

Study Regarding the Ways of Measuring Cities Competitiveness

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ABSTRACT

Given that more than 50% of the world population lives in urban areas, tackling the problem of urban development is placed in the context of recognizing the role of cities as economic engines, a role undergoing through permanent and changing demand. As globalization intensifies, cities enter into a fierce competition to gain attention, influence, sales markets, investment, to attract businesses, visitors, residents, talent and, last but not least, major events; obviously, competition is not anymore represented by neighbouring areas, but by regions and countries located anywhere in the world. In this context, it is necessary to characterize and prioritize urban areas within a country, to use a number of criteria and indicators showing the economic and social development achieved by the various cities. The conclusions drawn from the analysis of indicators generated by a particular type depending on a number of criteria can represent the starting point in formulating strategies and objectives established through strategies and programs that target urban and regional planning.

KEYWORDS: *cities, competition, competitiveness, key indicators for measuring competitiveness, urban development.*

JEL CLASSIFICATION: *O18, R19.*

INTRODUCTION

In the last decade, cities have been recognized as essential for economic development, because of the fact that they represent key locations for high-grade activities and logistical hubs in international transport networks. This recognition results from fundamental developments. Many urban areas develop economic programs to (re)build their economic, social and spatial structure and to attract businesses, residents and visitors. Urban areas must exploit their potential in an adequate manner in order to strengthen their position in the competition with other urban areas. As a result, in urban areas the requirement has increased for a behaviour of competition.

Lately, several trends in urban development have been identified. Thus, global urban population has increased from almost 47 million in the year 1700 (with an urbanization rate of 8%) to 75 million by the year 1800 and to 335 million in 1910 (with an urbanization rate of 19%), with a very slow growth rate until the beginning of the first half of the nineteenth century, then accelerated after 1850 (1.8% per year). In 1950, the global urban population consisted of approximately 724 million individuals, of whom 450 million in so-called

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developed countries; in 1980 one could have counted 1,806,000,000, of which 834 million in rich countries. Therefore, there is a strong acceleration of the global urban population growth rate from 1950 (3.5% per year), mainly influenced by the situation in the “third world”. Global urban population represented 33% of the total population in 1950, 40% in 1977, 50% in 2000 and is projected to nearly 60% in 2020. The inhabitants of the cities already count for more than three billion (in 2000), of which, worldwide, 10% in concentrations of over ten million inhabitants (60% in Asia). One can now talk about the universality of urban life (Bonnet, 2000).

On the other hand, it is increasingly evident that the city becomes more entrepreneurial in nature, character resulting both from its policies and from its actions. Thus, public-private partnerships which are nowadays enjoying increasing popularity among governments facing insufficient resources for growing public investment needs, started their expansion in the '80s as an instrument for public policies aimed at urban development (Mina, 2010). Today, urban areas enter the market directly, as economic actors, unlike the situations in the past when they had just an intervention role in case market collapsed (Barbu, 2010).

A third trend, which manifests itself today, is linked to the fact that urban and regional policies are faced with many problems in the context of rapid political and economic changes. There is a strong tendency to urbanisation and strengthening the network of big cities (Popescu, 2005a). The main area of investigation concerns the inequalities faced by urban areas and that are linked to the size, geographical location, city specialization and resources (which gives lower or higher benefits). For example, various problems and requirements of the society and of the development of cities and regions may be solved by using environmental technologies and alternative energy resources (Zamfir, 2011).

Europe seeks decentralization and regionalization of the decision-making process, placing power at the lowest level of authority. European cities are responsible for a wide range of functions that affect economic competitiveness. It is typical for European cities to have several forms of local revenues and more bases for tax growth, which reduces their dependence on national taxation and makes them more proactive in their development strategies. Many cities are run by elected mayors and vested with the power to coordinate economic development. Many of the successful cities have been involved in creating systems and networks of labour at European level, which encouraged them to be expansionist, entrepreneurial and truly international.

Major European cities (defined as those that have more than 500,000 inhabitants) have developed rapidly in terms of population and employment, than the smaller cities of the EU during the same period. This trend contrasts with that which had manifested in the '70s, when medium sized cities had a relatively strong growth, especially in the Northern Member States, especially following the decline of basic industries (textiles, steel, shipbuilding) in large cities and because of the growing importance of new industries and service activities in smaller cities. Increasing population and employment in areas where big cities are located had two effects: (1) the dispersion of population and employment in the compound formed in these areas due to the fact that: (a) residents leave the city centre to live in the periphery or in nearby towns, (b) some firms locate their activities in outlying areas; (2) the decline of small and medium-sized cities (Popescu, 2005b).

1. COMPARATIVE STUDIES ON COMPETITIVE CITIES PERFORMANCE

The impact of fundamental developments and the changing role of the city have given rise to urban competition. It refers to a competition among cities to attract new economic activities, visitors and residents with higher incomes, as well as for occupying a favourable position in the urban hierarchy. The aim is to generate new revenue for the local community. The ability to create new financial resources is in turn linked to other economic and social issues such as: level of services, the tax base, infrastructure, quality of life, and educational and institutional facilities that the city provides (Popescu & Profiroiu, 2006).

For characterizing and ranking a country's urban areas one must use a number of criteria and indicators which show the economic and social development achieved by the various cities. The conclusions from the analysis of indicators generated by a particular typology, depending on a large number of criteria can represent the starting point in formulating strategies and objectives for urban development and territorial planning.

To identify the different criteria of analysis and typology of indicators for competitiveness, we have analysed some studies performed in this area at an international level, which will be discussed below.

1.1 Systems of competitiveness indicators used worldwide

“Places Rated Almanac” (USA) refers to 333 metropolitan areas and their ranking according to nine factors: cost of living, employment, crime, health, environment, transportation, education, arts, climate (Boyer & Savageau, 1989).

The “Barclays” report presents a detailed profile of 18 regions in the world, identifying, for each, the basic industries and their development possibilities (One North East Barclays WDA, 2002).

The “World Competitiveness Yearbook 2010” is one of the most prestigious global rankings analysing the competitiveness of countries around the world. The study, compiled annually since 1989 by the International Institute for Management Development (IMD) in Lausanne (Switzerland) took into account 58 economies all around the world. The IMD analyses and classifies the manner in which economies create and maintain competitive performance of their companies, thus allowing the analysis of competitiveness and evaluation of advances and challenges in industrialized nations worldwide. The first World Competitiveness Yearbook ranking was established in 1989, and now, after 20 years of experience, is composed of 331 evaluation criteria and 52 partner institutions that provide data about the economy's studied. The final results are divided into four main categories, which represent crucial elements of competitiveness, according to the Swiss: economic performance, government efficiency, business efficiency and infrastructure. In 2010, Singapore ranks first (rising two places), followed by Hong Kong (which retains its position from 2009), while the former leader – the U.S., is now ranked number three. Europe's most competitive economy is Switzerland (4th in the world ranking), just as in 2009, while Romania ranks 54th (the same as in 2009). Our country is the most uncompetitive economy in the European Union, Bulgaria, peaking at 53 (dropping from 38, occupied in 2009). Romania surpasses only Argentina (55th place), Croatia (56), Ukraine (57) and Venezuela (58) (IMD, 2010).

“The World Knowledge Competitiveness Index” was launched for the first time in 2002 and is published every two years (Centre for International Competitiveness, 2008). The ranking was made by Robert Huggins Associates and in 2008 it covered 145 regions in Europe, Asia and America (Huggins et al., 2008). The first five places in the ranking are

occupied by five U.S. regions, followed by Stockholm (Sweden), two other regions of the United States, Tokyo and San Diego-Carlsbad-San Marcos (USA).

“Global City Power Index” is a ranking of the world’s top 35 cities conducted by the Urban Strategies Institute of Mills Memorial Foundation of Tokyo. The discovery of Tokyo’s position within large urban areas of the world was the main purpose of this ranking, whereas formulating recommendations to improve its position within the world rankings was intended. In conducting the ranking both objective and subjective factors were taken into account.

The cities were assessed objectively through six functions that represent strengths: economy, research and development, cultural interaction, the level of housing, ecology and natural environment, accessibility (as shown in Table 1).

Table 1. Global Power City Index – objective ranking

Rank	2009		2010	
1	New York	330.4p	New York	322.6p
2	London	322.3p	London	313.6p
3	Paris	317.8p	Paris	303.1p
4	Tokyo	305.6p	Tokyo	300.3p
5	Singapore	274.4p	Singapore	244.2p
6	Berlin	259.3p	Berlin	232.9p
7	Vienna	255.1p	Amsterdam	230.8p
8	Amsterdam	250.5p	Seoul	228.5p
9	Zurich	242.5p	Hong Kong	223.8p
10	Hong Kong	242.5p	Sydney	219.0p

Sources: Institute of Urban Strategies (2009), p. 19; Institute of Urban Strategies (2010), p. 10

The subjective analysis of cities (see Table 2) was made through five categories of "actors" and renders the cities from the perspective of different expectations and priorities that each of these actors have from them, depending on the specific activities of each of them. The "actors" involved in achieving this ranking are: managers, scientists, artists, tourists and residents (Institute for Urban Strategies, 2010).

Table 2. Global Power City Index – subjective ranking

Year	Rank	Manager	Researcher	Artist	Visitor	Resident
2009	1	London	New York	New York	New York	New York
	2	New York	London	Paris	London	Paris
	3	Singapore	Tokyo	Berlin	Paris	Berlin
Tokyo's position		7	3	5	7	4
2010	1	London	New York	Paris	London	Paris
	2	New York	Tokyo	London	New York	London
	3	Singapore	London	New York	Paris	Tokyo
Tokyo's position		5	2	4	4	3

Sources: Institute for Urban Strategies (2009), p. 21; Institute for Urban Strategies (2010), p. 11

Global Cities Index was conducted by the magazine Foreign Policy, together with management consultancy firm AT Kearney and the City Council on Global Affairs Chicago. Although at first glance, it cannot be considered an index of urban brands, the elements on which the ranking is based are the key ingredients for a successful urban brand. In addition, it puts cities in a broader context, caused by globalization and best illustrates the international presence of each metropolitan area and how they fit into the functioning mechanism of the planet. To this end, it analyses a number of criteria such as: business scope, human capital, information exchange, political environment, cultural experience (Foreign Policy, 2010). The top five places (see Table 3) were occupied by New York, London, Tokyo, Paris and Hong Kong.

Table 3. Global Cities Index 2010

Rank	City	Rank by Population	Rank by GDP
1	New York	6	2
2	London	28	5
3	Tokyo	1	1
4	Paris	20	6
5	Hong Kong	31	14
6	Chicago	25	4
7	Los Angeles	12	3
8	Singapore	38	23
9	Sydney	43	24
10	Seoul	22	19

Source: Foreign Policy (2010)

The “World Winning Cities” report was released by Jones Lang LaSalle in 2002 as a research initiative designed to highlight the competitiveness of contemporary cities. The ranking analyses trends which have a major impact on the business environment and how they are related to the future urban growth poles of the next decade. The study’s authors analysed data covering 100 metropolitan areas around the world: 40 cities from North and South America, 37 cities from EMEA (Europe, Middle East and Africa) and 23 cities from Asia (LaSalle’s, 2010).

For a long time, London, New York and Tokyo were the leaders of the world’s most expensive cities’ **ranking**. But lately, investors have expressed interest in the new cities located in emerging countries. Thus, due to a strong economic development of China, Shanghai has developed rapidly into one of the main competitors of the old cities. Jeremy Kelly, analyst at real estate consultancy firm Jones Lang LaSalle states that “in the past decade, Shanghai has become a real global player both economically and financially speaking; nowadays it is one of the most dynamic cities in the world.” As a business and financial center of China, Shanghai represents the main “source of power” of the Chinese economy.

In the past ten years, in the U.S., nine metropolitan areas registered increases in population, with an average rate of 3.1% per year and generated new jobs at a rate of over 4.2% per

year. These are: Las Vegas (Nevada), Phoenix (Arizona), Denver (Colorado), Dallas (Texas), Atlanta (Georgia), Raleigh and Charlotte (North Carolina), Orlando and Tampa (Florida).

Northern European Capitals: Stockholm, Copenhagen, Oslo, Helsinki and Amsterdam, have registered strong growth in terms of: amount of the rent (among the highest in the world), migration of population from rural areas, employment growth in telecommunications and IT.

The main cities in the United Kingdom and Ireland: London, Dublin and Edinburgh have registered increases in the real estate market, due to increased living standards.

Most Asian cities have had a difficult decade and a poor performance, due to the financial crisis in Asia in the late 1990s, with southern China, southern Japan and northern India making an exception from this.

In China, the new emerging cities are: Guangzhou, Hong Kong, Shenzhen. Guangzhou symbolizes evidence, often inconsistent and contradictory of "winning cities" within the developing economies. In most cases, the developing cities have been characterized by a large population and an employment growth, which have resulted in an increase in the real estate market. Guangzhou, along with Hong Kong, Shenzhen and several smaller towns, is part of the Pearl River City Mega Delta (which has a total population of over 46 million people). The quick urbanization of the region was based on the explosion of illegal immigrants, who have contributed to population and employment growth. Thus, what was once a fertile agricultural region was transformed into a highly industrialized area? The report shows that the cities in China (Beijing, Shanghai and Guangzhou) and those in Central and Eastern Europe (Warsaw, Moscow, Budapest and Prague) were the most active markets in terms of job creation, development of economic centers and real estate market. Other active markets were Mexico City, Santiago (Chile) and Bangalore (India).

The strong development of the new urban areas has two main sources:

- *Globalization* that has led to a relative approximation of rhythms of growth recorded by the various cities of the world. Among the first cities to take advantage of this situation is Dubai. In the early '90s, the Emirates authorities began preparing the city for the period in which its oil reserves will run out. The metropolis located in the Persian Gulf owns now constructions such as the artificial island The Palm Jumeirah or Burj al-Arab hotel, with a height that exceeds 320 meters, true tourist and commercial attractions.

- The second factor that boosts the development of new cities is the accelerated pace of *urbanization* registered by the modern society. According to an UN study, in 2007 the urban population exceeded the number of rural inhabitants. If two centuries ago the number of city inhabitants did not exceed 3% of the total population, in 2007, their number surpassed 50% and it is expected to increase up to 60% of the total population, by 2020. The UN specialists' calculations indicate that, every day more than 20,000 people migrate from rural areas into urban areas, and that the migration phenomenon would provide an expansion of the megacities even while the pace of global population growth would stagnate. However, the population movements towards urban areas are not a new phenomenon, contributing significantly after the 50s, to the explosion of the megacities' number. If in 1950 there was only one metropolis with more than 10 million inhabitants, currently there are 16 such "giants" and by 2015 their number could reach 21, according to the UN study. It is expect that, in the next two decades, on the list of mega-cities, Calcutta (with 20.6 million inhabitants), Chennai (with 10.1 million inhabitants), Paris (which will have a little more than 10 million inhabitants), Kinshasa and Lagos (Africa) will be added.

However, the size of a metropolis is not an indicator of the degree of attractiveness exercised by it. Real estate analyst Jeremy Kelly stated that "for a city to be attractive, for people to want to live in it, a whole range of factors should be reflected in its characteristics." Among these factors are included economic factors - the level of taxation and the less tangible - the quality of life or the number of cultural and educational institutions.

"Global Urban Competitiveness Index Rankings" focused on "Innovation: source of urban competitiveness". The report collected data based on the following indicators: GDP, GDP/capita, GDP/ km², labor productivity, the number of multinational companies in the city, the number of obtained patents, the rate of employment, economic growth, price advantage. This study took into account 500 cities worldwide. "Global Urban Competitiveness Index Rankings" conducted a study from a continental perspective. It was found that North American cities have maintained their positions, as leading European cities have followed a different pattern, and while Asian cities have great potential. In 2010, the top 10 cities in terms of global competitiveness were: New York, London, Tokyo, Paris, Chicago, San Francisco, Los Angeles, Singapore, Seoul and Hong Kong (GUCP, 2010).

"Mercer's Quality of Living" is an analysis that is part of the annual report published by Mercer Consulting – "Quality of living worldwide", which in 2010 covered 221 cities. The ranking made by Mercer is based on an index that starts from one (1) point; Vienna has accumulated a score of 108.6, while Baghdad ranked last with a score of 14.7. The ranking (see Table 4) has as benchmark the city of New York, which has a score of 100 points (Mercer, 2010a).

Table 4. Top 10 cities of the world with the best quality of life

City	Country	Ranking in 2010	Score 2010
Vienna	Austria	1	108.6
Zurich	Switzerland	2	108
Geneva	Switzerland	3	107.9
Vancouver	Canada	4	107.4
Auckland	New Zealand	4	107.4
Düsseldorf	Germany	6	107.2
Frankfurt	Germany	7	107
Munich	Germany	7	107
Bern	Switzerland	9	106.5
Sydney	Australia	10	106.3

Source: Mercer (2010a)

The "Mercer's 2010 Cost of Living" study covered various cities of the world and targets the business community, mainly the multinational companies. The calculation uses as a basis for comparison the city of New York, which he notes with 100 points and, depending on the score achieved, prepare a list in which the highest ranked cities for living expenses. Mercer's survey covers "cost-of-living" in 144 cities across six continents and compare 200

different items, from rents, transport, food, clothing, household appliances, consumer goods and entertainment. In 2010, Moscow was the most expensive city in Europe and worldwide, with a score of 123.9 (Mercer, 2010b).

The City Brands Index was published for the first time in 2005, and is the result of collaboration between Simon Anholt and GfK Roper Public Affair & Media (Anholt City Brands Index, 2007). City Brands Index is the only analytical ranking of urban brands performed globally. It uses an innovative set of tools to assist cities in developing, implementing and evaluating their own brands, providing global and local prospects for progress and success of urban affairs, trade and tourism (Popescu & Corboş, 2009).

To analyze and evaluate different brands of the world cities, Anholt uses the Urban Brand Hexagon (as shown in Figure 1).



Figure 1. The Hexagon of the Urban Brand

Source: The Anholt City Brands Index (2007)

The components of the Hexagon of the city brand (The Anholt City Brands Index, 2007) are:

[1] *Presence* is an element that refers to the international statute of the city and its place on global plan. The questions that aimed the quantification of this dimension referred to the familiarity of the questioned ones with the cities, to the proper visiting of them, and to the major elements that recommend them for celebrity. “The place” in the top does not reflect just a one dimension characteristic, does not express just a superior or inferior position, but also the importance of the contribution of the respective city to the cultural, scientific patrimony or urban government from the last 30 years.

[2] The opinions of the questioned persons are incarnated in points granted to “*the place*”: physical aspects of each city, that refer to elements such as exterior ambiance, travelling through the city, exterior aspect and influence of the climate upon the state of the individuals.

[3] *The potential* takes into consideration the economical and educational opportunities that each city can offer to the visitors, business men and immigrants. The *differentiation* criteria for this component are: the facility to find a place of work in the city, choosing the best one for business, the best city to obtain a university diploma.

[4] *The pulse* underlines the meaning of the vibrant urban life in the city brand, the easiness of which the people think they can find interesting things to do, both as a resident, and tourist. This dimension has an intangible character, taking into consideration the emotional impact of the city, being a decisive element to characterize the townsman spirit.

[5] *The people* represent one of the most important elements of the marketing strategy, the approach of urban actors depending on their grade of hospitality and their prejudices for strangers. The brand is based on the facility of the new comers to integrate in a community which they share the language and culture with, and the level of security in the city.

[6] *Basic necessities/Fundamental demands* express the basic qualities of a city that imply the life in that place, the facility of finding satisfying and convenient accommodation and which are the general standards of the public services.

[7] In 2009, the top 10 cities overall from the global survey were as follows: Paris, Sydney, London, Rome, New York, Barcelona, San Francisco, Los Angeles, Vienna and Madrid.

1.2 Systems of competitiveness indicators used at European level

The comparative analysis of 118 cities conducted by Paul Cheshire, regarding the gap in the growth of GDP/per capita, has identified five drivers of regional development: industrial structure, the region's population, research institutions and development (per million inhabitants); development of surrounding areas (proximity to a rapidly growing region may have an adverse effect on another region), national performance (Cheshire, 1996).

The „Business Strategies Limited” says that the number of active workers and productivity of each employee determines regional prosperity (profits). This report measures the regional prosperity in the following terms: GDP per capita of employment age, adjusted for specific changes in standard purchasing power and modified by those who commute; employment rates; productivity (Business Strategies Limited, 2001).

The “Study Programme on European Spatial Planning” (SPESP) was developed in 1999 and presents various indicators of spatial analysis. On the basis of such set of criteria it may be established by way of comparison, if the various cities, towns or areas of the EU hold a relatively strong or weak position in terms of the fundamental objectives of spatial development. Thus, according to SPESP, economic force in a spatial context is given by the relative economic position (at international, national and regional levels) of the city, as well as by its ability to maintain or improve its position (Study Programme and European Spatial Planning, 1999).

EUROSTAT indicators. The European Union Statistical Office (EUROSTAT) conceived in October 2001, a set of 36 structural indicators in line with the conclusions of the European Commission summits from Lisbon and Gothenburg. This set covers five important areas regarding: the overall economic framework, employment, research and development, economic reform, social cohesion, the environment (Popescu, 2007).

The “Actvill research” was an EU initiative aimed at preserving and improving the quality of urban life starting from two important factors: the city effect (which enhances the quality of urban life) and urban overcrowding (which decreases quality of life in cities). Actvill research consisted of: decomposing the city effect and urban overcrowding in their basic components; deriving from those components of specific items; formulating a set of purely theoretical indicators on the basis of specific elements (Archibugi, 2000).

“European Competitiveness Index” was published by Robert Huggins Associates Ltd. and measures the competitiveness of European regions and nations. This ranking has taken into

account the investment made for personal development, investment in research, in education, business, transport, IT infrastructure, employment rate, unemployment rate, economic growth, GDP, etc.. The first top five regions were: Brussels, Uusimaa (Finland), Ile de France, Stockholm and Etelä-Suomi (Finland) (Huggins & Davies, 2006).

The report "European Cities Monitor" is a ranking by real estate consultancy company Cushman & Wakefield and it takes into account major commercial cities in Europe. This ranking examines the key factors that the big companies take into account when looking for a new location and indicate the international perceptions on the effectiveness of European cities (Cushman & Wakefield, 2010):

- Easy access to markets, customers or clients;
- Availability of qualified staff;
- The quality of telecommunications;
- Transport links with other cities and internationally;
- Value for money of office space;
- Cost of staff;
- Availability of office space;
- The climate governments create for business through tax policies or financial incentives;
- Languages spoken;
- Ease of travelling around within the city;
- The quality of life for employees;
- Freedom from pollution.

Data was collected specifically for these rankings with the help TNS BMRB and the managing directors of over 500 European companies.

In 2010, the first places (see Table 5) were occupied by London, Paris, Frankfurt, Brussels and Barcelona (Cushman & Wakefield, 2010).

Table 5. Best cities to locate a business today (2008-2010)

Location	Rank			Score		
	2008	2009	2010	2008	2009	2010
London	1	1	1	0,80	0.85	0.85
Paris	2	2	2	0,57	0.56	0.55
Frankfurt	3	3	3	0,32	0.33	0.36
Brussels	4	5	4	0,28	0.28	0.29
Barcelona	5	4	5	0,26	0.28	0.27
Amsterdam	6	8	6	0,24	0.20	0.25
Berlin	8	9	7	0,20	0.18	0.24
Madrid	7	6	8	0,22	0.23	0.22
Munich	9	7	9	0,20	0.21	0.22
Dusseldorf	12	15	10	0,12	0.10	0.14

Sources: Cushman & Wakefield (2008), p. 9; Cushman & Wakefield (2009), p. 6; Cushman & Wakefield (2010), p. 5.

The “European Green City Index” (developed by Siemens in cooperation with the Economist Intelligence Unit) examined 30 European cities that play an important role in environmental protection. The purpose of the study is to evaluate the 30 cities from eight categories of aspects: CO2 emissions, energy, buildings, transport, water, waste and land use, air and “Green” governance. The complexity of the “European Green City Index” is unique. The eight categories are based on 30 individual indicators – 16 of them are quantitative (e.g. water and energy consumption per capita, the rate of recycling and use of public transport) and 14 qualitative (e.g. targets of CO2 emissions reduction, efficiency standards for buildings and supporting environmental protection measures). The first five places are occupied by (see Table 6): Copenhagen, Stockholm, Oslo, Vienna and Amsterdam (Siemens & Economist Intelligence Unit, 2009).

Table 6. Top 10 European Green City Index

City	Rank 2009	Rank 2008	Score 2009	Score 2008
Copenhagen	1	1	87.31	87,2
Stockholm	2	2	86.65	85,6
Oslo	3	3	83.98	84,6
Vienna	4	4	83.34	84,2
Amsterdam	5	5	83.03	84,1
Zurich	6	6	82.31	83,1
Helsinki	7	7	79.29	80
Berlin	8	8	79.01	79,6
Brussels	9	9	78.01	79,5
Paris	10	10	73.21	79,2

Source: Siemens & Economist Intelligence Unit (2009)

The “Smart Cities” report was conducted by the Department for Spatial Development, Infrastructure and the Planning Centre for Space Technology at the University of Vienna in 2008; it is a study on the competitiveness of cities and sustainable urban development. The study does not focus on large cities, but on the medium-sized cities in Europe (a sample of 70 cities was used). The reason for this choice was that, although most of the urban population lives in these cities, studies in this area focuses on large cities, leaving unexplored issues facing medium-sized cities. The “smart” city is defined as that city who meets performance based on six criteria: economics, population, government, transportation, quality of life and environment. Each feature of the smart city was divided, in turn, into 31 factors. Top 5 “intelligent” cities: Luxembourg, Aarhus (Denmark), Turku (Finland), Aalborg (Denmark) and Odense (Denmark) (Giffinger et al., 2007).

The study “Europe’s busiest cities” has been prepared by specialists from TomTom – a company specialized in manufacturing navigation systems – based on the data collected from over three million users in Europe (the research covered only cities with over 500,000 inhabitants) and were analysed for several years. Data about the position and speed were anonymously collected from GPS devices in cars. When cars were running at a speed less

than 70% of limit, the traffic in that city was considered to be congested. The first five places were occupied by: Brussels, Warsaw, Wroclaw (Poland), London and Edinburgh (TomTom, 2010).

The “EU Regional Competitiveness Index” was a joint project endeavoured by the DG Joint Research Centre and DG Regional Policy. The main purpose of the index was to highlight the economic performance and competitiveness at regional level NUTS 2 for all EU Member States (Annoni & Kozovska, 2010).

The study “European Cities & Regions of the future 2010/2011”, performed based on a independent database that compares global locations based on their attractiveness to foreign investors, FDI Benchmark, has focused on the classification of a number of 223 cities and 142 European regions, given certain criteria considered important for the future development of regions and cities (economic potential, human resources, cost effectiveness, quality of life, infrastructure, favourable business climate, the strategy of promoting foreign direct investment). London was declared FDI Magazine European city of the future, followed by Paris and Moscow. Bucharest, Warsaw and Budapest have taken place 18, 22 and 25 in this top.

The “European Barometer of Urban Brands”, created in 2008 by the British consultancy company Saffron is a tool for comparing the strengths of European cities, while the competition between them has increased due to wider integration, favourable travel conditions in the area of the Old Continent, the rediscovery of local identities and cultures (Hildreth, 2008). The barometer measures the strength of urban brands and evaluates the effectiveness of branding in the exploitation of assets held by cities. The study covered 72 European cities, most with over 450,000 inhabitants, but also big cities such as Manchester, Bristol, Cardiff, Leeds and Newcastle (Popescu & Corboş, 2009).

CONCLUSIONS

The review of existing comparative studies of performance of cities allowed the formulation of the following relevant conclusions.

In many European countries, cities are becoming increasingly considered in terms of a global economic hierarchy rather than of national or European hierarchies. For example, planning systems in France and Germany show that cities have outlined their own policies regarding investment in transport, basic education and higher education, research and development facilities through which they try to be competitive at international level.

Many comparative studies have shown the existence of a strong polycentric system and increasingly integrated by cities all around Europe, also revealed by the existence of a higher degree of interdependence between higher levels of urban hierarchies in Member States.

At the head of the urban hierarchy, large cities lose their status as industrial centres and increase the number of jobs in the services sector. While new towns appear, urban areas whose economy was based on traditional industry lose their reason to exist and must find new sources of investment and jobs. Restructuring the economy involves both spatial reorganization of society and social reorganization of space.

The size of cities is an important issue that cannot be neglected. One of the problems is the question whether big cities are different from other smaller urban areas and if they need

special treatment in terms of policy to be implemented. The reality is that size really matters, and large areas have often substantial benefits in the form of hard and soft infrastructure, which gives them the chance to become even more successful.

Cities benefiting from a good environment, distinctive architecture, cultural facilities, various types of settlements, access to the various beauties of nature always try to preserve and improve them. Munich, Lyon and Barcelona have various combinations of these characteristics, and their policy makers try to increase their value. Another element which played also a significant role in developing communities and contributing to their value increasing is represented by sport and cultural events or projects (Munteanu, 2010). Cities that were not as lucky as the ones mentioned before, are trying to create their own beauties and advantages. Dortmund and Rotterdam are examples of cities that are always looking for ways of improving their offer towards businesses and retain a qualified workforce.

What is going on in European cities indicate that urban areas should do everything they can to maximize the critical success factors: innovation, diversity, connectivity, highly trained and skilled workforce, quality of life and strategic decision-making capacity. It is necessary for cities to:

- a) develop long term strategic vision of its own role and economic path;
- b) build strategic alliances with private partners;
- c) develop sub-regional alliances and initiatives in this regard;
- d) improve existing internal and external connections;
- e) develop a local strategy for innovation;
- f) encourage skilled workers to live in the city and contribute to its development;
- g) encourage universities and academic centres to recognize their important contribution to the local economy;
- h) develop cultural infrastructure and improve the quality of life.

Cities that respond best to economic change are those that the least dependent of a single sector. Cities that depend on one sector - be it the old sector (e.g. mining, metallurgy, transportation) or new and modern sector (e.g. services, mobile telecommunications, culture and computers) are vulnerable to global economic forces. This rule applies to all European cities (e.g. Helsinki, Frankfurt, London or Liverpool). Munich is the most obvious example in this respect: its strength lies in global and local companies, large and small, manufacturing and services oriented, new and old part of the economy at the same time. The city has consistently sought to diversify its economic base and by boosting activity in different sectors, without discrimination. The message sent to European cities refers to the need to diversify and deepen the already existing strengths. Nobody believes that a city can build new and stronger elements if it currently lacks strength. The solution is to work with what is within reach and constantly upgrade it. There is some debate about the relative merits of the old economy compared to the new economy. The lesson learned from successful European cities is that both count.

The most successful cities have a physical and electronic infrastructure able to “move” goods, services and people quickly and efficiently. Connectivity is crucial to urban development. Experience has shown the great importance which policy makers in Europe and the private sector give to connectivity in terms of economic competitiveness. Connectivity is partly a physical trait (trains, airplanes, and highways) linked to communications and partly cultural feature. Large companies that had to decide in which cities they should invest have consistently considered these factors. Connectivity is a key priority for those who want to attract investment and encourage exports. Cities that have

good connections try to improve them. Urban areas that do not have, wish them even more. Of course, transportation is a complex area and there is not necessarily a one to one relation between the provision of facilities and economic dynamism, but there are some important correlations.

Qualified workforce is a critical feature of competitive cities. Modern economies are becoming increasingly dependent on knowledge intensive sectors, even when it comes to the manufacturing sector. However, the essential feature does not consider just the mere presence of a skilled workforce, but refers to a relationship between providers and beneficiaries of this workforce in universities, research institutes, government and private sectors. Marketing intellectual knowledge is the key to innovation.

Innovation is the key to urban economic competitiveness. Urban areas must take into account what is present in the local system of innovation and develop in line with the "ideal" characteristics. A fully functioning local system of innovation and competitiveness must include:

- a) A number of nodes in the innovation chain, which not all should be located in a particular city;
- b) Systematic and interactive links both internal and external between these nodes;
- c) A number of companies and knowledge generating institutions (such as high-tech companies or universities) that are designed to search inventions wherever they could be found and transforming them into commercial products and services;
- d) Soft infrastructure, including a creative and value adding culture;
- e) Financing in the form of pre-commercial public funds and private commercial capital;
- f) Sales and marketing, where new ideas are transformed into new products and services; but they must be properly adjusted to national and international markets;
- g) The final element is given by exports. They need political support in the form of interaction between actors involved and long-term strategic policies.

Systems, institutions and organizations are shaping competitiveness. But the processes and policies are equally important. What is happening in cities across the world creates the same themes: the significance of networks and relationships among the leading factors in the public and private sector, the crucial importance of politicians for sound-shaping strategies and influencing key programs, the significance of alliances in influencing the decisions of regional and national decisions. Such factors may contribute, for example, to explaining the relatively low performance of Milan, compared to the substantial improvements made by Torino in recent years.

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