

Theoretical review of the performance of companies in spatial approach



This paper reviews the theory of urban competitiveness from the view point of companies. The competitiveness of cities fits into a complex system, which determines the competitiveness of nations and regions, furthermore the industrial concentration. The main goal of this paper is to describe the most important dimension of the economic competitiveness regarding management and performance. In addition, the study focuses on the spatial aspects of the performance of some companies. We review the most important models, definitions and previous studies on this subject.

INTRODUCTION

The first part of this study focuses on competitiveness in general, the second part is about company performance and the third part reviews some previous researches that are investigating company competitiveness and performance from spatial approach, too.

The definition of competitiveness can be distinguished by spatial units and companies. The enhancing competition between the spatial units (nations, regions, sub-regions, or cities) has drawn the rising attention of investigation on regional competitiveness.^[2] According to Lengyel – Rechnitzer, the competition of cities has been highlighted due to globalization. The cities are essential parts of the spatial competition between investments, populations and resources. For instance; they want to increase their positions (explicit or implicit) through local stakeholders and policies. The permanent growth of incomes is a key element in competitiveness, which can be measured by the amount of GDP or employment rates.^[3]

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[2] Lukovics Miklós (2008): *Térségek versenyképességének mérése*. JatePress, Szeged.

[3] Lengyel Imre – Rechnitzer János (2000): A városok versenyképességéről. In: Horváth Gy. – Rechnitzer J. (eds.): *Magyarország területi szerkezete és folyamatai az ezredfordulón*. MTA RKK, Pécs. 130–153.

According to Porter, localisation, as a key factor in competitiveness, is divided into three dimensions (ecological, human, and economic) which are resources for spatial units in order to enhance their position.^[4]

Horváth's study^[5] describes the competition of the regions and cities from two different point of views. On the one hand, regions (or cities) are investigated through their performance. The basis of the research are the output data, so this approach is similar to the national competition. On the other hand, regions are investigated through the competitiveness of the companies. In spite of the other approach, the basis of this research are the input data. In addition, the two different approaches have lots in common. For example, the goals of the competition that can be the followings: attracting investments, employment, creating work-places, and the increasing of the incomes or the population.

COMPETITIVENESS OF THE COMPANIES

„The companies' competitiveness is a skill they use in order to constantly offer a product or service, which are more attractive for customers on competitive prices instead of competitor's products yet the company is still profitable, and in addition, they have to keep the social responsibility norms.”^[6] Researchers highlight the need for adaptation to the changes, as a requirement of competitiveness.

According to Varga,^[7] the economic actors' (companies') competitiveness is a capability applied in order to create value, which capabilities determine the competitive advantages and the higher level of meeting the needs. He agreed with Chikán – Czakó's^[8] point of view, according to which adaptation is the key factor of better competitiveness and returns. Chikán developed the index of corporate competitiveness; he described competitiveness as operability on adaptability admitted by the market:^[9]

$$C = (M + V) T, \text{ where}$$

C - competitiveness; M - operability; V - adaptability; T - performance.

While he was primarily investigating the competitiveness of large-sized companies, Szerb et. al.^[10] created the competitiveness index of SMEs from the data-

[4] Porter, M. E. (1990): *The Competitive Advantage of Nations*. Free Press, New York.

[5] Horváth György (2001): *A magyar régiók és települések versenyképessége az európai gazdasági térben*. Tér és Társadalom, 15(2). 203–231.

[6] Chikán Attila (2006): *A vállalati versenyképesség mérése*. Pénzügyi Szemle, 51(1). 42–56.,43.

[7] Varga János (2014): *A versenyképesség többszintű értelmezése és az innovációval való összefüggései*. Doctoral Thesis, Szent István University, Gödöllő.

[8] Chikán Attila – Czakó Erzsébet (2005): *A versenyképesség szintjei: fogalmak és értelmezések*. Versenyképességi Kutatások műhelytanulmány-sorozat, Competitiveness Research Centre, Budapest.

[9] Chikán Attila (2006): op. cit. 44.

[10] Szerb László et.al (2014): *Mennyire versenyképesek a magyar kisvállalatok?* Marketing & Menedzsment, 48. / Special Issue. 3–21.

base of almost 800 small-sized companies. The base of the index were variables assigned to the ten pillars of competitiveness. The first group of variables refers to the level of entrepreneurship skills: the value, the cost of substitution, and the corporate features. The second group of indicators was innovation, built in only the relevant pillars. The third group of variables consists of financial indexes; it was not built in all of them, too. The last group of variables individually created extraordinary variables.

Table 1: Competitiveness index of SME's

Pillars	Variables			
	Level of entrepreneurship	Innovation	Financial indexes	Extraordinary variables
Human capital	value	qualification	bargaining power of suppliers and customers	growth diversification forecast of insolvency variables of online presence
Finances			stock management	
Cooperation			leverage	
Product	cost of substitution	product innovation	investments	
Administration	corporate features		operational management	
Technology		technology innovation	innovation, level of technical development	
Marketing		marketing innovation		
Internationalization			debts ratio	
Online presence and tools				
Performance indexes				
Return		Increase of revenues		Insolvency index

Source: Own construction, based on Szerb et. al. (2014): op. cit. 11-14.

The determining factor of competitiveness of nations or other spatial units is the performance of the companies operating in a given geographical area. Therefore, that region (or another spatial unit) is competitive, in which companies can contribute to enhancing economic performance and increasing employment. The competitiveness of the companies has a strong correlation with the competitiveness of the region they are located at. Table 2 shows the selected competitiveness factors of SME's from Németh Gál's research, where only the statistical or corporate financial data are highlighted. She concluded that the medium-sized companies are the most competitive ones in the SME sector. The larger the size of the company is, as improved is the level of externally financed resources, the rate of suppliers, the rate of export activity and the complacency with the equity

rate becomes. The rate of the long-term loans is more likely to be higher regarding small-sized companies. Controlling for export companies, the export rate correlates positively with company size.^[11]

Table 2: The competitiveness factors of SMEs

Competitiveness factors	Indicators
Finances	Rate of equity
	Rate of loans received (long and short term)
Export	Rate of export activity
	Rate of export revenues
Productivity	Gross added value on employment
Innovation and R&D	Amount of innovative companies
	Rate of companies doing R&D
Employment	Rate of employment

Source: Own construction, based on Némethné Gál's data (2009): op. cit. 178–208.

SPATIAL ASPECTS OF THE PERFORMANCE OF COMPANIES

There are a lot of approaches to investigating the spatial aspects of the performance of the companies. The first possible criterion of classification is the subject of the investigation (subject orientation). This type of research is based on companies (company data) or on given spatial units. The first group of subject oriented researches investigates the spatial location of companies. Their main goal is to measure the spatial patterns of the given companies (for example TOP 100 or multinational) in order to deduce the characteristics of the given spatial units. We can distinguish between researches made on multinational, large sized or small and medium-sized companies. In addition, the economic sectors and the spatial dispersion of the multinational headquarters are often investigated. The studies usually cover a nation or a larger spatial unit, for example, the EU, and by the locations take the regions or city-regions into consideration.

The second group of the subject oriented researches is based on a given spatial unit, investigates the companies located in them, distinguished by sector or size. Studies can compare spatial units at varied levels, at international, national, regional or city levels, too. Instead of companies, there is a given spatial unit in this case and researchers try to describe the characteristics of a given region by company performance or sectorial specifics. This assignment includes studies among characteristics of a given nation or region using aggregated data.

The other classification of investigating spatial aspects of the performance of

[11] Némethné Gál Andrea (2009): *A kis és középvállalatok versenyképessége*. Doctoral Thesis. Széchenyi István University, Győr.

companies distinguishes the company size or economic sector. The sector specific studies investigate the concentration of a given sector. They refer to economic clusters and clusterization.

INVESTIGATION OF COMPANIES

According to Tonts and Taylor, the global and national (or regional) levels are the two main approaches to the location of companies. They investigated the TOP 300 companies in Australia and ascertained that their location concentrated on capitals of six counties with over-representation of Sydney and Melbourne (206 companies from 300) while the cities in the countryside are in the background. There is a level of industrial specialization in every city and the concentration is traceable mostly in a given city, proved in the research.^[12]

Rozenblat and Pumain investigated the location of the multinational headquarters in the European city network. They compared the spatial and sectoral dispersion of the TOP 300 European companies with the investigated 94 companies. The location of half of the companies concentrated into the cities of London or Paris, furthermore into the North-Western regions of Europe in both groups.^[13] Bosnan and Smidt's study researched the location of international management headquarters in the European city regions.^[14] Csete and Szabó examined the dispersion of the Hungarian TOP 500 companies at the NUTS2 level with an approach to their effect on regional development. The study revealed that the TOP 500 companies are export-oriented and concentrated in the more developed regions.^[15]

Fothergrill et al. investigated the profitability of the English companies from the urban-rural viewpoint. The study referred to the relationship between location and profitability of the manufacturing companies in the U.K. with employment data at a city level. The manufacturing companies calculate with higher costs due to the higher prices of employment, rental, and properties. This fact has an impact on the location choices of the new investments. The rural areas are more likely to be chosen.^[16]

[12] Tonts, M. – Taylor, M. (2010): *Corporate Location, Concentration and Performance: Large Company Headquarters in the Australian Urban System*. Urban Studies, 47(12). 2641–2664

[13] Rozenblat, C. – Pumain, D. (1993): *The location of multinational firms in the European urban system*. Urban Studies, 30(10). 1691–1709

[14] Bosman, J. – Smidt, M. (1993): *The Geographical Formation of International Management Centres in Europe*. Urban Studies, 30(6). 967–980.

[15] Csete M. – Szabó M. (2014): *How to spatial distribution of the Hungarian top 500 companies affects*. Regional Statistics, 4(1). 40–60.

[16] Fothergrill, S. – Gudgin, G. – Kitson, M. – Monk, S. (1984): *Differences in the profitability of the U.K. manufacturing sector between conurbations and other areas*. Scottish Journal of Political Economy, 31(1). 72–91.

INVESTIGATION OF REGIONS

So-me researches proceed from the agglomeration economies based on the theory of Marshallian industrial districts, advantages of concentration, and localisation. The location of one large or a lot of small companies in a given region results in a higher level of employment, which causes economic growth. The concentration of industry vitalizes the economy by attracting suppliers. The advantages of agglomeration do not affect the development of the region directly, but indirectly, through the performance of the companies. Regional studies typically investigate the performance of the companies with aggregated data and measure the effect of the companies on the economic growth by the given indicators or indexes.

According to Van Oort et al., the investigation of the relationship between the agglomeration economies and the performance of the companies is a missing key factor. In addition, there is a compelling question to ascertain: are the regional differences based on local specializations or industrial divergence. Using aggregated data, the particular performance of a company is lost, so they applied a multidimensional approach in order to investigate the spatial concentration and financial performance of a Dutch economy not only at a macro, but also at a micro level.^[17]

Holl investigated the relationship between the location, accessibility and performance (at the company level) in Spain. He submitted that the urban concentration and the good transport accessibility allow companies to increase their market positions and enhance their productivity. The study distinguishes between the indicators of local characteristics: population, population density, market accessibility, and transport infrastructure. Operation and financial information, data from the balance sheet, profit or loss account, spatial location and employment statistics of Spanish production companies were used in the study. The results show that there is a significant correlation between the productivity and the local characteristics of the companies. The market performance correlates more strongly with the efficiency of the company than the population or population density variables.^[18]

Ketelhöhn and Quintanilla investigated the effect of the country on the performance of the company by Central-American countries. The basis of their research was the resource-based theory, that the performance of a company is defined by the variety of resources. The aim of the study was to describe the regional differences by the similar Central-American countries, where 7 neighbouring countries (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama and the Republic of Dominica) were involved. They investigated the data of 263 companies in 33 industrial sectors between 1999 and 2003 by using

[17] Van Oort, F. G. - Burger, M. J. - Knoblen J. - Raspe, O. (2012): *Multilevel approaches and the firm-agglomeration ambiguity in economic growth studies*. Journal of Economic Surveys, 26(3). 468-491.

[18] Holl, A. (2014): Location, accessibility and firm-level productivity. In: Condeco-Melhorado, A. - Guriérrez, J. - Reggiani, A. (eds.): *Accessibility and Spatial Interaction*. Edward Elgar Nectar Series.

the ROA (Return on Assets) index. The results show that the country-effect explains the variance of performance between 5.1% and 8.4% and they found significant differences between the profitability within countries. The explained variance by industrial sector is between 10,2% and 17,5%, so the sector is more effective on performance.^[19]

According to Verhetsel et. al., who did some researches on the small and medium-sized companies on the Antwerp-Brussels axis; the profitability is more likely to be higher in the rural areas. The wages in larger cities and in their agglomeration are higher, however, in the rural areas the liquidity, solvency, and finances are better. We can summarize the spatial dispersion of added value. Larger cities show a higher level of labour-intensity and a lower level of assets-intensity, while rural areas are the opposite. Companies have to face higher operational costs (wages, rental costs, property prices, and transfer costs) in the cities.^[20]

Stavropoulos and Skuras investigated 410 companies in 15 EU countries at NUTS2 level in order to describe the effect of the location and the region on the performance of the company. The data were based on the profitability indexes and the employment data of 2005. The profitability was measured by indexes of ROA, profit, EBIT (earnings before interest and taxes), liquidity and solvency indexes, total assets, current assets, and the age and size of the company. The study ascertained that regional differences do not explain significantly the performance of the companies. Furthermore, the spatial concentration indicators, for instance, the city-size, population density, employment density, industry specific factors (supplier and customer companies) do not contribute significantly to the profitability of the companies. They concluded that the regional characteristics do not or only partly explain the performance of the companies, furthermore, the regional industrial specialization was found as a low impact determinant. The advantages of agglomeration are more perceivable in case of such company characteristics like knowledge-transfer, R&D investments, innovation collaborations, and human capital. In order to investigate the impact of the advantages of agglomeration on the companies, we have to take other socio-economic factors into consideration, too.^[21]

[19] Ketelhöhn, N. W. – Quintanilla, C. (2012): *Country effects on profitability: A multilevel approach using a sample of Central American firms*. Journal of Business Research, 65. 1767–1772

[20] Verhetsel, A. – Jorissen, A. – Vandamme, S. (1995): *Small and medium-sized enterprises in the Antwerp-Brussels axis*. Tijdschrift voor Economische en Sociale Geografie, 86(5). 467–476.

[21] Stavropoulos, S. – Skuras, D. (2015): *Firm profitability and agglomeration economies: an elusive relationship*. Tijdschrift voor Economische en Sociale Geografie, 96. 1–15.

CONCLUSION

The reviewed studies proved that the regional characteristics and the location of the company only partly explain productivity. It is necessary to take the characteristics, systems, operations, processes and individual performance of the company into consideration. It is recognized, that there are differences between the profitability of companies at regional and urban level. Cities, as spatial density points, provide advantages by concentrating labour, capital, services, and information, but property prices, rental costs and wages can be higher in larger cities than in rural areas. It can occur; rural companies seem to be more competitive or profitable due to lower costs.

The research in the field of regional (urban) characteristics and the profitability of companies measured by financial indexes is less investigated, proved the theoretical overview. Furthermore, there is a lack of financial or profitability indicators in the complex competitiveness indexes. Despite this fact, it is necessary to measure the performance of the companies in the competitiveness investigations in a given geographical area, because companies are the main economic drivers of the region. It is a compelling question to ascertain, how to affect the performance of the companies regarding regional (urban) competitiveness and which cities are more competitive when compared to each other.

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HUNGARIAN ABSTRACT

Jelen tanulmány a városi versenyképesség vállalati szemszögből történő megközelítésével foglalkozik elméleti szinten. A városok versenyképessége egy komplex rendszerbe illeszkedik, amely az ország, a régió versenyképességét, az ott jelen lévő iparágak koncentrációját jelenti. A tanulmány fő célja, hogy bemutassa a gazdasági versenyképesség egy dimenziójának legfontosabb tényezőit - menedzsment, illetve pénzügyi-számviteli megközelítésből is - és hogy kitérjen a vállalatok teljesítményének területi aspektusaira.