economique Euroterroirs), listing 15 Hungarian palinka types and liqueurs. Following the preparation and discussion of the Palinka Act in the second half of 2008, the Hungarian Palinka Act was drawn up at the end of this year, comprising further restrictions compared to the EU legislation.

The starting point of the Renaissance of Hungarian palinka was clearly the annual national, later international Kisusti (fruit palinka) festival organized in the framework of Gyula Days started in April 2000. Since then, the number of similar events has been on the rise, e.g. palinka days are arranged in Budapest, Kecskemet as well palinka competitions in local revenues e.g. in Kisvarda, Doge.

The conference of Distilling Industries Association and Product Board for the Distilling Industry and Hungarian Free Radical Society on 29 September 2000 in Hotel Gellert, entitled "Lifestyle and Enjoyment of life at the millennium" constituted a turning point in attitudes towards palinka.

Scientific evidences were revealed at the conference about

the positive effects of alcohol (e.g. the effects of binding harmful free radicals), about moderate alcohol consumption, and naturally about the positive public attitude towards palinka. Since 2004, Palinka Trade Guild has organized workshops in Agard, where domestic producers were provided assistance in terms of professional knowledge and business trips in their decision-making and seeking possibilities.

Those committed to excellent palinka established The Association of "Palinka Order of Knighthood" in January 2004, where the first members were knighted at the V. International Kisusti Palinka Festival in Gyula, in April 2004. Further professional-social organizations are the following: Distilling Industries Association, Palinka Trade Guild, Association of National Palinka Distillers and Association of South-Eastern Hungarian Distillers.

The Hungarian Palinka Order of Knighthood declared St Michael s's day, 6th December the day of palinka.

Similarly to the celebration of new wine, the festivity of "new palinka on 6th December" was found out and the traditional plum day for the public (usually held towards the end of September) was labelled the celebration of "new palinka".

The House of Hungarian Palinka opened its doors on 31 October 2003 in Budapest, where the best Hungarian palinka types are available. Its range includes the 650 products of approximately 50 domestic distillers. An increasing number of palinka museums are established, just to mention a few of them: Palinka Museum in Izsak and Zwack Kecskemet Manufacture and Museum. So-called "palinka-trails" have been created with touristic programs of several events along them, offering visits to local distilleries, e.g. the Szatmar-Bereg plum-trail.

Hungarian palinka went through considerable changes in the past decades. It no longer belonged to the "village drink" category, but developed into a Hungaricum, our national spirit. Meanwhile, several acts and provisions were drafted that stipulated the manufacture of palinka and at the same time influenced distillers' activities.

Materials and methods

The present study is mostly based on secondary research; therefore, I gained an understanding of the most essential provisions, statutes, laws and their amendments. I prepared tables to present the changes of excise tax proceeds by using the data of the central budget. As my family and I are also engaged in an enterprise of subcontract palinka distillation, I have relevant professional experience and obtained my own data from subcontract distillation activities back for the previous five years. Moreover, I personally experienced the impact of the changes of the legislative environment exerted on enterprises; in this way, I am capable of monitoring the direct feedback of subcontract distillers' clients.

Legislative background

The several decades-long competition between alcoholic beverages and palinka was interrupted by the No. 1-3-1576 decree of Codex Alimentarius Hungaricus, which introduced a provision about the uniqueness, the special features and the recognition of the quality of palinka. Under this provision, palinka shall be distinguished from rectified, pure alcohol-based, fruit flavoured alcohol products from 01 06 2002. After this date, a distillate fermented from exclusively 100% fruits shall be labelled palinka.

The exclusive right to use the registered product name "palinka" was adopted by the European Union in 2004. From that date, the brand name "palinka" referring to fruit and grape marc shall be exclusively used by Hungary, whereas "barackpalinka (apricot brandy)" by four Austrian provinces (Low-Austria, Styria, the Burgenland and Vienna).

The general rules stipulating the definition, denomination and packing of alcoholic drinks produced and marketed in the territory of the European Community and the protected geographical indication of alcoholic drinks are set forth by the current Directive 110/2008/EC of the European Parliament and the European Council. Under the directive, palinka, as a representative drink of Hungary shall be protected. The directive classifies alcoholic beverages into several categories.

The decree is in accordance with the Joint Order No. 94/2008 (VII.24) FVM-SZMM (Ministry of Agriculture – Ministry of Social Affairs and Labour), a transitional provision, which regulated the use of palinka product name pending Palinka Law's entry into force.

Excise tax

The tax represents a service required by the executive power, without compensation, to cover the financial resources of public spending in order to meet common social needs (e.g. national defence, education, public health, motorways, sports, etc.), according to the extent which itself has established.

Initial taxation forms date back to earlier times. Institutionalized taxation, although in a different form, existed already from the end of ancient times, the establishment of statehood.

At first, taxes included some kinds of consumables or products. Typically, in the past and in the present, excise taxes relate to widely used products in large quantity, the consumption of which is partially influenced by the rate of the tax.

Excise taxation has a very long tradition, although its meaning was generally specified by actual consumer habits, tendencies of legislative and economic policy. The definition of the "excise" notion is not uniform; its synonyms comprise expressions such as "regale" (iura regalia), exclusive sale or monopoly. The word "excise" itself is the translation of the German expression "Gefäll". In a wider sense, it embraces all state revenues based on the rights of its sovereignty; more narrowly, it means economic and financial "regales", i.e. customs duties and excise taxes. Excise taxes also included, among others, salt, lottery, tobacco, wine and spirits. (Simon-Pozsgai-Kis-Boros, 2006)

Following the political transformation in Hungary, more lax regulation and supervision prompted corrupt practices. There has been an increase in the volume of illegal products placed on the market by tax evasion and state revenues from taxes dropped proportionately.

With respect to highly taxed excise goods that are outstanding sources of income for the state, a regulation was enacted by the Act LVIII. of 1993 on excise legislation and supervision effective from 01 July 1993. The aim of the law was to ensure state revenues by creating equal competition conditions with regard to excise goods. Under the Act, revenues were paid into the state budget not as excise, but as consumption taxes.

Act CIII. of 1997 on the specific rules on excise taxes and the distribution of excise goods was introduced as a requirement of the harmonization of laws by the European Union to recover the tax more efficiently and safely. Since when it entered into force on 01 January 1998, state deduction was made by way of excise taxes and excise tax replaced the role of various payment obligations levied on excise goods.

Hungary joined the European Union on 01 May 2004, and the accession brought about obligatory changes with regard to excise regulations. The Act CXXVII of 2003, which is currently in force, was adopted to ensure full satisfaction of European legal standards.

In the case of distillates produced by home distillation, the taxable amount is the amount of alcohol calculated by the yield coefficient out of the volume expressed in raw material in hectolitre (in the case of grape wine, in volume) that is reported to tax authorities. As for subcontract distillation, the responsible executive of the distillery will declare the value of hectolitre degree and the subcontract distillation client shall pay the excise duty accordingly.

Amendment of palinka excise tax

The Act LVIII. of 1993 declares that in terms of all the produced volume, the tax rate of subcontract alcohol distillation is 40% of the consumption tax stipulated by the Act of Consumption regarding the hectolitre degree of fruit spirits.

Table 1: Amendment of tax rates stipulated by the Act CIII. of 1977. Source: Danku, 2011

Period	Tax rate over tax base			
	Alcohol product	Subcontract distillation		
		Product quantity with reduced tax	Up to the product quantity with reduced tax	Above the product quantity with reduced tax
1998.01.01 - 1998.12.31	1270 HUF	100 HLD	390 HUF	970 HUF
1999.01.01 - 1999.12.31	1400 HUF	50 HLD	500 HUF	1120 HUF
2000.01.01 - 2000.12.31	1500 HUF	50 HLD	540 HUF	1250 HUF
2001.01.01 - 2001.12.31	1590 HUF	50 HLD	594 HUF	1375 HUF
2002.01.01 - 2002.12 31	1670 HUF	50 HLD	635 HUF	1515 HUF
2003.01.01 - 2003.12.31	1670 HUF	50 HLD	770 HUF	1670 HUF
2004.01.01 - 2004.04.30	1920 HUF	50 HLD	885 HUF	1920 HUF

The Act CIII. of 1997 came into force on 01 January 1998. On the strength of (1) § 43, the tax base of palinka is, yet, "the volume of alcohol product given in hectolitre degree. Hectolitre degree means ethyl alcohol of 100% alcohol by volume measured under 20 °C." At that time, the preferential volume was 100 hld, i.e. tax reduction applied for the distillation of 200 litres of palinka of 50% alcohol content. This volume has dropped to 50 HLD since 1999.

Table 2: The amendment of excise tax rates stipulated by the Act CXXVII. of 2003. Source: Source: Danku, 2011, completed

Period	Tax rate over tax base			
	Alcohol product	Subcontract distillation		
		Product quantity with reduced tax	Up to the product quantity with reduced tax	Above the product quantity with reduced tax
2004.05.01 - 2005.12.31	192000 HUF	50 litres	96000 HUF	192000 HUF
2006.01.01 - 2006.08.31	220600 HUF	50 litres	110300 HUF	220600 HUF
2006.09.01 - 2009.06.30	236000 HUF	50 litres	118000 HUF	236000 HUF
2009.07.01 - 2009.12.31	251000 HUF	50 litres	125500 HUF	251000 HUF
2010.01.01 - 2010.09.26	276000 HUF	50 litres	138050 HUF	276100 HUF
2010.09.27 - 2012.12.31	276000 HUF	50 litres	0 HUF	276100 HUF
2013.01.01 - 2014.12.31.	333385 HUF	50 litres	0 HUF	333385 HUF
2015.01.01 -	333385 HUF	50 litres	167000 HUF	333385 HUF

Table 2. presents the constraint to meet the requirements of EU procedures, i.e. the reduced tax rate shall not go below 50% of the prevailing excise tax rate. The effective Act of CXXVII. of 2003 (Excise Act) came into force after Hungary's accession to the EU. The volume the reduced tax rate applied for decreased to 50 litres of fruit spirit, which is equivalent to 86 litres of 50% degree palinka. The "golden age" of subcontract distillation was the period between 27 September 2010 and 31 December 2014 when clients were not compelled to pay an excise tax on the produced quantity. This fact revived subcontract distillation activities massively. The amendment in 2010 replaced the word "palinka" with "distillate" in the law.

Palinka or distillate?

The difference between the two names is merely manifested in regulation. As far as we pour distillate into a glass and palinka into the other one, no possible difference can be detected in terms of type, taste, odour or even quality. What is the determinant of what we drink, then: distillate or palinka?

In case of home distillation or subcontract distillation, the end product is a distillate, whereas the end product in a commercial distillery is labelled palinka, although the base materials, the process of production and the applied technologies are the same. Before the introduction of home

distillation, there was no difference between the names of spirits fermented in subcontract distillation and commercial distillation. When the distillate (alcohol product) produced during subcontract distillation is sold to warehouse keepers and then released for free circulation, legally it becomes palinka again.

What is the practical significance of the "distillate" label? It was presumably introduced to protect the palinka, which was declared to become a Hungaricum. To what extent this label serves its protection is the subject of long future debate.

According to certain experts who take great efforts to declare palinka as a Hungaricum claim that home distillation bears a negative impact on the recognition of palinka. The poor quality distillate produced without expertise in the home will be sold under the name "palinka" for financial gain in several ways. The consumption of such a product will not be expedient in the full-scale rollout of palinka. Whoever tastes this poor quality spirit first, will not seek to enjoy original palinka afterwards.

However, the other side states that the introduction of home distillation will not exert any negative influences on the consumption of original palinka. Home distilleries can also produce good quality distillates, which might foster civilized palinka consumption.

As time goes by, the answer will be given by experience from supervisions and sales data. Statistics, revenue data will serve as the basis of decision-making whether home distillation is an advantage or a disadvantage for the popularity of palinka.

At the same time, the palinka label can also be given to a distillate made in subcontract or home distillation if it completely meets the requirements set forth by the Act of Palinka. Therefore, it can be stated that each palinka is a distillate, but not each distillate is palinka.

Amendments to the regulation of palinka distillation and its effects in 2010-2015

Following the ban of 90 years, home distillation has become licenced since 27 September 2010. The amendment of the Excise Act authorized the home fermentation of distillates by using raw materials, including fruits and substances derived from fruits. For example, the fruit pulp is regarded as a raw material derived from fruit.

"Home distillation shall be carried out by the home distiller

- in his residence or his orchard,
- by using a distilling equipment of maximum 100 L cubic capacity developed specifically for the related purpose,
- the licenced annual volume is maximum 2hL of pure alcohol – the equivalent of 400 L of 50 % vol. alcohol." (Panyik, 2013)

Home distillers are natural persons above 18 years who prepare distillates from raw materials from their own orchards by using their own distilling equipment. A distillate from home distillation or subcontract distillation can be sold provided that the home distiller has a small farm business registration number and intends to sell his product on his farm or in the framework of the "village table" services; furthermore, within an area of maximum 40 km in a straight line, in the territory of Hungary, at fairs or market places. His intent in this regard shall be announced at least three working days before the onset of his sales activity to the competent National Tax and Customs Administration (NTC) authority, under the condition of the payment of 100% excise tax rate (1670 HUF/litre, palinka of 50%) and the placement of distillate tax stamps obtained from the authority on the distillates to be placed on the market.

The Act XC. of 2010 also authorized the production of tax-exempt distillate. Hence, a theoretical taxation difference was identified between home distillation and subcontract distillation. Whereas the first one was exempted from taxation, 0 HUF tax was levied on the latter. As for the assumptions of a state secretary of rural development, approximately ten thousand individuals distilled palinka in the after the amendment of the law (I8).

However, some found "grandpa's copper pot" in the attic that could not meet neither safety nor quality requirements, not to mention the lack of required expertise. Distillates prepared in this way (it shall not be labelled palinka!) might pose several health risks. Distilling equipment in shops is relatively costly, they are worth purchasing merely by a partnership (by the joint efforts of numerous home distillers, but the law does not permit this). Home-built distilling equipment is subject to authorization before construction. Unauthorized palinka distillation shall be confiscated by the NTC and excise penalty shall be levied on it.

Back at the date of our EU accession, Hungary requested and received the advantage on the basis of which the country may apply a 50% lower excise tax rate for subcontract palinka distillation. At the same time, the system of subcontract palinka fermentation is a Hungarian speciality within the European Union. Its reconsideration is due to take place in 2015 (I1).

Tax-free palinka distillation proved to be a golden opportunity for subcontract distillers. The number of people who could afford subcontract distillates increased, and they had to pay the fee of 5-900 HUF per litre. Subcontract distilleries prospered, several non-operating ones reopened and a number of new ones were established, inducing a competition among subcontract distilleries. There were some, e.g. our own distillery that tried to gain market with lower prices, whereas others offered extra services, such as the distillery in Nyirtas, where producers had to transport their fruits and against some extra charge all the necessary activities were carried out from mash preparation and tending to palinka bottling.

Laszlo Piros, the grand master of The Hungarian Palinka Order of Knighthood claims, "the loss of the budget tax caused by the exemption and 0 tax rates is to be compensated by all taxpayers under different legal titles. 0 tax rate in itself accounts for 10-12 billion HUF annual budget loss on average, which amounts to 45-50 billion HUF for four years. Approximately 20% of alcoholic drinks prepared in

subcontract distilleries may be sold illegally, and the ratio of distillates sold by home distillers is presumably the same. For this reason, in the past four years, the 3 million litres of palinka of 50 alcohol degree sold in trade and catering dropped to 1.5 million, prompting the bankruptcy of about one hundred family businesses since 2010. (I2)

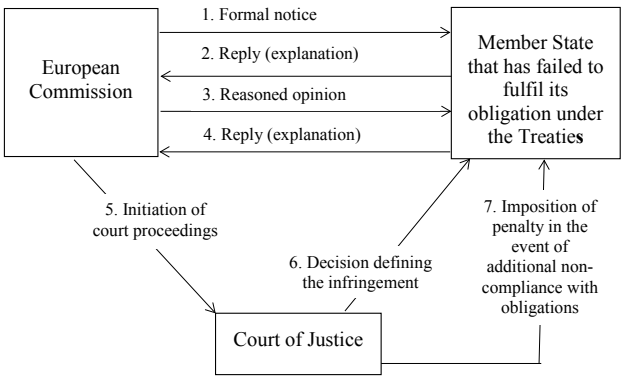
The abolishment of palinka excise tax exerted a negative impact on state budget revenues. In 2008 5.3 billion, in 2009 about 8.1 billion, in 2010 merely 2.8 billion, whereas in 2011 just 15 million HUF revenues were obtained from subcontract distillation tax. In 2012 revenues on these grounds amounted to 15.6 million HUF. The amendment adversely affected distilleries that prepared palinka for sales as their fermented volume decreased significantly. "From January 2014 to April 2014 subcontract distillation brought revenues of only five million HUF for the state budget and the sum total of the whole year remained under 17 million HUF. This compares to more than 600 million obtained from subcontract distillation tax during four months in this year (2015)." (I3)

Legal dispute between Hungary and the EU

Under the Directive of 92/83/EEC "member states may obtain permission for the application of reduced tax rates or tax exemption with regard to certain regional and traditional products", provided it ensures that competition in the internal market is not distorted. Reduced tax rate is to be applied with regard to small-scale distilleries; nevertheless, it shall not be under 50% of the national excise tax rate. Hungary infringed this directive with the abolishment of the excise tax of palinka distillation; therefore, the EU launched an infringement procedure against Hungary.

"If the Commission considers that a member state failed to comply with its obligations resulting from agreements, first it gives the country an opportunity to comment and then it sends its reasoned opinion on the issue in the related country. If the concerned country does not comply with the opinion within the period laid down by the Commission, the latter may bring the matter before the Court of Justice." (TFEU. Article 258.)

Figure 1: Conduct of infringement procedure



Source: Author's own development, (based on Horvath Z, 2007)

Right after the permission of free palinka distillation, on 28 September 2010, the Commission sent a letter to Hungarian authorities to obtain information about certain stipulations of the excise tax and their compatibility with European legislation.

Hungary tried to justify the disputed stipulations and regarded them compatible with the objectives set forth by Directive 92/83EEC.

On 29 September 2011, the Commission sent a letter of formal notice to Hungary under Article 258 of the FEU Treaty in which it disputed the compatibility of certain stipulations in the Excise Tax Act with EU legislation. According to the Commission, as the Excise Tax Act fails to levy an excise tax on ethyl alcohol produced by subcontract distillation under certain circumstances, and grants tax exemption from the excise tax for the production of ethyl alcohol by individuals, it does not respect the Act of 19-21 of Directive 92/83EEC interpreted with respect to Article (1) Act 3. and Article (7) Act 22. The European Committee expressed doubts concerning the lack of stipulations that the mash owner should also be the fruit producer.

In its reply, Hungary repeated its answer of 30 November 2011 and underlined the significance of the traditional distillation of "palinka" and the various kinds of distillates referred to as such.

The Commission replied that under article 16 of Directive 92/83/EEC "member states may obtain permission for the application of reduced tax rates or tax exemption with regard to certain regional and traditional products", provided it ensures that competition in the internal market is not distorted". Hungary, however, claimed that as the minutes of debates of the "Ecofin" Council meeting on 27 July 1992 about the structure of the excise tax of alcohol and alcoholic beverages revealed, the members states where tax exemption was traditionally granted for private individuals with regard to small-quantity alcohol production, might retain this exemption.

On 22 June 2012, the Commission issued its reasoned opinion, repeated its arguments in the letter of notice and, therefore, requested Hungary to bring the necessary measures required by meeting the obligations set forth in the letter of notice at the latest within two months.

In its reply, Hungary reserved its position and challenged the infringement of EU law.

As the reply was not deemed satisfactory by the Committee, it decided to bring an action which was registered as received on 14 March 2013.

In April 2014, Hungary was convicted for the abolishment of taxes levied on home and subcontract distillates. The contested laws had to be harmonized with EU laws. Hence, the Excise Tax was amended and came into force on 1 January 2015.

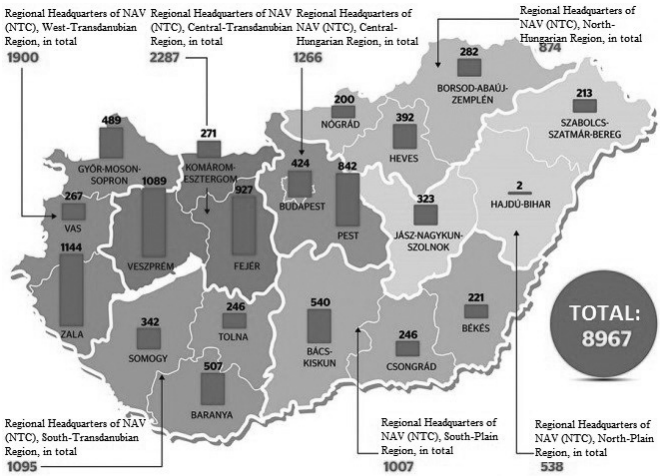
As of 1 January 2015, 835 HUF tax is levied on one litre of 50% alcohol degree palinka, (above the allowed limit of 86 litres with reduced tax, 200% tax is payable). As a result, of the elimination of reduced excise palinka tax, the annual turnover of subcontract distilleries has plunged drastically

compared to data from 2014. Whereas in the first five months of 2014 5.7 million litres were sold, in 2015 merely 930 thousand litres have been traded, which represents a reduction of approximately 85%. The decline of distillation activity can stem from various reasons. In the past years people who were never eligible to prepare palinka, could also legally carry out distillation activities. Those who exploited the opportunities provided by tax-free distillation could pile considerable stocks, and they have no problems with urgent stock replacement. The Palinka tax might deter many from subcontract distillation who might end up with illegal home palinka distilling. In the meantime, the volume of distillates produced by large-scale distilleries increased by 25%.

Rules of home distillation have changed. The ownership of the distillation equipment shall be registered by the concerned municipality and in the event of distillation within the given year, home distillers must pay a flat tax of 1000 HUF. Whereas previously home distillers could produce 400 litres of 50% distillate (naturally, with the payment of tax above the volume of 86 litres), this year the authority must be notified about the amount above 86 litres and it must be destroyed, as agreed with the concerned authority.

The number of registered distillation equipment was approximately nine thousand. The following figure shows the distribution of this equipment by county.

Figure 2: Distribution of registered home distillation equipment by county.



Source: I7

The figure presents many interesting data. Most conspicuously, Hajdu-Bihar country registered merely two pieces of distilling equipment. It is also remarkable that only 213 pieces of equipment were registered in Szabolcs-Szatmár-Bereg County, regarded to be the "pantry" of the country, with three types of distillates bearing a protected geographical indication and with several orchards. The greatest number of distilling pots, more than 1000 pieces, were registered in Zala County. In my opinion, even a multiple of the number of registered - therefore, illegal and unregistered distilling equipment - can be found in the country.

In February 2015, another infringement procedure was launched by the EU related to the palinka law, with regard to the fact that the tax for home distillers remained much below the required minimum value – subject to the decision of the government.

Amendments due from 2016

From January 2016 new amendments will be introduced in the regulation of home distillation. As a result of the discussions with Brussels, the Hungarian government will also be forced to impose a tax on home distillation. Home distillation will remain possible in the future without preliminary notification obligation; however, the purchase of the distillation excise tax stamp shall be obligatory. Home distillers shall have to pay a tax of 700 HUF on distillates of 42% alcohol content. The comparison of this number to the tax rate of subcontract distillation clearly shows that the two values are equal, as in subcontract distillation the amount of payable tax is 1670 HUF/hld (one hld = 1 litre of 100% alcohol). On this basis, if, for example, a distillate of 50% alcohol degree is prepared either by home distillers or by subcontract distillers, the amount of payable tax will be 835 HUF per litre. After each distillation process minimum five, at most 86 tax stamps shall be bought, i.e. in return for the payment of 3500 HUF anybody can claim that his home distilled palinka is legal. Instead of NTC, notaries of municipalities will be in charge of the supervision of home distillers. Tax stamps will be suitable to verify the origin of products, i.e. they will be accepted for palinka competition nominations. The notary can first send a notice to the home distiller in the event of the lack of preliminary notification or if he produced his distillate without purchasing the required tax stamps. "A fine up to two hundred thousand HUF can only be considered if despite repeated notifications, the private individual fails to comply with his statutory obligation. The state customs authority will initiate proceedings in the case of illegitimate sales" (Tamas Jakubasz, 2015). The provision will enter into legal force from January 2016.

The government seeks to amend the Act LXXIII. of 2008 on palinka, grape-marc palinka and the Palinka National Council (Palinka Law). On mixed fruit palinka products, only the element of minimum 10% may be listed on the label, in terms of image and text. The compulsory maturation period, previously 3 months, will be abolished. The amount of mandatory use-up for embedded "agyas" palinka types will be reduced, for fresh fruits from 10 to 5 kg (by 100 litres) and for dried fruits from 5 kg to 2 kg. In this case, however, the maturation period of 3 months is left unchanged. My personal experience suggests that to attain the required taste and colour, often 1-2 weeks are enough. The amendment of the law will wipe out the notion of "opalinka" (ancient palinka). Earlier, the name referred to fruit and fruit marc palinka matured for at least a year in a wooden barrel of smaller than 1000 litres or for at least 2 years in a wooden barrel of 1000 litres or more, respectively. The maturation period has to be documented on the site of maturation in a controllable way.

The previous law merely provided the opportunity to use a distinctive palinka tax stamp, and the new act would make its use obligatory. According to the amendment, the Palinka National Committee (PNC) becomes a public body with legal personality. Whereas previously two members of the Committee were delegated by the Minister of Agriculture, one by the Minister responsible for fiscal policy and ten members could represent professional organizations, after the amendment, PNC will exclusively include members with a right to vote delegated by professional organizations. Ministers' candidates shall act in a consultative capacity at meetings. The Minister responsible for fiscal policy will appoint the chairperson of the Committee. He seeks to cover the expenditure resulting from his administration at his disposal by revenues from the central budget and other resources (e.g. voluntary contributions). PNC is exempted from tax and social security contributions, its scope of authority will be extended, and it will have more tasks.

Conclusions and proposals

On the model of the famous Scotch whisky or French cognac, the professional dignity of Hungarian palinka can also be elevated internationally. High-quality, carefully designed advertisements can promote the popularity and fame of palinka.

Under Act LXXIII of 2008. (Palinka law) distillates can be labelled "palinka" which were matured for minimum three months by using fresh or dried fruits. In the first case, 100 palinka takes 10 kg, and in the latter, 5 kg dried fruits. Fruit "bedded" palinka types reach their required maturation within a short time, i.e. a couple of weeks. After this period, the distillate should be taken off the "bed" as further maturation would deteriorate its quality. The same applies to matured palinka types (stored for a long time) in wooden barrels, where the decree stipulates a minimum period of at least 6 months. Although in the event of matured palinka types the draft law comprises amendments, the definition of "embedded palinka" needs to be revised (Nagygyorgy, 2010).

Due to the fact that previously no notification obligation applied for distillate preparation in home distillation practice, the provision of clear evidence of its illegal possession became difficult. In 2010 producers were eligible to possess 50 litres; thereafter the related distillate volume increased annually by 50 litres. The possession of the distillate and the verification of its origin became easy through a simple declaration that is still accepted today. In cases where control is conducted in producer residences, during transport or in public places, it is sufficient if distillers give an oral statement ("take an oath") that they produced their distillates up to the volume of 50 l at home. Since there is no available information about the product, the controller must accept the declaration. Detection can be further hindered by the fact when there is no trace of the distillation equipment. Again, a declaration claiming that he damaged and dumped the equipment is sufficient. The only unlawful issue is the sale of the product about which he shall not provide information.

Subcontract distillation proved to be popular only for a couple of years, until the re-introduction of the excise tax, i.e. before January 2015. After this, the turnover of subcontract distillers decreased considerably, whereas the number of home distillation equipment increased. According to the Tax Office statement including municipality data, the number of registered distillation equipment was over 11 thousand in the country on 1 October 2015.

"Edit Krizl (Executive of Brill Palinka House, Palinka master consultant) claims that even up to 40 thousand equipment may be used in the country, and the number of the registered ones among them is only 11 thousand. Her opinion is that the introduction of alcohol tax of 835 HUF on subcontract distillation channels even those towards illegal practices who have complied with the rules so far in distilling their fruit mash." (I6)

As for the National Association of Kisusti Palinka Distillers, it is pointless to fight against home distillation, and the advantages of subcontract distillation should rather be underlined. Professional training and information campaigns should be launched for home distillers calling attention to the right practices of home distillation instead of sounding the alarm bell about its dangers (explosion, intoxication, etc.) The economic feature of subcontract distillation is to be emphasized, highlighting the fact that it is too expensive for home distillers to purchase their own distillation equipment and they should take their fruit mash into subcontract distilleries.

The State Secretary of the Ministry of Agriculture responsible for Hungaricums states "the five "free" palinka seasons were not meaningless, people bought good palinka distilling equipment, exchanged their practices which increased palinka quality and exercised competitive pressure on subcontract distillers and producers as well." (I5)

The impact of amendments of home distillation laws due by 2016 would be twofold. First, they would channel distillers to subcontract distillation, as the equivalent tax rate will be in effect; and second, it might lead to the massive increase in illegal palinka distillation activities. Regarding the mentality of an average Hungarian citizen, we are rather tax-evaders than taxpayers. As the control of distillation will be the task of the notary instead of NTC, the number of controls will be presumably insignificant. Only "well-wishers", neighbours and acquaintances can reveal illegal activities. Despite the opportunities provided by the state for legal distillation equipment purchases, I think numerous types are available in the market that are not fully compliant with quality requirements. Such as, for example, the pressure-cooker shaped equipment reminiscent of old illegal practices where the safety valve was replaced by a steam pipe, rendering it dangerous.

It is clearly a great experience when a farmer can trace the steps of his fruits from farm to fork, in our case from fruit into a glass, palinka distillation needs some expertise. A considerable proportion of home distillers lacks this knowledge and understanding. There are several available alternatives for them to gain the required information. The education staff of

palinkafozes.com gives regular, short (one-day) lectures for a reduced price of 15.000 HUF. Anyone who seeks to receive in-depth knowledge on the subject may choose the Fruit Palinka Production NQR (National Qualifications Register) training, which enables its degree holders with the right of launching even an enterprise of subcontract distillation. The duration of training is 6 months; its fee is approximately 200.000 HUF. In a unique way, The Corvinus University, Budapest recognizes the diploma course of Palinka Master technical engineer/consultant, which provides the most comprehensive theoretical and practical information for palinka lovers. The tuition fee of the four-semester training is 1 million HUF in total. Being the responsible head of Hun-Dest Drink Kft. alcohol distillery, I graduated from both the OKJ course and the university diploma course. I find it imperative to emphasize that despite the few available books on this topic, palinka distillation activities are pointless to undertake in the absence of practical experience.

Summary

Palinka is a special product; its quality features are being increasingly recognized and appreciated by consumers. Our national drink went through considerable transformations in the past years, as it left the village environment behind and has become a Hungaricum, popular with young people. The abolishment of the excise tax in September 2010 was a key factor in its gaining ground in the country. Unfortunately, this tax-free period lasted only for some years since the law failed to meet the requirements of EU laws. This short period increased the number of subcontract distilleries and boosted their turnover. Even those people started to prepare the fruit mash who had never before been engaged in it. The set of rules laying down the regulations of home distillation has been established, but it is unclear despite the several amendments and in numerous cases, it leads to the production of questionable quality. To prevent this, campaigns are to be launched to highlight subcontracting opportunities and the availability of professional consultation. The budget deficit from excise tax losses will gradually recover. People need some years to accept their tax payment obligation and their previously accumulated stocks will run out. As of January 2016, the tax rate of home distillation will be equal to that of subcontract distillation currently. Consequently, some may return to distilleries whereas the majority will continue the practice of illegal palinka distillation.

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SCIENTIFIC PAPER

DEMAND AND SUPPLY OF LABOR MARKET: A CASE OF UAE

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Abstract: *United Arab Emirates (UAE) witnessed a progress of growth booming since its establishment, which as result puched all economic componets to indicated a active movement in term of employment and capital investment as well. This steady economic growth has been marked by an increase in the income by the country's citizens, both national as well as the foreign residents This paper to axamine the supply and demand of labor market in UAE. The technique used to source the data is a secondary resource and methodology employed in descriptive and analytical. The study found that, the diversification of the economy, and enhance the role of private sector increased the demand for labor as well as increased the diversification for nationalities in the country. From other side, because of diversification strategy, the foreigners labor have more numbers in total employment structure.*

Keywords: *demand and supply, labor market, UAE, population, unemployment* (JEL CODE: O12)

INTODUCTION

The UAE economy has transferred from an economy based of fishing and pearling together with some agriculture to an oil-based high income economy. The UAE economy experienced a great growth resound by high productivity, especially in the capital productivity. The UAE has seen a great output of prosperity and welfare that created through its gross domestic product (GDP). The UAE today considered as a major financial hub in the region, and center of international trading. Since the launched of the UAE in 1971, its economic expansion hitting 200 times. The growth in the UAE has averaged 4.8% over the final past years, driven by in services, real estate, and infrastructure spending (Yearbook, 2013) .

In 2014, the UAE's Ministry of Labor announced that the UAE's employment market hit a new high with more than 4.4 million people in employment, that the employment rate rose last year by nearly 10 percent compared to 2013. The UAE labor market has three major representatives of households are local households, the Non local households, and collective household (MoE, 2015).

In conclusion, the employment in public sector tiny compared to the private sector, which about four million workers and UAE's citizen holding about 20,000 jobs. UAE's citizen active labor force, mainly focused on public sector and they hold bout 60% of total jobs in government sectors in 2010. Therefore, the high rate of the labor force in the country worked in the private sector, especially in construction, service, sales, and trade.

This paper aims to examine the labor market of UAE. Explore the sketch of the UAE's labor market, and explore the cycle of demand and supply of UAE's labor.

METHODOLGY OF THE STUDY

Information is at most gathered and composed by the UAE Federal Competitiveness and Statistics Authority (FCSA) (FCSA, 2015). Nevertheless, different, authentic sources are also used. The information utilized in this account is the most recently available. The information collected was based on availability and matchmaking data from previous years is also submitted for relative purposes. The basis of gathering data is secondary resource and methodology approach employed is descriptive and analytical type.

Overview of economic situation in United Arab Emirates (UAE)

There have been many major economic developments that have taken place since the early 1971s that has led to high economic growth in United Arab Emirates (UAE). This steady economic growth has been marked by an increase in the income by the country's citizens, both national as well as

Table 1. UAE's population and gross domestic product (GDP)

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Population (Million)	3.658	4.069	4.663	5.406	6.207	6.939	7.512	7.891	8.106	8.208
GDP (Billion $ US)	147.8	180.6	222.1	257.9	315.5	253.5	286	347.5	372.3	402.3
Labor Force (Million)	2.452	2.809	3.298	3.899	4.539	5.139	5.645	5.947	6.134	6.232

Source: (World Bank, 2016)

the foreign residents (Yearbook, 2010; Yearbook, 2013). This steady growth has been witnessed in production as well as the service sectors. Despite the fact that the Emirates are not equally developed, there has been a general improvement in terms of development in all the Emirates through at different rates (IMF, 2015).

The country's growth rate is at 4.8 percent average of the past ten years. This brings about 6.91 percent[1] 5-year compounded annual growth. Since the population is barely 9 million persons, the UAE has a per capita of about $43,962 according to the WolframAlpha (2016) (Table 1).

To signify its improved economic stability, the country has an unemployment rate of about 3.8 percent, which is actually below the natural unemployment rate that is usually brought about by both frictional and structural unemployment which is usually at the rate of about 5 percent (Figure 1).

Figure 1. UAE's unemployment rate (%)
Source: (WolframAlpha, 2016)

This strong economy has actually reduced the country's rate of inflation to about 1.1 percent (Table 3). This is according the consumer price index calculation (FCSA, 2015). The country's foreign direct investment inflow is at $10.5 billion. This is according to (Sbita, et al., 2014).

The adoption of free marketplace has contributed in the growth of the country's economy. The market based system has given the opportunity to the factors of demand and supply to determine the market prices. Lack of government intervention in both foreign as well as the local trade has actually made it possible for the country's economy to develop at a faster rate (Al Awad, 2010). The adoption of free economy policy by UAE has actually allowed and enhanced to take the major role in the country's economy to the private sector. The country relies on the incoming labor due to labor shortage of the national labor force (Randeree, 2012).

Table 3. Consumer price index (CPI) and the inflation rate (%) in the UAE
(2013-2017)

Year	2013	2014	2015	2016	2017*
Consumer Price Index (CPI)	117.96	119.27	120.95	122.76	124.58
Inflation rate (%)	1.01	1.11	1.42	1.50	1.48

Source: (FCSA, 2015)
**Expectation*

Analysis of UAE's economic

There are very many key factors in both macroeconomic and microeconomic that have affected the growth of this country. Some of these key factors include; trade, inflation, political stability as well as labor force. GDP Structure as well as labor and capital productivity has been another area that has actually affected the growth of the country's economy this is according

1 The compound annual increase rate (CAGR) calculator used to limit the development rate. The UAE's GDP grew from $286,049.33 in 2010 to $399,451.38 in 2014 during the past 5 years, then the CAGR was 6.91% per year. Calculation done by website: http://www.investinganswers.com

to (Istaitieh, et al., 2007). The liberalization of a market to the free market has been one of the major steps that has actually increased domestic in the country by ensuring that the private fully participates in the building of the country's economy.

The country's current trade balance has been positive. This status has been contributed to by trade surplus in the oil industry when it comes to international trade with the rest of the world. As mentioned in the Yearbook (2013), the trade surplus resulting from oil production, which approximately contributed 21% of total country's GDP, and compared to the year 2011 was about 23% of Total country's GDP. This 21 percent translated to about AED $82 billion. Apart from the foreign trade involving oil, the other trade balance excluding oil has resulted in a trade deficit.

As stated by Ramady (2013), the country's economic policies have been the reason behind the continuous deficit reduction over the years. In 1999 the trade deficit was about 26 percent of the GDP. This totally declined to about 28 percent of the GDP in 2004 and has further decreased over the years to an extent of having a positive figure. The capital productivity exceeds the labor productivity significantly in UAE. This is regardless of whether the calculations are based on oil or not. When it comes analysis of labor productivity in the country in terms of sectors, the oil sector has the most labor productivity. Then follows by finance sector and real estate sector, in that chronological order. After these two sectors there is transport and in the manufacturing sector.

UAE's GDP is another key factor of consideration when it comes to economic issues be it micro or macro. The country's GDP has tremendously increased in value and growth. The GDP statistics have actually doubled compared to the previous years. The growth of other sectors such as the aluminum and natural gas has led to a situation whereby the oil share in the GDP has actually reduced. These key, non-oil sectors of the UAE economy have actually contributed over 62 percent of the GDP as per the 2014 (Waqas, 2015). Some of these key, non-oil products include trade, construction, manufacturing, communication, storage and finally transport. Abu Dhabi and Dubai are key trade commercial centers that contribute a lot to the generation of the country's GDP. Dubai's 28.9 while Abu Dhabi's 59 percent and 28.9 percent of the country's GDP. The existence of many non-oil sectors has actually provided the country with economic opportunities to develop its economy.

The existence of many foreign investors in the country has actually boosted the country's economic stability. The fact that the USA and UK have been the major foreign countries that have actually carried out huge Foreign Direct Investment (FDI), has had a positive impact on the country's growth. The UAE's government revenue has surpassed the expenditure significantly. This has enabled the government to use the surplus to address deficits that were initially addressed in the previous years more especially between 2001 and 2003. Right from 2005 there has been much progress when it comes to government project. This is because since this year's government budget recording a surplus of in the budget. In 2012, it recorded a trade surplus historical high of $82 billions (UAE, 2013).

CYCLE OF SUPPLY AND DEMAND

Households and Firms

There has circular flow of demand and supply between the firms and the households in UAE (Figure 2). They have been three major representatives of households in the United Arab Emirates (FCSA, 2015). These three representatives of the households include: local households that are mainly made up of UAE nationals, the Non local households, this refers to the expatriates that live in this country; the final group of the households is the collective household (Table 4).

Table 4. Distribution of groups and households samples by Emirate and type of household (%)

Emirate	Type of households			
	Nationals	Non-nationals	Collective households	Total
Abu Dhabi	29.1	57.1	13.8	3704
Dubai	13.3	69.7	17.0	2640
Sharjah	21.3	68.9	9.8	2304
Ajman	18.0	66.8	15.2	704
Umm Al Quwain	34.1	51.9	14.1	320
Ras Al Khaima	45.4	37.0	17.5	832
Fujairah	61.5	29.3	9.2	512
Total (%)	25.9	60.3	13.9	–
Total household's type	2,848	6,638	1,530	11,016

Source: (FCSA, 2015; Labor Force Survey 2009)

This group usually refers to the typically low skilled workers that mostly live in large collective housing units. This is according to Raven (2011) who identifies lack of adequate education as a key issue. The main role of these three households is provision of labor to the and capital to the firms. The firms usually rely on this labor and capital in the production of the goods as well as the provision of services. In return the households usually receive income from the firms in various forms. This income usually serves as the payment of the labor offered to the firms. The main sources of this revenue given to the households include: the revenue allocated to them for being a labor source in the production process. They are also paid for being investors in the firms and finally they also receive funds from the government transfer as well as those from firms, this is according to Raven (2011). The cycle also involves the households serving as the markets for the goods and services offered by the firms and even the government. The households in United Arab Emirates usually spend some of their income they had earned from the provision of labor to the firms on consumption of the products produced by the firms and government in the supply and demand model.

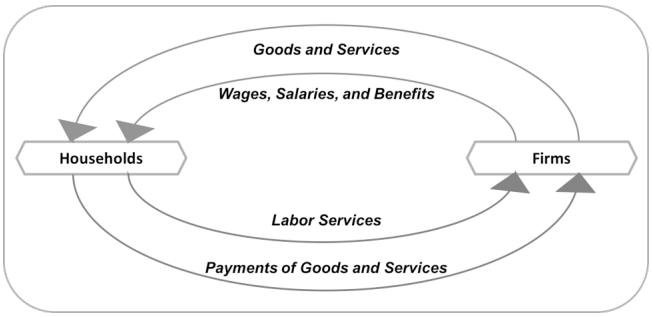

Figure 2. Circular flow of demand and supply
Source: (OpenStax, 2014)

There have been cases of imbalance between demand and supply of the labor as well as that of the supply of the goods produced. The high demand for the goods has forced the firms and the government to scramble for the little available labor in the country. As postulated by De Bel-Air (2015), in 2009, that 90 percent of workers are nationals and 15 per cent of workers were non-nationals were used in the public sector (federal and local). Another 15 percent of non-nationals workers, were working in the domestic sector and most of them about 65 percent were in the private sector. In 2013, UAE citizens comprised 60 percent of the total work force in the public sector, while merely 0.5 percent worked in workforce in the private sector, which caused a matter of issuing policy toward engaged Emiratis to work in the private sector (Mashood, et al., 2009).

This high demand for labor has actually forced the firms in the private sectors to actually rely on the foreign labor in the production of goods (Al Awad, 2010). There has also been a huge demand for the goods by the households that has actually forced the firms to come up with measures of increasing it is their production in order to ensure they are able to supply and meet the increased demand. In order to effectively balance between consumption and saving of the income they actually get, the households in the UAE usually apply Stone Geary utility[2] function.

The households' saving capability depended on their capability their marginal propensity to save (MPS). Which usually dictate the percentage of the income that if fixed as savings irrespective the amount of income they actually earn. The role of the government in the supply and demand of labor is another one that actually has an impact on both the firms and the households. Both the local governments of the seven emirates and that of the central government of the UAE have actually had a huge say on the households as well as the firms in supply and demand of labor.

Role of government in supply and demand of labor and goods

The existence of many government projects ha actually had a lot of impact on the growth of the labor force in the country. The regulation of the firms, collection of taxes as well as the government transfers have had a huge impact on the labor mobility in both from the households to the firms as well as the flow of goods to the households. The fact that the government had actually served as one of the consumers of the goods provided by the firms has made it essential to apply the Cobb Douglas utility function[3] to ensure there is maximum utility that is derived from the government spending.

This has actually ensured that government as a consumer does not exceed the fixed share of the GDP that was initially stipulated. The Cobb, Douglas curve has also been vital in ensuring that the country comes up with an effective indifference curve that has enabled the UAE to have value for its money (Al Awad, 2010). The savings collected from the households, firms, government projects and even that from foreign trade has also played a vital role in the supply and demand of both labor and goods in the UAE.

Power supply and demand in labor market

In the UAE the labor market is actually dominated by non-nationals workers in most occupational level due to demographic imbalances (De Bel-Air, 2015). According to Table 5, indicated the percent of occupations occupied by nationals and non-nationals. It is the private sectors in this country that usually determine contribute about 63 per cent of the total work force. The Federal Government employs only about 8 percent, while the local governments usually employ about 11 percent of the total labor force, thus leaving the about 80 percent of the labor market to the private sector.

The UAE's nationals have usually formed the bulk of the federal public sector, leaving the foreign labor to the control most of the private sector. The federal public sector contributes about 45 percent of the total labor market in the country. About 35 per cent of the Emiratis are employed in the local departments of the individual emirates. The development of the labor market in this country has actually stopped to a depression in the number of employment.

The increased cases of those working or actively looking for jobs have actually pushed the number of those unemployed for less than 1.1 per cent. As per the 2013 statistics, about 53 per cent of the country's population was employed hence part of the labor market. 19.9 per cent of the citizens had no desire of working for either the public or the private sector. This meant that this huge percentage is not part of the mark labor force. The recruitment cost per worker is about 2,674 AED on average. The cost of hiring a skilled worker is about 3,404 AED while that of unskilled labor is about 2,296 AED. After the recruitment, cash, non-cash benefits as well as wages are estimated to be about 41,000 AED annually per workers this is according to Al Awad (2010).

2 The Stone Geary Utility Function, its purpose to give the increase in the expenditure system, which is demand equals the total expenditure and the price of goods. This theory was first created by Roy C. Geary.

3 The Cobb- Douglas production function, applied in widely range, its symbolize the relationship between technology and more than one input. Inputs, physically, labor and capital, and quality of outputs used to grow. Hence, this function is related to output. source: https://en.wikipedia.org

Table 5. Employed population by nationality (Emirati and non-Emirati) and occupation category (%)

Occupation category	National	Non-national
Legislators-senior officials & managers	9.0	7.8
Professionals	14.9	16.1
Technicians and associate professionals	18.1	12.1
Clerks	14.4	6.6
Service workers & Shop & market sales workers	19.8	21.6
Skilled agricultural and fishery workers	0.3	2.1
Craft and related trades workers	0.8	10.1
Plant and machine operators & assemblers	1.2	10.1
Elementary occupations	1.9	13.3
Armed forces	19.6	0.2

Source: (FCSA, 2015; Labor Force Survey 2009)

The labor market in terms of employment is shared between the expatriate workers and the Emiratis. The employment rate is 79 to 45 percent, expatriates workers to Emiratis respectively. The majority of unemployed individuals is mostly fresh graduates who are mostly below 25 years, this is according to Gallacher (2009), and Randeree (2012). The labor market is made up of economically active labor force that is mostly aged between 25 and 54 years (Figure 2).

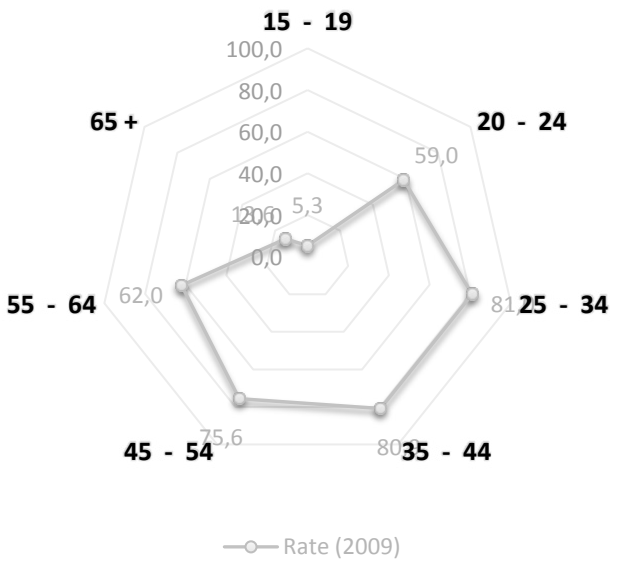

Figure 2. Employment rate by group age (%)
Source: (FCSA, 2015; Labor Force Survey 2009)

Out of this per cent, 42 per cent of them are women, and employed women occupied 66 percent of the public sector workforce, which 30 percent were senior posts in 2010 (UAE, 2013; Omair, 2010). Furthermore, women in UAE holding nine seats in the National Federal Council from 40 seats. Agreeing to the UAE's labor survey that 43 percent of women were employed in 2010 of total employment. The use of a quota system in the labor market has actually ensured that a certain percentage of the emirates are employed in various business sectors. This measure has been applied to ensure that the foreign labor do not dominate the labor market, thus denying the locals the employment opportunities. This measure has been taken due the slump in the number of Emiratis in the private sectors. This is because Emiratis contribute only about 1.5 percent of the jobs in the private sector, leaving over 96 percent of the foreign labor; this is according to the IMF (2013).

Table 6. Total employed of female (2006-2010)

Year	2006	2007	2008	2009	2010
Employed female (%)	48	44	41	42	43

Source: (Yearbook, 2013).

To sum up, UAE citizen employment is intensified into the public sector, while there of nearly four million worked in the private sector, and citizen in the private sector only accounts for 20,000 occupations. In fact, that emirate occupied for 60 percent of government sector jobs in 2010. Thus, the majority of the labor force worked in the private sector, especially in service, construction, trading, and sales in different segments, which equal approximately 19.8 percent of the Emirati workforce, according to the National Statistics in year 2009 (UAE, 2013).

Supply and demand at work in labor market

The formulation of labor friendly measures has actually ensured that the country is able to progress economically and hence effective supply and demand of labor in the work. Initially, foreign expatriates were not willing to actually work in the UAE due to what was being treated as a case of poor labor practices. Some of these labor practices that have affected supply and demand of labor in the workplace include: No-Objection Certificate (NOC). This law meant that one had to work for the employer for a period of more than 2 years for him or her to be allowed to change his change the employer.

This actually limited the mobility of labor, thus increasing the demand, but limiting the supply of labor at work place. The elimination of NOC revolutionized the labor market in UAE. Another policy that affected the supply and demand of labor in the workplace has been the striking of a contractual balance in the relationship between the employee and the employer (Al Awad, 2010). This has ensured that the contracting parties have to cordially end the job relationship. This has given the worker a say when it comes termination of his services at the workplace. Another advantage of this policy has been to

ensure that the worker has to be his workplace for at least 2 years for his or her services to be terminated. This has actually reduced cases of unfair sacking of employees by their employers.

According to Yearbook (2013), as a part of UAE government committed toward the migrant labor forces in country for improving the protection of migrant workers. The UAE government agreed to adopt in full 161 measures out of 180 in June 2013, that suggested by United Nation (UN) through its annual review, the mechanism of human rights that intended for the human right post to each member of the UN. The measurement, including the institution of human rights institutions which called the welfare of migrant and domestic workers. The protection rights applied to foreign workers under the constitution of the country which respect the rights of each individual, ensure quality and social justice, safety of every individual, freedom of religion. Furthermore, under the UAE's kafala[4] system, a several rights were given to workers in the country to the right to have accommodation, Health insurance, and the repatriation of the body in case of death.

Factors shifting supply and demand in labor market

As noted by IMF (2014), there are various factors that have actually led to the shift in the mobility in the factors of production more specifically labor in the UAE. The major factors have been the diversification of the economy. The diversification of the economy has led to increased demand for labor, hence the need to increase its supply. This has forced the nation as well as the private sector in particular to try and outsource foreign labor in attempts to meet the labor demands of its new sectors of the economy. Some of these new sectors that led to an increase in demand for labor include the manufacturing sectors, the natural gas, construction as well as the transport sector.

Table 7. Employment by economic sector (%)

Sector	2004	2007	2010
Construction	38.76	44.16	40.04
Wholesales $ Retail trade	24.06	21.01	22.37
Manufacturing	13.49	12.10	10.50
Real estate and business service	5.43	6.88	8.74
Transport, storage & communication	7.10	6.31	6.65
Hotels and restaurants	4.35	3.39	3.43
Community & personal service	2.08	1.84	3.04
Education	1.34	1.30	1.47
Financial service	0.98	1.00	1.03
Mining	0.74	0.55	0.95
Healthcare	0.69	0.65	0.87
Agriculture	0.41	0.42	0.61
Utilities	0.04	0.08	0.15
Fishing	0.50	0.31	0.14
Not stated	0.04	0.00	0.01

Source: (Yearbook, 2013)

Thus, from Table 7, that economic sectors were participated in increased in demand were constructed, trade segmentation, manufacturing, and existent estate and business services, their percentage of total employment in the year 2010, 40.04%, 22.37%, 10.50%, and 8.74% respectively. Another fact that has also led to the shift in the demand and the supply of labor in the country has been the formulation of better polices that have protected the labor force. Some of these policies have included the scraping off of the No-Objection Certificate (NOC) policy which initially limited the mobility of labor and gave the employer more power over the employees (Ramady, 2013).

The introduction of free market policy has also been phenomenal in shifting of the labor patterns in the country. This has led to rise in the supply of the foreign workers since many people have flocked the country in an attempt to get better jobs that are well paid (Al Awad, 2010). The shift is justified by the fact that about 4 million foreign laborers are the ones working and regulating production in over 260,000 private establishments this is according to (IMF, 2014).

Impact of technology in labor market

Technology has brought about both positive and negative impact on the labor market in UAE. Some of the impacts have been positive. These impacts include: the increased demand for highly trained workers to actually run the machines. Most of the technical advancement has actually been brought about by the countries doing direct foreign investment in the country. Agreeing to a UAE Labor Survey (2009), shows the percentage of increment of demand for high skilled labor in professional, senior officers, and technicians, rated 46.4%, 19.8%, and 17.7, respectively (Table 8). It is therefore arguably right that the technical advancement that has actually revolutionized the country's labor market has actually been imported from the United Kingdom and United States. This has enabled the country to create more employment. The application of technology in manufacturing and construction sectors has also increased the demand of labor that has made non-oil products to be the main contributor of the country's GDP (MoE, 2015).

Despite the increased demand of labor as a result of the use of technology in the non-oil sectors, the use of technology has also reduced the employment by replacing unskilled human labor by the use of machinery in some of the key sectors of the economy (IMF, 2014). This has actually increased the

4 The kafala system, means (sponsorship system) is a system used to supervise migrant workers, working mostly in the sector of construction and sector of domestic, in many countries in Arab countries including GCC countries. The system names for all unskilled workers receive an in-country sponsor, usually their employer, who provides sponsership and responsible for costs such for visa and legal entry.

number of unemployment of unskilled workers. Technology will also use traditional nature of work since it has come with a lot of mechanization that has affected the way work is done thus negatively affecting the labor market in the country. There have also been cases of increase in the rate of unhidden unemployment.

Table 8. Employed population with university educational level and above by occupation according to sex and nationality group (%) distribution of occupation

Occupation	Sex		Nationality group		Total
	Males	Females	Nationals	Non-nationals	
Legislators, senior officials & managers	22.7	8.9	19.3	19.8	19.8
Professionals	46.7	45.0	41.2	47.0	46.4
Technicians and associate professionals	17.2	19.3	21.1	17.3	17.7
Clerks	6.0	18.7	9.8	8.6	8.7
Service workers & shop & market sales workers	3.8	7.5	3.6	4.7	4.6
Craft and related trades workers	1.0	0.1	0.2	0.8	0.8
Plant and machine operators & assemblers	1.1	0.0	0.2	0.9	0.9
Elementary occupations	0.6	0.3	0.1	0.6	0.6
Armed forces	0.8	0.1	4.4	0.2	0.6

Source: (FCSA, 2015; Labor Force Survey 2009)

PRICE FLOOR

Price floor is a situation in which the price charged is more than or less than the price determined by the demand and supply factors in the market. This has greatly affected the labor market in UAE. Despite the liberalization of the market whereby the price charged is supposed to be as a result of demand and supply, the employers have most of the time taken advantage of the employees and given a lower pay compared to that determined by the market forces of demand and supply. This has reduced the fairness in the compensation for the labor offered by the households to the firms. This has mostly been the cases when it comes to foreign labor and the unskilled workers (Ramady, 2013).

Granting to the UAE labor law; article 63, that the minimal salary and cost of living that in generally payable to workers or in the particle field or business should be defined and approved by the Minister of Labor and Social Affairs (Yearbook, 2013; MoE, 2015).

However, the UAE made great efforts toward protecting the rights of workers within the country through implemented of the Wages Protection System in the year 2009. This ran in order to monitor and insure full payment of wages and timely through accredited and certified financial institutions offering this service.

The benefits of skilled labor for society

One of the benefits of the high labor with knowledge and skills is the production of quality goods, hence reducing the company's cost of quality. This has also ensured that the society is not exposed to harmful products that would have otherwise been produced by incompetent employees who lacks both skills and the knowledge. Another benefit of this type of the labor of the society is that it reduces the cost of production by increasing efficiency in the production system (IMF, 2014). This makes sure that the production cost transferred to the society is a bit more favorable.

In conditions of high skilled workers, there was an advantage of the range of salaries were given in UAE. High educated works have an advantage of the economic, workforce as well and worker himself (Al Awad, 2010). Noticed that the pay range in UAE considered from higher countries for distributing wages. As noticed from Table 8, that the monthly mean and median are $7450. 59, and $3200 respectively. At long last, another benefit of this case is to Helps to improve income distribution and equality of opportunity and cycles the flow of demand, supply, and recruit investment and savings in term helps the economy as whole. In conclusion, salaries and financial rewards, has a positive impact on workers and the economic system. Therefore, in UAE an important that skills turn into net income.

Table 8. ***Monthly mean and median wage of paid employees by some socioeconomic and demographic characteristics ($)***

Characteristics	Monthly mean	Monthly median
Occupation		
Legislators, senior officials & managers	6,005.08	4,768.39
Professionals	3,729.89	2,752.04
Technicians and associate professionals	2,785.12	1,907.36
Clerks	1,946.76	1,362.40
Service workers & shop & market sales workers	1,002.73	340.60
Skilled agricultural and fishery workers	343.33	272.48
Craft and related trades workers	651.92	408.72
Plant and machine operators & assemblers	871.59	681.20
Elementary occupations	489.67	408.72
Armed forces	5,710.90	5,177.11
Educational status		
Illiterate	421.11	272.48
Read& write	462.46	326.98
Primary	736.96	367.85
Preparatory	1,093.41	517.71
Secondary	1,955.86	1,089.92
University & above	3,858.84	2,724.80

Source: (FCSA, 2015; Labor Force Survey 2009)

Emiratisation program

Several years ago, the UAE government has developed an Emiratisation program within the strategy and vision of the need to go on the principle of enhancing employment opportunities for male and female for locals and filled them in the public sector and more attention to the private sector (Omair, 2010).

In support of that country's government it has worked to implement a range of policies and initiatives emanating from a comprehensive national plan directed at creating an attractive study environment for national human cadres in the public and private sectors. As an instance, the UAE's government launched governmental body called UAE National Human Development and Employment authority (Tanmia), its role to develop emirates skills to compete and be more effective beside expatriate labor. Thus, the government announced in November, 2012 that year 2013 will be the year for producing jobs to emirates and move them to private sectors in different sectors such service sector, sales sector, banking sector, and retail and commerce sector.

According to Yearbook (2013), that 35.4 percent in the banking sector was employed by emirates in end 2010. Another initiative called " Absher", established in 2012 by UAE President, HH Sheikh Khalifa bin Zayed al Nahyan, to encourage emirates to enter the private sector as result for creating 3,768 jobs and targeting to create 20,000 jobs by 2017. More than that in June, 2013, lunched a second phase of Absher by HH Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the Armed Forces, that forming partnership with 17 new companies that recruiting emirates and each national has to enter two years of preparation and its cost paid by government and 30 percent of salary bearing from government for recruiting individual (UAE, 2013).

In conclusion, emiratisation program is one of the highlights of the policies and initiatives pursued by the country to raise the localization ratios in the economy sector specifically in the private sector.

CONCLUSION

Indeed, labor is one of the key factors of production that plays an important role in a growth of the UAE's economy. Without labor, all the other factors of production such as capital, land as well as entrepreneur cannot actually facilitated production. This is the main reason the growth of the UAE's economy has been realized after labor market was made one of the key priorities in the country by scraping of laws and policies that hindered the mobility of labor this is according to (Ramady, 2013). The country's current economic growth has been due to the availability of both skilled and unskilled labor. The technology has actually has mixed effects on the supply and demand of labor. The increase in the number of countries carrying out FDI has also been a key factor that affected the supply and demand of labor this is according to (Sbita, et al., 2014). The diversification of the economy, which has reduced over reliance on the oil has increased the country's GDP as well as increased the demand for the labor in the country.

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SCIENTIFIC PAPER

ANALYSIS OF THE CAVEBATH OF MISKOLCTAPOLCA'S BRAND ELEMENTS AND GUESTS SATISFACTION

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Abstract: *In the region of Northern Hungary the unique Cavebath of Miskolcatapolca is one of the leading health tourism service positioning itself on national and international market with its developing supply items and 4 star qualifications. It has a unique natural background all over in Europe; this uniqueness gives an opportunity to develop brand, which is a determinative item of competitiveness.*
Because of the competition between destinations and the ever-changing nature of tourists' expectations and behavior tourism destinations need to be managed as other commercial brands.
The aim of our research was to analyze the role and possibilities of product development which is based on the unique natural factors, and to help to expand the domestic health tourism supply. We examined how the possibility of branding and brand equity change based on brand elements; how satisfied are guests with the services; how often guests visit the bath; what kind of period guests arrive in the bath; what kind of services do guests try; how do guests arrive in the bath with.
In summer of 2014 we asked 210 Hungarian customers to fill the questionnaire in the Cavebath. The choosing of guests happened randomly. 199 questionnaires were correctly filled.

Keywords: *Northern Hungary, Cavebath of Miskolctapolca, guests satisfaction, brand elements* (JEL CODE: Z32)

INTRODUCTION

Tourism industry is one of the most dynamically developing branch of the world. According to the results of the research made by WTTC (2015) tourism gives 9.8% of the GDP of the world with multiplicator effects. This branch results 276 million jobs all over the world which means 9.4% of all employment. The economical forecasts show that tourism is income generator and job creator and these effects are going to increase in the future.

The number of tourist arrivals is increasing almost unabated year by year since 2000. Exception is 2009, when the economic crisis resulted decrease in the number of tourist arrivals around the world, however, by 2010 it showed sales growth again. In 2012 the number of tourist arrivals reached 1 billion. In 2014 the number of international tourist arrivals increased with 5% compared to the year before, which meant 1 billion and 133 million person arrivals all over the world (UNWTO 2015). In our country the international tourist turnover increment (13,7%) was more dynamical in 2014 compared to the world average (5%), which showed the 4. largest growth in Europe. However the territory of Europe (10,5 million km^2) gives only 7% of all continents, though half (51,4%) of the tourist arrivals so 581,8 million arrival is realized in Europe. 80% of tourist arrivals choose EU member country for destination. In 2015 the number of tourist arrivals show further increase, which today reached and exceeded the number of 1,2 billion people (UNWTO 2016).

In our country health tourism is developmental priority for a long time. In The New Széchenyi plan (2011) of the Remedial

Hungarian-Health Industry program the developing is bipolar, one of them is built on the development of health tourism, other one is the development of thermal-health industry.

The justification of the innovation of baths are confirmed by the rich stock of thermal water, which can be found at 80% of the territory of our country, so it is the most important medical factor.

More and more national and international researches deal with bath developments and health tourism investments (*Barta* et al. 2011; *Borbély* and *Müller* 2008; *Kerényi* et al. 2010; *Könyves* et al. 2005; *Mosonyi* et al. 2010; *Müller* and *Kórik* 2009; *Müller* and *Szabó* 2009; *Nemoda* et al. 2011; *Nemoda* et al. 2012). In Slovakia bath tourism, which is an element of health tourism, also goes through grand developments, as it gives advance to the habitants here (*Bánhidi* 2011; *Dobay* and *Bánhidi* 2012; *Dobay* and *Bendíkova* 2014;). In the last decades the continuous developments of health tourism resulted that our country's competition improved on the market of health tourism. The expansion of the capacity of accommodations and the qualitative developments improved the conditions of tourist reception. Thanks to improvements in the capacity of baths (with the increasing of the water surface), the expansion of the supply elements, the enrichment of surrounding and design, the wide repertoire of free-time activities, employing animators can satisfy the growing demand of health tourism at a European standard (*Barcsák* 2014).

Thermal water is one of the most significant facilities in the region of Northern Hungary. Thermal water can mean a chance in the competition of tourism destinations for several settlements.

In the region of Northern Hungary the unique Cavebath of Miskolcatapolca is one of the leading health tourism service positioning itself on national and international market with its developing supply items and 4 star qualifications. It has a unique natural background all over in Europe; this uniqueness gives an opportunity to develop brand, which is a determinative item of competitiveness.

Because of competition between destinations and the ever-changing nature of tourists' expectations and behavior tourism destinations need to be managed as other commercial

brands. The brand image plays a crucial role in the success of destinations and has a significant influence on customer behavior (*Mosonyi* et al. 2013). Tourists visiting a destination for the first time are more likely to choose one which has a powerful, positive, unique, easily recognizable image (*Beerli* and *Martín*, 2004).

Thus, brand and a unique image significantly influence destination selection. A brand is a "Name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers" (*Kotler* 1999). Today it is very important that Hungary should be able to create, based on our special characteristics, a strong brand which makes us distinct from all our competitors on the increasingly competitive global tourism market.

Other definition: products or services which offer a useful and unique set of features in a standardized form and the same quality (*Horkay* 2003). This definition puts the customer, the fulfillment of the customer's needs and the quality parameters of the products and services. Brand policy communicates recognizable achievements which are unique to the company and can be recognized from time to time again. (*Bruhn* 1944). A good example for brand policy are the successful hotel chains (Danubius, Hilton, etc.) which emphasize easily recognizable company specific features in their marketing. In many cases,customers do not simply buy a product, they buy a brand. Customers and guests attach an expected quality to the brand, consequently brands delivering the biggest customer satisfaction will be the most successful ones on the market. Purchasing decisions are not always made in favour of the provider offering the highest quality services, price-service ratio can be a more significant factor (*Scherlag* 2000).

As any other brand, destination brands aim to form a distinctive image that is recognizable and can be differentiated from rival destinations (*Horkay* 2003).

In the domestic and international competition of destinations only those regions and laces are successful which focus on the experience of the most successful international destinations (benchmarking) and combine their innovative, quality-centered tourism product development with consistent positioning and differentiating strategy. Professional brand policy in tourism (brand creation and management) is the competitive means to create a unique product portfolio. It is a break-out point and a strategic task for the management of every destination: lasting success is guaranteed only by possessing a brand which cannot be confused or replaced by other brands, a brand that has an appeal, invokes emotions and has a strong enough reputation. (Horkay, 2003)

- In our study we try to answer the following questions:
- How the possibility of branding and brand equity changes based on the brand elements?
- How satisfied are guests with the services?
- How often guests visit the bath?
- What kind of period guests arrive in the bath?
- What kind of services do guests try?
- How do guests arrive in the bath with?

In this study we analyzed the justification of the next hypotheses:

H1: Due to the spa is under continuous improvement it affects the satisfaction of guests and the evaluation of brand elements of the spa.

H2: The tourism brand system of the spa has to include those important values and activities that the tourists can refer to the spa and differentiate the spa from other spa-destinations.

H3: The strong brand of the spa positively affects the performance of tourism service providers and SMEs of the destination. The tourism brand and product development that based on standardized brand increases the competitiveness of tourism SMEs with low innovation potential in the destination.

H4: Probably the guests will be satisfied with services. The guests with lower educational attainment will be more satisfied with the services.

H5: We presume that inhabitants of Miskolc mostly visit the bath in the afternoon, as they do not require longer relaxation as their homes are close.

H6: Most of the respondents heard about Cavebath by hearsay

then from the internet.
H7: Most of guests arrive in the bath with their friends.

MATERIAL AND METHODS

In summer of 2014 we asked 210 Hungarian customers to fill the questionnaire in the Cavebath. The choosing of guests happened randomly. 199 questionnaires were correctly filled.

In the questionnaires used in the baths there were both open and closed questions (19 items). Part of the questions were put into the question group concerning quality assessment of the baths. Guest satisfaction was measured through the provided services, the work of the staff, etc. There were questions about how satisfied they were with the opening hours, the work of staff, the price/value ratio of services, the choice of services, the quality of services including cleanliness of pools and their design elements. Answers to these questions were scaled between 1–5 scale (1=not satisfied at all, 2=not very satisfied, 3=fairly satisfied, 4=satisfied, 5=very satisfied).

An average was calculated from the results showing the overall assessment of baths by the guests. The main question groups as referred to above:

- questions about guests' familiarity with information such as prices, services, marketing activity, water composition etc.
- questions about factors affecting bath choice such as number of pools, design of bath, etc.
- questions about the symbols and associations concerning the bath such as thoughts and feelings induced by the bath and the time spent there, experience with water, experience with slides etc.

Questions were rated by guests on a 1–5 scale and the average values of the different brand elements were displayed on graphs. Data was processed with SPSS 20.0 statistical software.

RESULT AND DISCUSSION

During the survey we created the next age groups:
1. from the lowest age to age of 24 (youngsters)
2. -age 25-34 (young adults)
3. -age 35-59 (middle aged)
4. over the age of 60 (elders)

The dispersion of different age groups in the sample is shown in Table 1. From the examined 199 guests 116 were women and 86 were men.

Table 1.: The dispersion of the sample according to age groups

Age Group	Responder (person)	Responder (%)
Youngsters	51	25.63
Young adults	52	26.13
Middle aged	82	41.21
Elders	14	7.04
Total	**199**	**100.0**

Source: own composition

In the questionnaires there were questions about the reputation of the bath and the connection between reputation and travel decision.

Questions about customer satisfaction were focused on: choice of products, prices, cleanliness of the bath and its environment, design elements of pools, hospitality of local people, opening hours, quality of service provided by staff, prices of tickets and the price-value ratio, programs offered by the bath and children friendly services. An average was calculated from the data to show quality. Other questions were aimed at symbols of the bath and its attraction elements. Several unique features of the baths were specified by participants. Examination of brand elements clearly shows that the Cavebath of Miskolctapolca has a well-established brand.

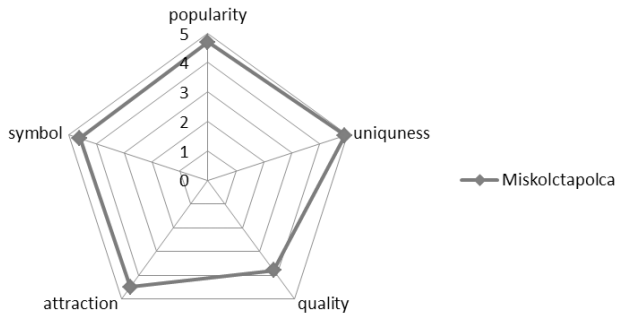

Figure 1: Brand system of Cavebath of Miskolctapolca
Source: own composition

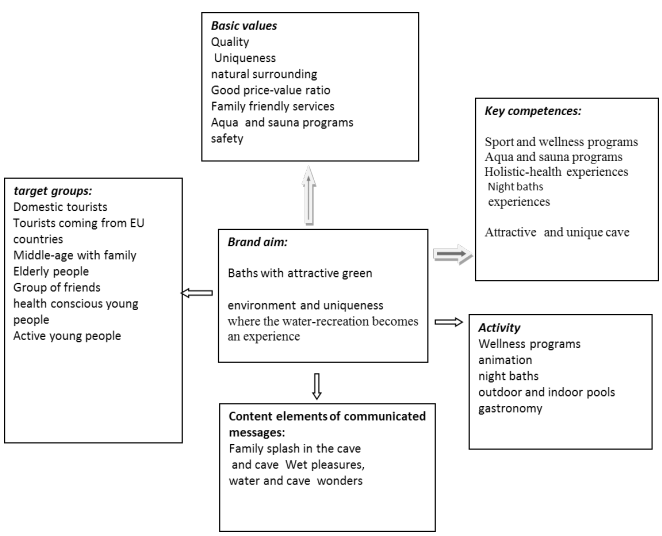

Figure 2.: Branding potential of Cavebath of Miskolcatpolca
Source: own composition

The Miskolctapolca umbrella brand contains brand aims, basic values, activities, key competencies, communicated messages and main target groups to which all domestic baths have to conform when developing their individual brands (*Müller* et al. 2016). The results confirmed our hypotheses.

After this, we analyzed the satisfaction with services according to educational attainment.

We assumed correlation in connection with satisfaction and educational attainment; accordingly, guests with lower education will be more satisfied with the provided services. After chi^2 test we could not find a significant difference ($p > 0.05$). This hypothesis was not confirmed which can be seen in Table 2.

Table 2: Satisfaction with services according to educational attainment

What is your highest level of education?	not satisfied(%)	rather satisfied (%)	moderately satisfied(%)	satisfied (%)	totally satisfied (%)	Total (%)
Elementary school or lower	5.00	10.00	20.00	45.00	20.00	100.00
	25.00	18.18	10.81	8.41	10.00	10.05
	0.50	1.01	2.01	4.52	2.01	10.05
Vocational training	5.56	0.00	25.00	63.89	5.56	100.00
	50.00	0.00	24.32	21.50	5.00	18.09
	1.01	0.00	4.52	11.56	1.01	18.09
High / Secondary school	1.45	5.80	20.29	49.28	23.19	100.00
	25.00	36.36	37.84	31.78	40.00	34.67
	0.50	2.01	7.04	17.09	8.04	34.67
University/College	0.00	6.94	13.89	54.17	25.00	100.00
	0.00	45.45	27.03	36.45	45.00	36.18
	0.00	2.51	5.03	19.60	9.05	36.18
Other	0.00	0.00	0.00	100.00	0.00	100.00
	0.00	0.00	0.00	1.87	0.00	1.01
	0.00	0.00	0.00	1.01	0,00	1.01
Total	2.01	5.53	18.59	53.77	20,10	100.00
	100.00	100.00	100.00	100.00	100.00	100.00
	2.01	5.53	18.59	53.77	20.10	100.00

Source: own composition

With the following question we analyzed how often guests visit bath? (Table 3.)

Table 3.: Frequency of visiting bath according to place of habitat

Place of habitat?-Miskolc	Daily (%)	Regularly (several times a week) (%)	Weekly (%)	Monthly (%)	A few times a year (%)	Total (%)
Inhabitant of Miskolc	1.37	4.11	5.48	43.84	45.21	100.00
	100.00	75.00	26.67	55.17	27.27	36.68
	0.50	1.51	2.01	16.08	16.58	36.68
Other inhabitant	0.00	0.79	8.73	20.63	69.84	100.00
	0.00	25.00	73.33	44.83	72.73	63.32
	0.00	0.50	5.53	13.07	44,22	63.32
Total	0.50	2.01	7.54	29.15	60.80	100.00
	100.00	100.00	100.00	100.00	100.00	100.00
	0.50	2.01	7.54	29.15	60.80	100.00

Source: own composition

According to these results the inhabitants of Miskolc visit the bath more often, than the guests who arrive from a far distance. This also means that visiting the bath for local residents is a recreational plug-activity, while for visitors from a distance it is an infiltrated tourist motivation, as choosing destination is the motivation.

We found it interesting to examine what kind of period guests arrive in the bath?

According to Table 4., the inhabitants of Miskolc arrive to the bath in the afternoon, those who are not inhabitants of Miskolc prefer to buy all day ticket. Results confirmed our hypothesis.

Table 4.: Periodical visiting of the bath according to place of habitat

Place of habitat	In the morning hours (%)	In the forenoon (%)	At noon (%)	In the afternoon (%)	In the evening hours (%)	Total (%)
Inhabitant of Miskolc	12.33	31.51	15.07	36.99	4.11	100.00
	40.91	27.38	39.29	45.76	50.00	36.68
	4.52	11.56	5.53	13.57	1.51	36.68
Other inhabitant	10.32	48.41	13.49	25.40	2.38	100.00
	59.09	72.62	60.71	54.24	50.00	63.32
	6.53	30.65	8.54	16.08	1.51	63.32
Total	11.06	42.21	14.07	29.65	3.02	100.00
	100.00	100.00	100.00	100.00	100.00	100.00
	11.06	42.21	14.07	29.65	3.02	100.00

Source: own composition

Our next question was, how often guests visit the bath? Table 5. shows, that it can be considered that young adults visit baths more often, than older.

Table 5.: Frequency of visiting bath according to age groups

Age group	Daily (%)	Regularly (several times a week) (%)	Weekly (%)	Monthly (%)	A few times a year(%)	Total (%)
Youngsters	0.00	1.96	3.92	29.41	64.71	100.00
	0.00	25.00	13.33	25.86	27.27	25.63
	0.00	0.50	1.01	7.54	16.58	25.63
Young adults	0.00	3.85	7.69	42.31	46.15	100.00
	0.00	50.00	26.67	37.93	19.83	26.13
	0.00	1.01	2.01	11.06	12.06	26.13
Middle aged	1.22	1.22	8.54	21.95	67.07	100.00
	100.00	25.00	46.67	31.03	45.45	41.21
	0.50	0.50	3.52	9.05	27.64	41.21
Elders	0.00	0.00	14.29	21.43	64.29	100.00
	0.00	0.00	13.33	5.17	7.44	7.04
	0.00	0.00	1.01	1.51	4.52	7.04
Total	0.50	2.01	7.54	29.15	60.80	100.00
	100.00	100.00	100.00	100.00	100.00	100.00
	0.50	2.01	7.54	29.15	60.80	100.00

Source: own composition

Table 6. represents the result of analysing marketing activity. (How did you hear about Cavebath?)

Table 6.: Analysing marketing activity

Answers	Frequency (pc)	Distribution (%)	Current distribution (%)	Cumulated value (%)
Newspaper	10	5.03	5.03	5.03
Television	9	4.52	4.52	9.55
Internet	66	33.17	33.17	42.71
Hearsay	113	56.78	56.78	99.50
	1	0.50	0.50	100.00
Total	199	100.0	100.0	

Source: own composition

Results show that the most important information source about the bath is hearsay information. Every third respondent searches information about the bath on internet, while only 5% of respondents use traditional information sources during the information searching process. These results also reveal the fact that word of mouth information and fellow travelers' recommendations have a huge impact on tourist decisions (*Ráthonyi* 2013). Due to the widespread of internet, social media, developed information and communication technologies the importance of traditional information sources have decreased.

Our next question was: would you recommend the bath to your friends, acquaintances, family? 98,5% (196 persons) of respondents would recommend the bath to others, which is an important sign of satisfaction.

Table 7. shows that most of the respondents arrive with their friends, which confirmed our hypothesis. Others arrive with mate, sibling or parent, which shows the dominance of family audience. We can see that "groups of friends" also has a high percentage. So bath satisfies the recreational and tourist motivation of families, but is suitable for group of friends as a free time activity as well.

Table 7.: Who do you arrive to the bath with?

	Number of guests	%
Alone	17	8.5
With mate	118	19.3
With parent	40	20.1
With sibling	31	15.6
With friends	66	33.2
Other	49	24.6

Source: own composition

Next, we analysed services used by guests (Table 8.).

Table 8.: Services used by guests

	Number of guests	%
Outdoor pools	152	76.4
Indoor pools	174	87.4
Sauna park and solarium	51	25.6
Sauna seance	26	13.1
Aqua fitness	21	10.6
Night bath	35	17.6
Creative playing noor	4	2.0
Baby-Mommy corner	2	1.0
Giftshop	5	2.5
Coctail bar and grill terrace	12	6.0
Thermal restaurant	74	37.2

Source: own composition

Suitably to the bath profile the indoor and outdoor pools attract visitors mostly, as they use these services most often. Cavebath is attractive for the guests because of its unique appearance, so by the cave pools, as it is preferred the most even in the summer period. The other popular services among the guests are the restaurant (37,2%), the sauna park (25,6%), and night bathing (17,6%).

Results of the correlation study

We examined the correlation among genders, age, educational attainment and place of residence. We found significant difference in the next ones:

Beach and waterpark are preferred by youngsters (10-24) and young adults (25-34), more than middle aged and elders (chi^2=63,68, p=0,008).

Living aquatic bath is also preferred by youngsters and young adults (chi^2= 53.42, P=0,004.)

Spa is preferred by middle aged and elders (chi^2=64,04, p=0,019).

Among programs aquafitness is preferred mainly by women in contrast with men (chi^2=4.82, P=0.037).

CONCLUSION

Product development is essential nearly for every bath. Visiting bath is infiltrated into everyday programs, with the expanding of supplied elements it is a good opportunity for connecting regular exercising, body care and relaxing. Accordingly, the baths are the scene of body and soul care, maintaining social well-being and health. Guests, who regularly visiting baths, expect ordinary free time services and high quality of services which indicates that baths of tourist destinations have to take these factors into consideration during product development.

It is recommended to evolve brand. Thanks to the changes in tourism, the competition between products and destinations, the conformation of expectations of tourists and the changes of their habits tourist destinations should be treated as a trade brand. The image of the brand has a huge importance in connection with the success of a tourist destination, which has a great influence on the consumer's behavior. Those tourists who visit a tourist

destination for the first time and have limited information about the given place, will chose those "new" destinations with a bigger chance, which have powerful, positive, unique and well recognizable image. So brand and unique identity will have a significant influence on selecting a tourist destination.

Based on the analysis of brand components it is confirmed that the spa possesses a well-formed strong brand.

However the spa owns substantive, separable and identifiable brand components, its brand considering all brand elements can be handled as "average good" or "excellent". The reputation of the spa should be increased through the boost of individuality and the increase of attraction. Web-page development and merchandising would be great marketing communication tools to promote the brand equity of the spa.

It is also important to improve the web pages of the baths. Thanks to the swift growth of tourist sector advanced technologies are required to face the growing requirement of tourism. Tourism companies have to aspire for being aware of the latest technological trends and changes. There are several new technological innovations in the tourism industry which appeared or going to appear in the near future such as new mobile technologies, tracking technologies, new smart devices, new social media tools, new sensors (NFC, RFID) (*Ráthonyi* et al. 2016).

National and international researches also emphasize the development of human resource (*Bácsné* 2013). It is essential to employ animators as guests require personal care, that an animator can ensure for them. Many times this personal bonding is in the background of visitors return.

Our research revealed that a lot of families visit the Cavebath, there are many children here, as it is a multigeneral bath, which indicates that adult and children animator programs are essential. Especially in the summer period, but periodically or even all year it would be required by the guests visiting the bath.

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SCIENTIFIC PAPER

PROBLEM ANALYSIS OF THE HUNGARIAN TOBACCO SECTOR

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Abstract: *The Hungarian tobacco sector went through significant changes in the last decades. The reason of the changes were our accession to the EU, then the changes in subsidiary system, the effect of the world and within the EU's strict tobacco policy. The number of tobacco farms declined and the future became uncertain for the farmers.*
Size of the farms increased and there were a concentration in the sector, so the smaller scale farmers' activity ceased. It causes several problems in rural areas, because one of the main strengths of the sector was its significant role in rural development, as the tobacco in small scales was able to produce an acceptable income in such areas where due to the poor soil quality economically successfully growing for other plants are not suitable.
The main goal of this paper is to present the Hungarian tobacco sector and its main strengths, weaknesses, possibilities and threats compared to the European Union's situation.

Keywords: *Hungarian tobacco sector, tobacco production, tobacco market, complex analysis*

BACKGROUND

The world tobacco production shows a continuous rising trend in the last decades. The reasons of the rise are the rising population of the world and the rising living standards. Despite of the rising demand, in the European Union and in Hungary as well, the tobacco production decreases rapidly in last decade. Production is being transferred from developed areas to developing countries. The main reasons for this are the following:

The growth of consumption, which mainly results from the fast increase of the population.

Tobacco can be produced at lower cost, due to better climate and cheaper labour force.

The agricultural policy support for tobacco growing is less and less in the developed countries.

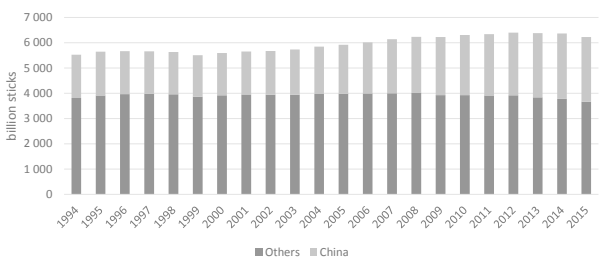
Strict policy in cigarette market and consumption.

LITERATURE REVIEW

International outlook –world tobacco sector

As the raw tobacco is the basic elements of cigarettes, first of all it is worth reviewing the global cigarettes consumption.

Figure 1: World cigarette production 1994-2015.



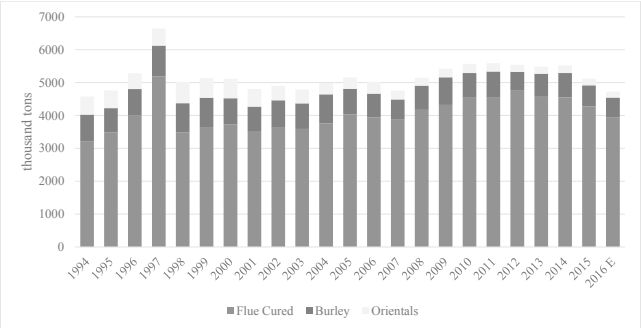
Source: Universal Corp., 2016

As we can see on *Figure 1.* the world cigarette production is increasing. The world leading cigarette producer country is China which produces more than 40% of total production increasing more than 50% of its production, and with 10% of its ratio on total production in the last two decades. The other countries' production is decreasing slowly, in 2015 was the production level of 93% of the year 2005. A significant decline was observed in Western Europe, but still Europe was the second largest cigarette producer area, it produced 21% of total amount, followed by the rest of Asian area, which produced 20% of the cigarettes. Americas has a 10% part.

World tobacco production

In *Figure 2.* we can see the world tobacco production as well. The main three produced tobacco types are the flus-cured tobacco, which is about 80-85% of total production, followed by the air-cured Burley with 10%, and the Oriental type with 3-4%.

Figure 2:World tobacco production 1994-2016.



Source: Universal Corp., 2016

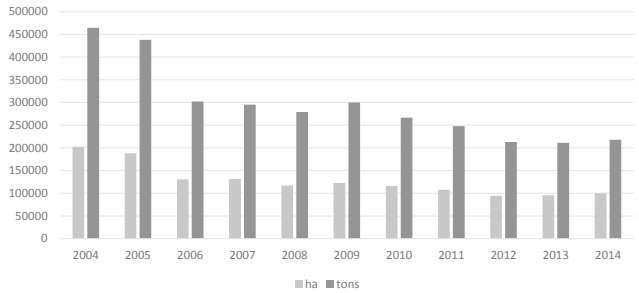
The production is increasing slowly, the last 3 decades it increased with 10%. The estimate for 2017 is a low increase as well. The top producer countries are China (42%), Brazil (12%), India (10%) and US (6%). (FAOSTAT, 2016)

TOBACCO PRODUCTION IN THE EU

In 2015 in the EU, tobacco cultivation represents on 81 000 ha 182 000 tons produced by almost 60,000 tobacco producers (Vedel, 2016). These values are declining strongly in last decades (*Figure 3.*). From 2004 both harvested area and production fell back by 50%. The reason was the change of subsidiary system. In April 2004, the Council of EU Agricultural Ministers decided to reform the raw-tobacco sector along the same principles as the CAP reform of June 2003. The system of production quotas was abolished and financial support decoupled from production. EU Member States covered by the tobacco regime were given a transition period to adjust, between 2006 and 2009. During this period, these Member States could either completely break the link between production and the financial aid provided to the tobacco sector (known as "decoupling") or continue to link part of the provided aid to production. Decoupling aid from production allows producers to grow other crops – if they wish – while maintaining stable incomes.

Since 2010, EU aid has been completely decoupled from production. 50% of the previous tobacco aid was incorporated into the direct payment system. The other 50% went into the EU's rural development programmes, particularly in tobacco-growing regions.

Figure 3.: Tobacco production in EU-28 2004-2014

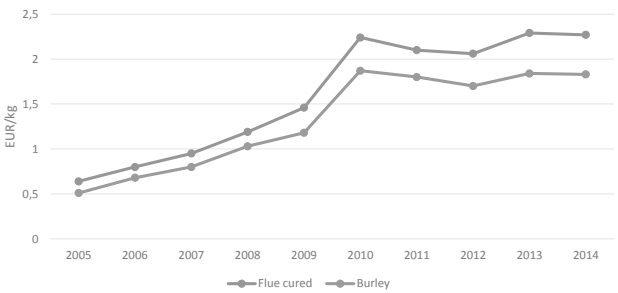


Source: FAOSTAT, 2016.

Tobacco is grown in 12 EU countries. The main producers are Greece, Italy, Poland, Bulgaria and Spain, which account for around 75% of the EU tobacco growing area. There is a trend towards smaller growing areas, mainly due to falling consumption of tobacco products (European Commission, 2016)

To compensate the reduction in support the manufacturers had to raise prices, so in this period the prices tripled (Figured 4.).

Figure 4: Raw tobacco prices in EU 2005-2014

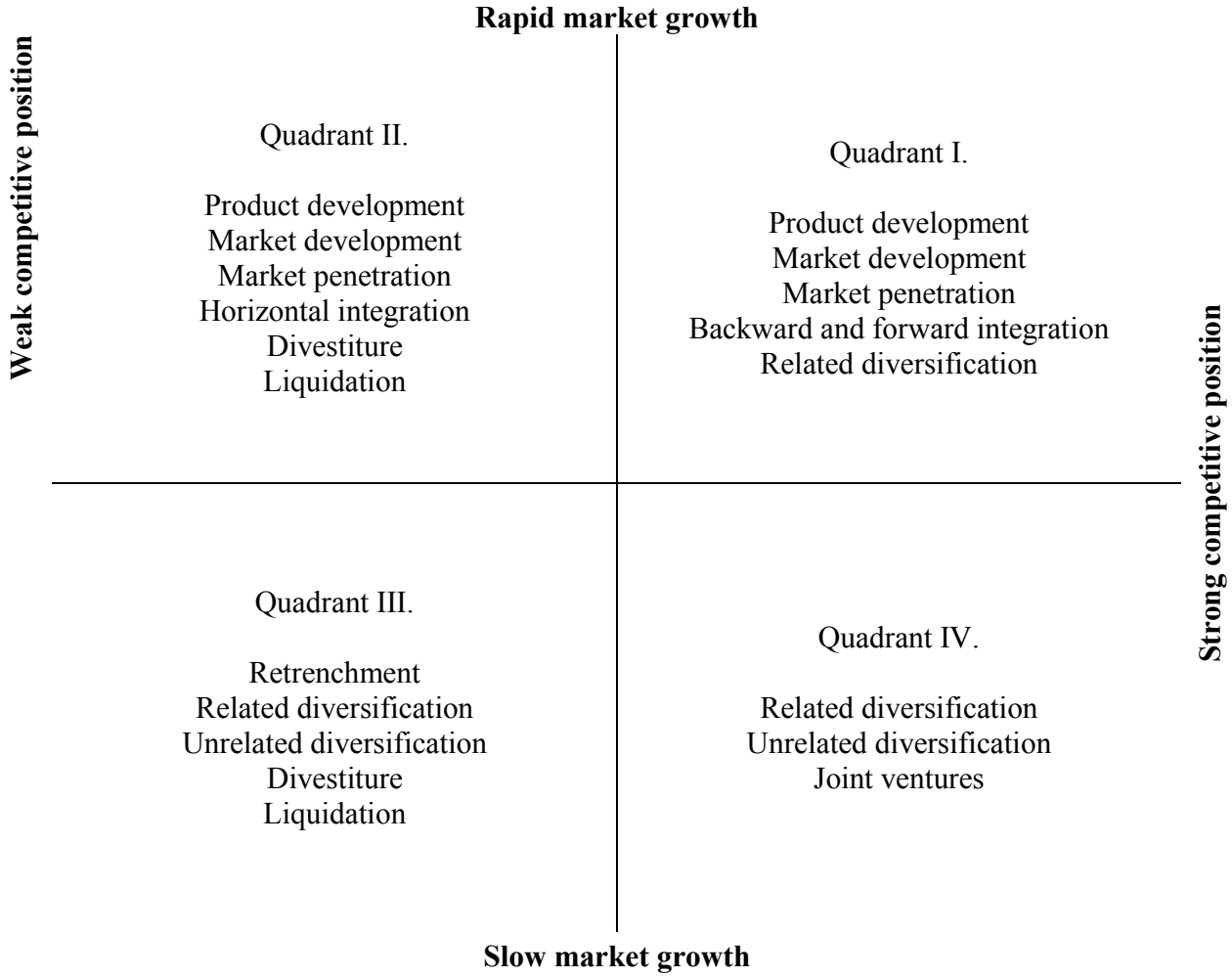


Source: European Commission, 2015

MATERIALS AND METHODS

To analyze the Hungarian tobacco sector it is necessary to analyze the world and within it the European Union situation and trends. For this goal this paper used the most well-known database such as FAOSTAT, EUROSTAT database and the latest reports of European association of tobacco growers and European Commission. The presentation of Hungarian situation based on Hungarian Central Statistical Office' data (KSH) and Hungarian Tobacco Grower's Association's data. After the background analysis the main strengths, weaknesses, opportunities and threats will be highlighted with the help of SWOT analysis. Based on the results of the SWOT we can create different strategic ways which can point at some break points of the sector. Quantified SWOT in this study not only improves the above methods, but also develops them on the basis of the Grand Strategy Matrix (GSM). Matching external and internal critical success factors is the key to effectively generating feasible alternative strategies. In the GSM, the enterprises or in our case the sector is parked in the four quadrants of the coordinate according to their categories (as shown in **Figure 5.**). Quadrant I firms can afford to take

Figure 5: Grand Strategy Matrix



Source: David, 2011

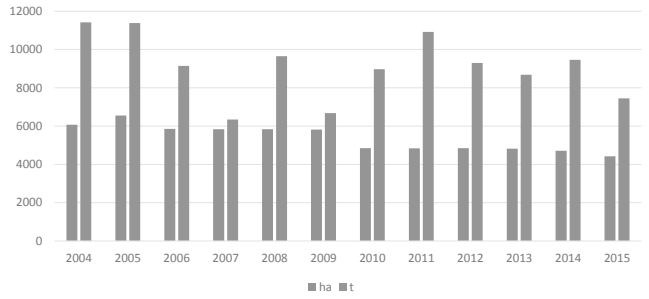
advantage of external opportunities in several areas. They can take risks aggressively when necessary. In Quadrant II need to evaluate their present approach to the marketplace seriously. Although their industry is growing, they are unable to compete effectively, and they need to determine why the firm's current approach is ineffective and how the company can best change to improve its competitiveness. Because Quadrant II firms are in a rapid-market-growth industry, an intensive strategy (as opposed to integrative or diversification) is usually the first option that should be considered. However, if the firm is lacking a distinctive competence or competitive advantage, then horizontal integration is often a desirable alternative. As a last resort, divestiture or liquidation should be considered. Divestiture can provide funds needed to acquire other businesses or buy back shares of stock. Quadrant III organizations compete in slow-growth industries and have weak competitive positions. These firms must make some drastic changes quickly to avoid further decline and possible liquidation. Extensive cost and asset reduction (retrenchment) should be pursued first. An alternative strategy is to shift resources away from the current business into different areas (diversify). If all else fails, the final options for Quadrant III businesses are divestiture or liquidation. Finally, Quadrant IV businesses have a strong competitive position but are in a slow growth industry. These firms have the strength to launch diversified programs into more promising growth areas: Quadrant IV firms have characteristically high cash-flow levels and limited internal growth needs and often can pursue related or unrelated diversification successfully. Quadrant IV firms also may pursue joint ventures (Davis, 2011).

RESULTS

Tobacco growing can be considered as a special small branch of Hungarian agriculture. It has a past of several hundreds of years. As a result of the economic and social changes in recent decades, the tobacco growing regions have moved to the north-east of the country by today, mainly to Szabolcs-Szatmár-Bereg county. The changes in the size of planted areas and in the total crop quantity are shown in *Figure 5*. In

the last ten years the size of the planted areas have decreased by 30%. In Hungary there are two types of tobacco, the flue-cured (Virginia) and air-cured (Burley)- The Virgina is the dominant, the ratio of it is about 70% from total production.

Figure 6: size of planted areas and in the total crop quantity in Hungary 2004-2015



Source: MADOSZ, 2016

The average price in case of both Virginia and Burley have tripled in last 10 years, but they are lower than the EU average, about 70% of EU's price level.

STRENGTHS OF THE SECTOR

Among the strengths the strong historical background, well organized production and producer groups can be highlighted even as the favorable subsidiary system in Hungary, as well. Due to the high yield, rising price and subsidies the farmers can realize high income. Other important strengths are the good genetic background, competitive domestic tobacco types, pre-financing possibilities for growers, consultants help and control, and the strict traceability system in the whole sector.

WEAKNESSES OF THE SECTOR

The main weakness is the high production cost which is the consequence of the high labor cost and high energy cost. Significant rate of the growers use old, energy wasting technologies. The other very important weak point is the grey and black market's presence of the sector. Irrigation is not solved in majority of producers.

OPPORTUNITIES OF SECTOR

Among the opportunities the most important is the favorable subsidiary system for tobacco growers. The available subsidies are farm restructuring support (paid on per hectare basis with a minimum of 1.000 work hours and 1.000 commercial revenues). per Hectare payment in case of Virginia and Burley is 2 000 EUR/ha. Beside this the producers are entitled to De minimis aid, which is 1 000 EUR/ha.

Other favorable point that the rural development's role is increasing within the EU, and the tobacco sector fits its goals.

THREATS OF THE SECTOR

Due to the strict regulation in tobacco market (selling, consumption and taxes) the demand in Europe decreased. The Hungarian tobacco is not competitive in developing areas. It is a well-known fact that the European tobacco industry differs from that of the major exporting countries of the developing world in that it produces smaller quantities, but of higher quality, which are more stable and more easily traceable. One of the most topical news was the reorganization of the oldest and biggest producers' work when in this summer the company announced terminating process in Hungary. The previous year they cut down the size of contracted area.

Very important fact, that the EU' subsidiary system changes and the future of it (after 2020) is uncertain, so for the growers planning is difficult. The extreme weather conditions are more and more frequent. And we have to mention the increasing presence of substitute products (e-cigarettes). For the growers one of the main threats is the difficulties of finding workers to the field. The tobacco production's works require unskilled workers but the majority of the works are heavy works and as well as the other agricultural sectors they are periodic.

Form the main strengths, weaknesses, opportunities and threats the sector SWOT analysis can be made **(Figure 7.).** From these factors we can create different strategic ways which can point at some break points to the sector.

In base of GSM the tobacco sector position in Hungary due to its weak competitive position and slow market growth currently belong to Quadrant III. In this part the suggested strategies are:

- Retrenchment
- Related diversification
- Unrelated diversification
- Divestiture
- Liquidation

Worth analyzing some of these strategies.

Some tools that could help achieve these strategies could be:

Cost reduction

For this the analysis of cost structure of tobacco production is necessary.

Table 1: Production cost of tobacco production in Hungary, 2016

	Virginia	Burley
	EUR/ha	
Operating costs	2028	448
Fixed costs	342	290
Labour cost	1384	1777
Indirect cost	3754	2515
Direct costs	**190**	**342**
Production cost	**3944**	**2857**

Source: own calculation, 2016 based on producers and ULT data

Figure 7: SWOT analysis of Hungarian tobacco sector

	STRENGTHS - Suitable genetic background - High yield per hectare - Increasing prices - High income can be realized - Domestically improved tobacco types adapting to local conditions - Tobacco growing farms of several decades' experience - Strong role in rural employment is significant, due to its great requirement of manual work - Production pre-financing by processing companies, good organized integration connections - Well working consultants system - Traceability in all chains from field to consumption	**WEAKNESSES** - Old, energy wasting technology (drying equipment) - Huge decrease of area in the last few years - Low standard of mechanization - Lack of irrigation - Low exploitation of process capacity - Lack of comprehensive sector strategy - Conflict of interests between representatives of the producers - There is no example of geographical origin protection in the sector - Presence of grey economics in the sector
OPPORTUNITIES - Favorable subsidiary system in Hungary - Role of rural development is increasing within EU - Stabile tobacco consuming standard - Constantly increasing demand for checked products - Communal and national encouragement of growers' cooperation - Demand for high quality products grows - Consumers of medium and top category products are relatively price-insensitive	***S/O Strategies*** • ***Introducing and emphasizing a controllable, traceable, excellent quality certificate*** • ***Involving the sector in the rural developing support system*** • ***Dynamic, united reaction in the EU against the EU Committee***	***W/O Strategies*** • ***Support of irrigation and renewal energy use in sector*** • ***Collaboration with the competent authorities against the grey and black market***
THREATS - The EU support system is changing - The general quality parameter of tobacco products declines by using cheap tobacco available in the world market (e.g. China) - The European tobacco is not competitive in developing area - More and more frequent weather extremes (global climate change) - Defencelessness of processors - High consumer's price due to constantly growing taxes - Legalized tobacco consumption per person decreases - Continuous increase of energy prices - The protest of WTO and health supporters lead to further decline of the sector - Substitute products (e-cigarettes) - Less available workforce in tobacco producer areas	***S/T Strategies*** • ***Urging the creation of an independent and self-propelled support system***	***W/T Strategies*** • ***Reduce production cost through the mechanization of tobacco production or other ways.*** • ***Reorganization in sector (establish new, producers' owned processor companies)*** • ***Liquidation of tobacco production and replace with other plant production***

Source: own construction, 2016

As we can see in *Table 1.* the production cost of tobacco production is very high, in case of Virginia it is almost 4 000 Euro per hectare, in case of Burley 3 000 Euro per hectare. In case of Virginia the operating costs are the highest ratio which comes mainly from the high drying cost (it's 75% of operating costs). As it was noted before one of the reasons of this high cost level is that the majority of dryers are old, often 30-40 years old, and they waste lots of energy.

In case of Burley production the high living labour requirement and the high labour cost is the most important problem. Not just the cost, but the availability of workers means very serious problem for the growers.

For these problems the mechanization and use of the latest technologies could be a solution. The problem that investment cost for a new dryer or a tobacco harvester is very high and because of the uncertain future of subsidiary system and the whole sector the growers can not afford these cost. The other problem in case of harvester, that the utilization requires large scales, but in Hungary the average tobacco farm size is not more than 4 hectares, in case of Burley it is often 2 hectares. So individual farmers can not afford these machines. The efficient use requires integration or producers' group help.

Diversification

Another strategic way could be the diversification of production. In this case the growers have to find alternative crops that they can produce economically. A study made in 2012 in Hungary reflects that in general there is no alternative crop for tobacco production. Because the poor quality soil of tobacco growers the potential sectors are highly limited. In case of grains the required farm size for an acceptable income is very low and the low income per hectare is another problem. For fruit and vegetables production the growers have not any knowledge, equipment and connection, and the investment cost of plantations are high. (Bittner, 2012)

To find other crops it is necessary to know the results of tobacco production. *Table 2.* shows the most significant economic indicator of tobacco production in Hungary.

Table 2: Outcomes of tobacco production in Hungary, 2016.

	Virginia	**Burley**
Yield (kg/ha)	1800	1800
Market Price (EUR/kg)	1,6	1,3
Return (EUR/ha)	2880	2340
Subsidies (EUR/ha)	3000	3000
Production Value (EUR/ha)	**5880**	**5340**
Net income (EUR/ha)	**1936**	**2483**

Source: own calculation, 2016 based on producers and ULT data

As Table 2 shows with the current subsidiary system the growers can realize 2000-2500 euro income per hectare,

which is much higher than the traditional crops and grains. It has to be highlighted that without the subsidy the income of the sector is negative. So to maintain this income level the rise of the yield, price and the reduce of the costs are necessary. In case of price the Hungarian prices are lower than the average price in EU by 30%, and there are potential improving possibility in case of yield as well.

Divestiture or liquidation

One of the main strengths of tobacco production, that directly and indirectly it ensures living close to 20.000 people in Hungary in that area, where alternative work and income possibility is strongly limited. The divestiture or liquidation of the sector is contrary to the rural development's goal of European Union.

CONCLUSIONS

The Hungarian tobacco sector is a well-organized sector which ensures acceptable income for growers in tobacco production areas. The situation of the sector in developed country, in EU and in Hungary as well is unfavorable due to the high production cost against the developing country, the changing of EU subsidiary system and the growing taxes and price and strict regulation in the sector. For the Hungarian tobacco growers the future is uncertain as the Hungarian tobacco production is a very small part of the European tobacco sector. For the growers have to prepare the next period in CAP, after 2020, when the subsidiary system will be changed significantly. Due to producing excellent quality, high yield tobacco, reducing costs and rising prices the production can be maintained for the next decades, as well.

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ABSTRACT

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