

Urban Dynamism within the Vienna-Bratislava Metropolitan Area: Improving Regional Competitiveness and the Constructed Regional Advantage Concept

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The paper focuses on the Bratislava metropolitan area (BMA) and its strategic positioning within the broader cross-border metropolitan area (VBMA). It provides a review of the internal/external urban dynamism of BMA and other processes ongoing within VBMA. We introduce the constructed regional advantage (CRA) concept and indicate factors which contribute to the higher socio-economic dynamics of Bratislava and VBMA. Our focus is on two inter-related areas: industrial sector development and urban dynamics. The idea is that only a sufficient level of urban dynamics allows VBMA to generate an adequate complexity of activities, which can promote regional competitiveness. The CRA concept is used here for better understanding of existing developmental factors in territorial cooperation. It allows one to look at various knowledge bases existing in VBMA and to show that regional similarities/complementarities can contribute to dynamic changes within this area.

Key Words: constructed regional advantage, urban dynamism, regional development, competitiveness, innovation, trans-metropolitan region

JEL Classification: R11, O18

Introduction

Global competition has stimulated more intense cross-border cooperation in Europe. An example is the cross-border metropolitan area emerging around Bratislava and Vienna – Vienna-Bratislava Metropolitan Area (VBMA). This area, representing a territory of 30 000 km², consists of three Austrian states (the Vienna Metropolitan Area – VMA) and two Slovak regions of Bratislava and Trnava (the Bratislava Metropolitan Area – BMA). The Vienna Metropolitan Area itself has three times more inhabitants (3.4 million) than has BMA (1.1 million).

The paper focuses on urban dynamism of the Bratislava metropolitan area and its strategic positioning within this broader cross-border

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metropolitan area. Unlike the well-known Austrian capital, Vienna, Bratislava has become a dynamic capital within the region only since the Slovak Republic's independence in 1993. Its economic capacities, cultural traditions and international cooperation have helped it to regain its traditional status of a multicultural city. The European Union (EU) membership has further intensified relations with Austria and other EU countries.

The paper provides a brief review of the external and internal urban dynamism of Bratislava as well as other processes ongoing within vBMA. Analyzed are some aspects affecting improvement of Bratislava's competitiveness within this cross-border metropolitan area. Given its position and economic importance, the Bratislava region has not only a predominant political position, but also the highest economic capacity in Slovakia. However, its socio-economic level of development shows substantial disparities especially when comparing urban and rural districts.

We try to introduce the constructed regional advantage (CRA) concept and indicate some factors, besides proximity of the two capitals, which contribute to higher dynamics of the area. Especially, we focus on two inter-related, areas: (a) industrial sector development, and (b) urban dynamics. The idea is that only a sufficient level of urban dynamics of both capitals allows vBMA to generate adequate complexity of activities, which promote regional competitiveness. The CRA concept is used here for better understanding of existing developmental factors in territorial cooperation. It allows looking at various knowledge bases existing in vBMA and to show that regional similarities/complementarities can contribute to dynamic changes within this trans-metropolitan area.

The structure of paper is as follows. Part one explains the concept of constructing regional advantage. Part two covers the strategic positioning of Bratislava within vBMA and the internal urban dynamism of BMA. In the third part are presented various aspects related to the external urban dynamism of BMA and vBMA's development. The final part provides the conclusion.

Constructed Regional Advantage Concept

Improvement of governance structures can increase the potential of a region to involve the whole scale of regional stakeholders in designing its future. This process is in line with the CRA concept, developed in Asheim et al. (2006), which allows for better use of regional advantages and may explain the formation of regional capabilities for implementa-

tion of regional development policies and local projects. The constructed regional advantage concept provides key recommendations – among them are the importance of territorial competence bases (including people/business climate and regional knowledge infrastructure); small and medium-sized enterprises and entrepreneurial policies (especially technology-based entrepreneurship) and governance dimensions of upgrading and building regional innovation systems as creative knowledge environments. The concept requires identification of the basic building blocks for developing this approach by using several dimensions: (1) related variety, (2) differentiated knowledge bases, and (3) distributed knowledge networks. These elements provide the foundation for formulating trans-sectoral platform policies for potential applications across a wide range of industries (Asheim et al. 2006). The core of change is formed by the elements of the regional advantage of each region. This regional development approach is based on the idea that any region can become innovative and specialized. The dynamics of structural transformation then depends on how dense is the institutional environment and how networking functions in the region.

Asheim et al. (2006) also show that the value of the CRA concept is that it changes the region's existing policy and product mix. Successful regions are also able to establish strategies that substantially change the reality. The variety of available CRA policies determines how rapidly the country's regional advantage emerges. Following the CRA concept helps to mobilize regional potential because it widens the scope of public participation in searching high-productivity activities and makes structural changes easier. It is therefore a proper tool for increasing regional competitiveness. This concept allows more attention to be given to the role of the public sector and policy support, preferably in public-private partnerships, by acknowledging the importance of institutional and economic complementarities in knowledge economies. Institutional specificities form the context within which different organizational forms and mechanisms for learning, knowledge accumulation and use evolve. Instead of market failure, the rationale for policy intervention is the reduction of interaction or connectivity deficits, which lies at the core of a networked regional innovation systems approach (Asheim et al. 2006).

The idea behind CRA is that the regional effects arise from individual regional strategies and specialization. Regional success is thus reached by focusing on strategies specific to the region. This CRA policy platform represents interaction of (1) stakeholders – in our case all main

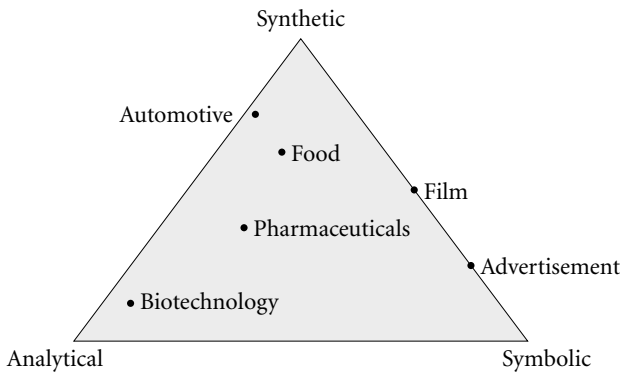


FIGURE 1 Three types of knowledge bases – CRA concept (adapted from Asheim 2006)

actors operating within VBMA and some relevant actors from the national government, (2) technologies, and (3) support instruments. This approach takes the state, firms and civil society actors as the actors forming together regional partnerships increasing regional competitiveness, exerting certain control over the region and better balancing the existing competition-cohesion trade-off. Using the concept, regional strategies are designed and applied to improve regional capabilities contributing thus indirectly to competition-cohesion balance. Although specifics apply to individual regions, certain practices are common to successful regions and make them different from the less successful ones.

The CRA concept makes distinction between various types of knowledge bases. There are three main types of them: analytical, synthetic and symbolic knowledge bases. In the Austrian part of VBMA synthetic and analytical knowledge bases (in automobile and biotechnology sectors) dominate, whereas in the Slovak part synthetic knowledge base (automobile sector) represents the main type of knowledge base. Nevertheless, practically all three types of knowledge bases are presented in VBMA. Figure 1 provides a simple scheme of the knowledge base types with its individual elements – synthetic, symbolic and analytical knowledge bases – and with the position of some sectors.

Enhancing regional productive capabilities is an integral part of economic development. The broader is the knowledge base that the regions are able to build and maintain, the higher is their innovative capacity. This idea is also explained in Asheim et al. (2006), where the authors state that innovative capabilities in different regions can change substantially. Regional performance relates to underlying regional assets, social capi-

tal and policies. Factor endowments of a region substantially determine specialization patterns, but that does not mean that regional strategies are not important. While the effects of regional changes are given by a region's overall productive capacity and social capital, economic policies and institutions also matter. Regional strategies on the other hand also play a positive role in shaping regional production structures. Poor policy can weaken an emerging knowledge base, but the question is whether regional policy can play a substantial role if regional assets are weak. Successful innovative regions have always tried to increase their regional advantages and diversify into new innovative activities that stimulate regional growth. High-performing regions have gradually changed their production profiles so that they are now oriented towards highly innovative products. European regions, like VMA and BMA, have, if supported by a CRA-related policy concept and given their skills and capital endowments, a good potential to make substantial progress. Regional assets are similar among European regions, but weaker regions often fail to stimulate regional development based on shared vision. Only continuing regional transformation and the process of diversification of regional activities can help. In addition, the regional effort to acquire technology from abroad is also contributing to higher competitiveness.

VBMA has a potential to be more innovative, dynamic and integrated by applying the CRA concept. However, so far there has been only a limited attempt in this way because the concept itself is relatively new and so it can take time for it to be applied within the area. To see the current situation in BMA, we can look at the dynamics of this area starting with the intra-metropolitan dynamism of Bratislava first and then moving to inter-metropolitan (Bratislava-Vienna) dynamism.

Intra-Metropolitan Urban Dynamism

GENERAL DEVELOPMENT

Bratislava developed its social capital due to its traditionally open cultural environment with the multi-lingual community before 1948. Unfortunately, there was an 'isolationism' era applied by the communist regime until 1989. Since that time, Bratislava has gradually become a catalyst for culture, innovation, production and international operations. Important social elements, like trust and social cohesion, which make it possible to create an environment characterized by intensive interactions among various actors, to generate innovative ideas and to share common

values and knowledge, helped the capital to increase its competitiveness. In addition, Bratislava has a favorable location within Slovakia and the whole Bratislava region has some comparative advantage compared with other Slovak regions.

The internal urban dynamism and competitiveness of the region depend, in theory, on several factors, like, e. g., production capacities and quality of facilities, quality and availability of labor force or market size. The potential and efficiency with which are capacities used determine performance of the region. Bratislava has the highest economic potential within the country, and the Bratislava region is the only Slovak region where the level of gross domestic product (GDP) exceeds the average value of the European Union's GDP (OPBK 2007). Also other main statistical indicators of the social and economic situation of regions at NUTS II level show that the Bratislava region is in a much better position compared to other Slovak regions. Bratislava itself has relatively high productivity, low unemployment and lower social exclusion than the rest of the country, which makes cooperation within VBMA easier.

Already the Strategy for Bratislava County from 2003 focused on two main goals: (1) enhancing of the creation of firms to create jobs, and (2) efficient use of local resources. Among specific goals were at that time, e. g., modernization of the economy through the new technologies and existing regional capacities or improvement of socio-economic conditions in rural areas. Nowadays, Slovak regional policies and development strategies are based on existing European programming schemes. The development of BMA is based on several main strategic documents, which also follow the objectives outlined in the Lisbon strategy (e. g., National strategic reference framework 2007–2013 (NSRR 2006) or the Operational program Bratislava County (OPBK 2007). However, various periods, similar goals and different forms of funding and priorities in the documents complicate reaching such strategic regional objectives. Development strategy – Single Programming Document NUTS II (JPD2) (2004–2006) focused on support of sustainable development of the target area to make efficient use of local potential. The strategy identified less developed areas and addressed them in the context of existing regional disparities. In its document, passed by the regional parliament in 2007, the Bratislava region set a strategic framework for development of the region. The focus of the framework was on:

- improvement of conditions for growth and development of economic activities;

- support of use of innovative technologies in prospective industries (an attempt to avoid the old technology lock-in effect);
- more efficient use of internal regional sources (here is the direct link to the CRA concept);
- improvement of environmental quality.

Despite the fact that some conceptual link to CRA concept exists, the defining regional development strategy for the programming period 2007–2013 is based on traditional policy approaches. The first, structural, approach focuses on aspects of structural convergence and it defines the types of activities which need support in the programming period. The second, regional, approach focuses on territorial allocation of these types of activities. The results of a socio-economic analysis show that to further balance development and competitiveness within the Bratislava region requires focusing on priorities like development of regional transport, information technologies as well as support of R&D and innovation (OPBK 2007).

Currently, the regional dynamics is mostly generated by operations of automobile-oriented foreign multinationals and hence the synthetic knowledge base, using CRA typology, is the predominant knowledge base in BMA. Policy options in the orientation of Slovak industrial production have been and remain to be quite limited despite the fact that the factors behind this development are changing. Slow transition of the region to a knowledge-based economy can potentially lead to a decrease in competitiveness of important industries in the region due to the growth of relative unit labor costs and the threat of corporate relocations. Unfortunately, within BMA there is no embedded complex system of intensive firm-to-firm or firm-to-university cooperation, which would create new opportunities for dynamic development. Table 1 shows existing differences in production structures between Bratislava and other Slovak regions. Unfortunately, national inter-regional cooperation is still rather weak, which is a feature typical of many countries with a center (usually capital city) – periphery divide.

The table also confirms that Bratislava represents the region with the highest level of services, a trend continuing since 2000. Western Slovakia region – the one closest to Bratislava – permanently reports the highest gross value added due for the industrial sector, due to the high presence of the automobile industry. Total figures for Slovakia, however, show very stable shares of the industrial sector during the period 2000–2006.

Despite some improvement of the situation in Bratislava, provision

TABLE 1 Industrial structure of creation of gross value added in regions (in %, current prices)

Region	2000				2002			
	AGR	IND + BUI	SERV	Total	AGR	IND + BUI	SERV	Total
Bratislava	1.1	28.9	70.0	100.0	1.0	28.0	71.0	100.0
Western Slovakia	7.4	42.5	50.0	100.0	7.6	48.3	44.1	100.0
Central Slovakia	4.5	34.7	60.8	100.0	4.5	34.1	61.4	100.0
Eastern Slovakia	3.9	30.0	66.0	100.0	4.1	29.9	66.1	100.0
Total	4.5	34.8	60.7	100.0	4.6	36.2	59.3	100.0
Region	2004				2006			
	AGR	IND + BUI	SERV	Total	AGR	IND + BUI	SERV	Total
Bratislava	0.9	27.5	71.6	100.0	0.9	27.0	72.1	100.0
Western Slovakia	7.7	48.5	43.8	100.0	7.8	48.6	43.6	100.0
Central Slovakia	4.4	33.7	61.9	100.0	4.1	28.3	67.5	100.0
Eastern Slovakia	3.7	29.6	66.7	100.0	3.5	29.3	67.2	100.0
Total	4.5	35.9	59.6	100.0	4.4	34.6	61.1	100.0

NOTES Total figures are rounded to 100 in cases where the rounding procedure of individual categories leads to a total figure higher or lower than 100%. Source: OP BK (2007).

of flexible, accessible and efficient public services, as a precondition for progress in other areas, has to be further improved. Support of research and development (R&D) and innovation in the CRA is concept crucial for the regional development. For restructuring of the BMA's industrial base it is also important to have applied R&D and innovation transfer to small and medium-sized enterprises (SMES). 'Innovation strategy 2007–2013' therefore supports certain priorities – electronic, engineering and chemical sectors and horizontal activities (information and communication technologies – ICT – and nanotechnologies) (OPBK 2007). Horizontal activities are crucial for further development of industrial sectors. Table 2 shows, for illustration, some science, research and innovation indicators for Slovakia, Bratislava region, EU-15, and EU-25. It is no surprise that in most indicators average figures for Slovakia are lower than those for EU-15 or EU-25. Also not surprising is the fact that Bratislava has higher average values than are the figures for Slovakia for most indicators from the table (except for HTI).

Bratislava has relatively fewer structural problems in the area of R&D and innovation. The region also has good preconditions for further development of its related variety and other socio-economic capabilities.

TABLE 2 Comparison of main science, research and innovation indicators (in %, except PAT)

	HRST	HTI	HTS	GOVERD	BERD	PAT
BA	54.9	6.49	4.76	0.57	0.39	31.88
SK	33.6	9.72	2.53	0.16	0.25	7.68
EU-15	44.4	6.87	3.52	0.24	1.24	160.65
EU-25	43.1	6.81	3.38	0.24	1.20	136.11

NOTES BA – Bratislava region, SK – Slovak Republic, HRST – human resources in science and technology (% of total workforce), HTI – medium and high tech industry (% of total industry), HTS – high tech services (% of total employment), GOVERD – governmental expenditures on research and development (% in total gov. exp.), BERD – business expenditures on R&D (% of expenditures on GDP), PAT – number of patents at European Patent Office (EPO) per 1 mil. population. HRST is defined according to the Canberra Manual as a person fulfilling at least one of the following conditions: (a) successfully completed a tertiary level education, or not formally qualified as above, but employed in a s&t occupation where the above qualifications are normally required (see http://europa.eu.int/estatref/info/sdds/en/hrst/hrst_uni_stocks.pdf). Source: Eurostat, data from 2006 or the latest available year.

Some half of the Slovak R&D capacity is concentrated in the Bratislava region (nearly half of all R&D organizations in Slovakia) and the main part of the regional R&D base is located there (OPBK 2007). Regional development focuses on stimulation of innovative capacities and development of knowledge-based firms, as technological firms can substantially improve regional economic performance. For BMA, as the most developed Slovak region, is difficult to expect extensive state support, which usually goes to the regions with the highest unemployment. Public investments for solving the most urgent developmental tasks were primarily oriented towards backward and structurally affected areas of Western, Central and Eastern Slovakia, which has had a negative impact on the Bratislava region.

The National strategic reference framework, guaranteeing progress in reaching strategic goals of Slovakia until 2013, is at the national level based on a hierarchical set of strategic, specific, and operational priorities. This set of priorities is applied also within the objective ‘Regional competitiveness and employment.’ The Operation program Bratislava County, for programming period 2007–2013, estimates the financial allocation for Objective Regional competitiveness and employment at 100 mil. EUR. Funding from this objective should be combined with the European Regional Development Funds and the European Structural

TABLE 3 Allocation of financial resources for public works

Region NUTS II	2005		2006		2007	
	sKK mil.	%	sKK mil.	%	sKK mil.	%
Bratislava region	898.5	9.4	3340.5	18.9	216.5	2.0
Western Slovakia (Trnavský, Nitra and Trencin regions)	2761.8	29.0	1653.6	9.4	1021.5	9.1
Central Slovakia (Banska Bystrica and Zilina regions)	3739.2	39.3	8582.0	48.6	4924.8	43.9
Eastern Slovakia (Kosice and Presov regions)	2120.7	22.3	4089.0	23.1	5047.0	45.0
Slovakia	9520.2	100.0	17665.1	100.0	11209.8	100.0

NOTE Source: OPBK 2007.

Funds. However, the financial volume seems insufficient for financing of existing regional needs. Bratislava Metropolitan Area, except Bratislava, is predominantly rural, which means there are substantial disparities in socio-economic level between urban and rural districts. Operational priorities are therefore designed to allow balanced regional development.

The constructed regional advantage concept in its policy platform stresses the role of infrastructure broadly conceived. Financing of public works, as it enhances infrastructural capacities, is therefore important. The review of financial sources allocated for public works related to the National development plan and Community support program in individual Slovak regions (only co-financed by structural funds and Cohesion fund) shows that, in 2005, 4.5% of all allocations of such financial resources went to Bratislava region. In 2006, the percentage was 6.7%, but this percentage declined to only 1.1% in 2007 (compared with, e.g. Western Slovakia, where this share was 33.2% in 2007). A similar situation in financial allocation holds for all types of financial resources for public works. The detailed review is presented in table 3.

Automobile firms, representing the main synthetic knowledge base industry in the region, but also new technology based SMEs create qualified jobs and help to maintain human resources in the region. Despite the fact that innovation infrastructure in BMA is, compared with the developed European regions, relatively weaker, it is becoming important for the emergence of incubators and technology centers. Developing phys-

ical infrastructure remains among the key measures that support new innovative firms. Parks and incubators in the region also enhance commercialization of R&D knowledge. Location of automobile production plant (VW) as well as logistics and transport infrastructure are important factors attracting investors to BMA. The Euro-Valley Industrial and Technology Park in BMA and the new business incubator at the Slovak technical university in Bratislava represent another way to attract innovative firms. Such projects contribute to the development of the regional innovation system, but dynamic development requires adequate changes in legislative, planning and investment activities. State policy in university education and R&D is also important in this respect.

The specific set of initial socio-economic conditions and institutional changes caused by EU membership (such as the Lisbon strategy or CRA policy concept) may assist BMA to build and enhance its economic capabilities and social capital. The disturbing effect of income inequality on social capital requires policies aimed at reducing income inequality. The government should also eliminate potential social tension and build trust in public institutions through public debates and consultation with stakeholders.

SUPPORT INSTRUMENTS: CASE STUDY OF BMA'S MAIN BUSINESS FACILITY INFRASTRUCTURE

Over the past decade, transport links within VBMA have improved, but there is still potential for further progress. Some modernization of the rail and road network, such as direct highway connection between Bratislava and Vienna opened in 2007, has further improved the situation, but some gaps persist. To allow more dynamics in business activity in Bratislava, there are various projects for upgrading transport infrastructure (e. g., modernization of the Bratislava railway station with expected costs 11.3 bn SKK) or the main public transport system (MHD Metro Bratislava, 17.4 bn SKK). Transport-related infrastructure remains among priorities. Another important initiative is to increase networking activities. The constructed regional advantage concept applies the idea that any region has to keep and intensify regional advantages, be they based on innovative or traditional sectors. Some of the foreign firms, especially in biotechnology and automotive sectors that are located in Vienna have their regional headquarters in Bratislava. The higher presence of foreign firms in BMA and Bratislava requires more business center capacities. Business infrastructure, like, e. g., office space in business

TABLE 4 Existing and new business centre projects in Bratislava

(1)	(2)	(3)	(4)	(5)	(6)
Existing	ABC	Bratislava	70,000	1000	Opened 2005
	MT I	Bratislava	19,600 OS	325	Opened 2003
	MT II	Bratislava	21,000	n. a.	Opened 2003
	BBC I	Bratislava	20,640 I + II	207 I + II	Opened 1998
	BBC II	Bratislava	20,640 I + II	207 I + II	Opened 1998
	BBC III	Bratislava	19,860 III + IV	450	Opened 1998
	BBC IV	Bratislava	19,860 III + IV	III + IV	Opened 1999
	T 115	Bratislava	32,100 OS	450 III + IV 650	
Running	CBC I	Bratislava	67,000 I + II	650 I + II	Opened 2006
	CBC II	Bratislava	67,000 I + II	650 I + II	Opened 2007
	LP	Bratislava	24,400 OS	500	Opened 2008
	ABC II	Bratislava	71,240 OS	1720	
	AT	Bratislava	29,130 OS	n. a.	
	BCA	Bratislava	4,280	n. a.	
Planned	CBC III	Bratislava	109,000 III + IV + V	n. a.	
	CBC IV	Bratislava	109,000 III + IV + V	n. a.	
	CBC V	Bratislava	109,000 III + IV + V	n. a.	
	LP II	Bratislava	90,000	n. a.	
	LP III	Bratislava	II + II + IV OS	n. a.	
	LP IV	Bratislava	90,000 II + II + IV OS 90,000 II + II + IV OS	n. a.	

NOTES Column headings are as follows: (1) business centre projects, (2) name, (3) location, (4) capacity (total space, space sq. m.), (5) parking capacity (units), (6) comments. OS – office space, ABC – Apollo Business Centre, MT – Millenium Tower, BBC – Bratislava Business Centre, T 115 – Tower 115, CBC – City Business Centre, LP – Lakeside Park, AT – Aupark Tower, BCA – Business Centre Aruba.

centers, is therefore extremely important. Many new projects have been prepared and developed and some of them have already been completed since the 1990s.

The following tables (table 4, 5 and 6) demonstrate the scope and size of these projects. The rapid increase of office space capacities has led to some positive effects. The current worldwide crisis, however, negatively affects further progress of this investment trend as conditions for developers imposed by banks become tougher. Bratislava can expect that successful completion of such projects will allow for making faster progress towards a highly competitive urban-type regional economy. As the CRA

TABLE 5 Other administrative projects to be completed in 2008 and 2009

(1)	(2)	(3)	(4)	(5)
Galvani Business Center III	Lindner (Immorent)	BA II	16500	2Q2008
AB Strabag	Strabag	BA II	30000	2Q2008
AB Airport	Linstow AS	BA II	3100	3Q2008
Centropark	East–West Business Park	BA V	15000	4Q2008
Logibox	ICT Istroconti	BA II	4400	3Q2008
IP Centrum Elektrarenska	IP Development	BA III	4000	3Q2008
PO Aircraft	Aircraft Diagnostik	BA II	8100	2008
Centrala Slovenskej sporitelne	Slovenska Sporitelna	BA III	51000	2008
Centrala TNT, Vajnory	TNT Express Worldwide	BA III	2200	2008
AB Petrzalka	IDO Hutny projekt	BA V	6326	2008
Digital park – Phase II	Penta Investments	BA V	35000	1Q2009
Westend Square	J&T	BA IV	17000	3Q2008
River Park	J&T	BA I	28500	2Q2008
AB Microtech	Microtech	BA V	5500	2Q2009
Galvani Business Center IV	Lindner (Immorent)	BA II	20000	4Q2009
Business Center Vajnory	HTI	BA III	5000	2009
Bajkal	Unicredit Leasing RE	BA II	3000	2009
Emporia Towers	Quinlan Private Golub	BA V	22000	2009
OD Dunaj	Orco	BA I	5000	2009

NOTES Column headings are as follows: (1) project, (2) developer, (3) city/district, (4) rental area, (5) completed. Compiled from Trend data.

concept indicates, such facilities as support instrument can also enhance the concentration of excellent actors (e. g., scientists). Such development can promote some elements from the CRA concept-related variety and distributed knowledge network. One current example of a success is the regional center of Dell Company located in Bratislava’s city center. Table 4 provides an overview of business center projects, which are completed or in preparation stage.

There are also some other administrative projects which can attract more business actors to Bratislava. Table 5 presents a list of other important administrative projects with completion date scheduled for the period 2008–2009.

Despite the fact that investments in real-estate development are predominantly private sector initiatives, these projects have support from

the city council and therefore in most cases investors receive administrative support during acquisition of building sites and in other procedures.

External Urban Dynamism in the Trans-Metropolitan Context

Vienna and Bratislava have good preconditions for more intensive cooperation. Such cooperation can also be beneficial for their respective regions. Nevertheless, limits to cooperation still exist due to historical reasons and underdeveloped transport infrastructure. Despite the short distance between Vienna and Bratislava (only 60 km), cooperation within VBMA is complicated by existing regional heterogeneity. Developing cross-border cooperation thus means that both VMA and BMA need to integrate gradually their socio-economic structures. Certain differences remain, but disparities in income and employment across VBMA narrowed in the past decade. The external urban dynamism of BMA is also positively affected by various dimensions of European integration (including the trans-European transport network), institutional harmonization and by decentralization of administrative structures. These processes together with foreign competition pressures stimulate more intense cooperation. As this cross-border metropolitan area lacks the critical amount of cross-border institutions, setting up of such institutions can help to reduce conflicts and stimulate integration. Some steps in this direction dates back to the period 2000–2006, when the joint Austria–Slovakia INTERREG III–PHARE CBC Program (2000–2006) reinforced the cross-border contacts, promoted strategic cooperation at trans-national level on spatial planning themes and stimulated exchange of experiences between regions. INTERREG III had established five main priorities: cross-border economic cooperation, accessibility, cross-border organizational structures and networks, human resources, and sustainable spatial and environmental development. However, the effects from knowledge capital and networks formed as part of the past projects within this initiative had been rather temporal.

Austria has also introduced numerous own initiatives in the area of regional development and industrial/technology policy. One example is a strategic development plan for Vienna focusing on innovation and attraction of foreign direct investment. Since 2001 the Vienna Science, Research and Technology Fund has also started to finance research with high potential commercial value, and the Vienna Business Promotion Fund has become the main supporter of entrepreneurship (OECD 2003). As a result, industrial clusters are slowly emerging in this area, but these

are mostly in traditional industries. However, intensity of clustering in various parts of VBMA differs, and especially among local Bratislava firms is rather low. In the business sector, cross-border cooperation between industrial parks and firms within VBMA to a limited extent exists. An example is the cooperation of industrial parks in Vienna and Bratislava. One of the goals of the CENTROPE initiative (Central European Region, an institutional formation territorially larger than VBMA; see www.centrope.com and www.centrope.info) is to coordinate attraction of foreign investors to this area. Its pilot projects serve the regional aims, provide additional knowledge and help to establish basic structures for future coordination. Among such pilot projects, there were, for example, 'Bio Substances' and 'Regional Management' projects. Due to the previous decline of traditional large firms and the weak SMEs sector, foreign direct investment inflows were critical for BMA's development. Over the years, the region has attracted many foreign investors, which offered well-paid job opportunities and had a positive impact on the economy. For example, VW-related automobile exports accounting for a substantial share of national exports. However, there are only gradually growing spillover effects from foreign direct investment.

There seems to be also some potential in integrating VBMA's labor markets. Nevertheless, integration can threaten weaker groups in Vienna due to competition from Bratislava and there is a risk of migration of educated labor to VMA. Potential integration can lead to uneven development and a move of labor-intensive production to Slovakia. Therefore, despite wide liberalization of the European Union's labor market, Austria and Germany keep still their labor markets closed to workers from new member states, including Slovakia, thus reducing commuting activity.

Student exchanges between the capitals exist, but coordination of cross-border study programs is rather weak and universities in the region have problems in obtaining funding for such programs. University cross-border cooperation within VBMA is limited, as universities have their cooperation partners at national level (OECD 2003). Furthermore, there are still barriers for universities to participate in a local innovation system – a feature considered as negative in the CRA concept. Slovak universities are not very active in knowledge-based regional development and would probably not be active in cross-border regional development. The situation described has persisted for several years.

Both capitals can benefit from integration due to knowledge transfer, innovation and learning. However, certain strategies promoting integra-

tion have to be developed and some supportive measures have to be implemented. While rapid industrial development takes place in Bratislava, Vienna remains a major urban agglomeration. The Vienna innovation system with all types of knowledge bases is more efficient for commercial use of research results than the system in Bratislava. Hence, to avoid uneven development, industry incubators and technology parks should include firms from both sub-areas, investments in education (generating spin-offs to local industry) and cross-border technological park initiatives. The cooperation within VBMA includes joint projects and exchanges of experts, but Bratislava universities have less to offer in applied research (the situation is better in basic science research) and have few local partners in industry. Joint research results from cooperation relevant for industry are commercially used mainly in Vienna (OECD 2003). To become competitive, VBMA must have suitable levels of both physical infrastructure and human/social capital. The whole area needs to enhance its innovation capacity and to use its knowledge capacities effectively. Actual demographic movements do not affect substantially the situation in VBMA. Nevertheless, some partial measures, joint projects and policies of Bratislava and Vienna are helping to mitigate some negative effects. Uneven social development within the cross-border region would, thus, require a new governance framework to solve the situation.

Further cooperation, especially in the synthetic knowledge base sector (namely automotive sector) is emerging within VBMA. However, certain negative effects, like relocations of firms mostly to the East, threaten the whole area. Overdependence on certain sectors (in BMA especially on the automobile sector) can potentially lead to higher structural unemployment and erosion of social cohesion even in the areas typically reporting long-term prosperity. Integration and reconciling the competitiveness-cohesion tension within VBMA represent some of the tasks both governments are facing today. In addition, regional competitiveness is the key focus of regional government policy to ensure that firms operate in good conditions and have incentives enabling them to be competitive. Competition stimulates higher competitiveness, employment growth and increased living standards, but it also reduces the income levels of some people, which means the risk of relative poverty. Competition-cohesion balance is thus important for policymakers trying to apply CRA and other regional development concepts. Increasing benefits from a better competitive position require economic policies – like CRA – stimulating generation of a critical mass of institutional density, critical mass

of institutional flexibility, critical mass of technical infrastructure, and critical mass of educated workforce. To avoid the 'win-lose' situation, a certain level of cohesion in the region must be developed. Cities, in this respect, suffer more than other areas from problems of social cohesion and territorial imbalance. However, social capital and the quality of social relations are crucial factors for development. Nevertheless, without competition there is also no possibility of becoming globally competitive.

The Vienna-Bratislava Metropolitan Area, as already mentioned, has a good potential to develop its competitive dynamism. However, it is realistic to expect that such changes will take some time. Promotion of clustering and networking is certainly crucial for enhancing regional competitiveness. Nevertheless, some negative effects, like lock-in-effects, decrease in competitive pressures and the self-sufficiency syndrome (Nauwelaers 2003) have to be taken into account as potential risks. As high regional technological absorption capacity also means higher attractiveness for investors, social capital is important there. Social capital may have positive economic externalities locally and it can lead to higher regional social cohesion.

Conclusion

The internal and external urban dynamism depends on the complex set of international, national and local factors. This paper presents some problems regarding BMA's and VBMA's dynamics. Several factors influence this process, and policymakers are now seeking to find and use proper and innovative regional development strategies, like the CRA concept, allowing the transforming these regions into highly competitive and dynamic ones. However, problems stem from different cohesion/competition perspectives. Different social structures and various local-specific problems and disparities exist within VBMA. Policymakers must cope with these issues, possibly using the CRA approach, as the BMA's development is crucial for the prosperity of the whole country. Nevertheless, the local socio-economic conditions limit the choices available to local policymakers. Social costs of adjustment to changes are, fortunately, rather low in BMA, due to its high level of education and above-average income level. However, Bratislava addresses many issues and confronts obstacles to integration. Its dynamism requires a long-term planning process, and the framework governing the cross-border cooperation will face numerous challenges. To achieve its goals, VBMA

needs to develop further an effective and efficient institutional and governance framework.

This paper indicates that gradual development of cross-border cooperation within VBMA has also stimulated economic performance in both countries since 1989. Nevertheless, there is no empirical evidence yet as to what extent this improvement has been caused by economic and political reforms in Slovakia, EU membership or some other factors. It is shown that massive investment in both capitals creates similarities and complementarities in socio-economic structures, which allow for better networking but they also represent a potential for competitive pressures. The extent of similarities and complementarities is quite high. This contributes to higher competition in certain production segments, but also to cooperation within those areas, where complementary assets predominate.

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