

A Resource-based View of the Competitive Advantages of Cities : Empirical Results on Advantages for Headquarters in Vienna for Central Europe

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Abstract

We develop a resource-based approach to the competitive advantages of cities by combining Porter's diamond model with a resource-based view of the firm. Locations may realize sustainable competitive advantage if they offer resources and competencies that are difficult to transfer to and imitate by other locations, and if these resources are complementary to the core competencies of multinational firms. By integrating Porter's model with the resource-based view we can better analyse the competitive advantages of locations, because – in addition to Porter's diamond model – our approach includes the interaction effects (complementarities) between firm-specific and location-specific resources. Location-specific resources influence the attractiveness of locations for multinational firms, and investments of multinationals stimulate the development of location-specific resources and capabilities. We present some empirical results for Vienna as a headquarters location in Central Europe.

JEL: O12, O18

1. Problem

Human capital, specific know-how, cultural and institutional resources are becoming more and more important to generate competitive advantages for nations, regions and cities. Researchers in the economics of development and geography have discussed different views regarding their importance for achieving local competitive advantages (Glaeser 1999; Glaeser, Saiz 2003; Berry, Glaeser 2005; Florida 2002, 2005; Peck 2005). On the other hand, as Dunning (1998) argued, internationalization theories - based on theories of firm and industrial organization from the 1970s and 1980s - do not take into account location-specific resources as drivers of the long-term competitive advantages of multinational corporations. Location factors are the basis for competitive advantage if they cannot be easily transferred to and imitated by another location, and if they complement the competencies of the multinational firm (Foss 1996; Anderson 1985). These resources are called location-specific resources (Rugman, Verbeke 1992). The competitive advantage of a location (city/region) is influenced by the location's policy, if it aims to improve its competitive position by developing and upgrading its location-specific resources and capabilities (Blakely 2001). Thus the location's policy has a strategic function in international competition (Kotler et al. 1993; Sassen 2000). In this paper, we develop a resource-based approach to analyse the competitive advantages of a city by

combining the Porter-model (Porter 1990; 1998a) with the resource-based view of the firm. We derive the following thesis: a city as a headquarters location for multinational firms will achieve a competitive advantage if it offers location-specific resources that generate sustainable competitive advantages for multinational firms. In addition, we present empirical results for Vienna as a headquarters location of multinational firms for Central, East and South East Europe (CEE, SEE).

The paper is organized into three sections. Section two gives an overview of the relevant literature. First we present Porter's diamond model. He explains why multinational companies (MNCs) invest in certain nations/regions. MNCs invest in certain nations/regions/cities if these locations offer economic conditions which increase their competitive advantage. Furthermore, we discuss extensions of this diamond model. In particular, we present research results regarding the relationship between firm-specific resources and the competitive advantages of regions. In section three we develop a resource-based approach of the competitive advantages of cities by

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integrating Porter's diamond model with the resource-based theory of the firm. Finally, we present empirical results on the advantages of Vienna as a headquarters location in Central Europe.

2. Relevant Literature

2.1 Porter's Diamond Model

According to Porter's diamond model (Porter 1990), the competitive advantage of a nation/region is influenced by the following determinants: factor conditions, demand conditions, related and supporting industries, and the contexts of firm strategy, structure and rivalry. Factor conditions refer to specific human capital, technological know-how, communication and transport infrastructure, as well as traditional factors such as land, labour, natural resources and capital. Porter differentiates between basic and advanced factors: basic factors are natural resources, climate and geographic location of a region and less-qualified human capital. Competitive advantages based on elementary factors are less sustainable, because they can easily be imitated by other locations. The advanced factors are decisive for local competitive advantage since they cannot be easily imitated by and transferred to another location. They can be upgraded through investments by the multinational firms and other institutions (government, chambers, trade associations). Examples are high-qualified human capital, specific research facilities, management and technological competencies, and communication infrastructure. Additionally, the demand conditions influence the competitive advantage of a region or city. High and sophisticated local demand results in more product innovations and thus improves the firm's international competitiveness. Related and supporting industries may increase the firm's competitive advantage if the suppliers offer new technologies and products that are not available to competitors. The fourth factor of the 'diamond model' refers to the firm's strategy, structure and rivalries. Porter argues that new strategies and strong rivalry between local companies create strong incentives for product and organizational innovations. Strong local rivalry improves the firm's competitive capabilities in international markets. These four determinants ('pillars') of the diamond model are further influenced by two other factors: government and chance. The government can influence the competitive advantage of a location by incentives and regulations that stimulate the creation and upgrading of these factors. Porter's model was successfully applied in many empirical studies (Enright, Weder 1995; Porter et al. 2000; Sölvell et al. 1991; Steinbock 1998).

Rugman & Verbeke (Rugman, Verbeke 1992, 1993, 1998, 2003) extend Porter's model by differentiating between coun-

try/location-specific and firm-specific resources. Firm-specific resources are strategic assets that generate sustainable competitive advantage (Barney 1991; Amit, Schoemaker 1993). Furthermore, they differentiate between two types of firm-specific resources, i.e. non-location and location-specific resources. The latter are the basis for local competitive advantages because they cannot be easily transferred to and imitated by another location (Foss 1996; Lawson, Lorenz 1999). In the competitive international environment locations (regions/cities) can only improve their competitiveness if multinational firms can realize location-specific competitive advantages. Hence the interaction effects between location-specific and firm-specific resources influence the competitive position of the MNC. Grant (1991) and Feldman & Francis (2000) criticise Porter's model because he does not consider the interaction effects between the 'pillars' of the diamond and the strategy of the multinational firm. In particular, the interactions between the advanced factors (such as specific human capital and know-how) and the firm-specific resources and capabilities of the MNCs are very important for the creation of sustainable competitive advantages. Porter mentioned this theoretical deficit (Porter 1998c; 2000, 41; 2000) but has not offered a solution.

2.1 Firm Specific Resources and Location-specific Advantages

Following Enright (1998), Foss (1996), O'Donnell & Blumentritt (1999), Maskell & Malmberg (1999), Spender (1998), and Fahy (2002), the resource-based or competence-based theory of the firm offers a new starting point for the explanation of location-specific advantages (Barney 1986; Wernerfelt 1984; Collis 1991; Grant 1991a, Rumelt 1984; Prahalad, Hamel 1990; Foss, Knudsen 1996). The resource-based approach views the firm as a bundle of resources and organizational capabilities (competencies) which are difficult to imitate and substitute (Barney 1991; Peteraf, Barney 2003). Competencies refer both to static resources and dynamic capabilities (Amit, Schoemaker 1993; Teece et al. 1997). The latter refers to changes in organizational capabilities (learning and innovation capabilities) (Prahalad, Hamel 1990; Eriksen, Mikkelsen 1996). This approach will be used to identify location-specific resources. Just as firms achieve competitive advantages (strategic rents) by investing in resources and capabilities that are difficult to imitate and transfer (Winter 1995; Makadok 2001), locations (regions/cities) can improve their competitive position by investing in location-specific resources. Location factors are location-specific if they cannot be easily transferred to and imitated by another location (Foss 1996; Lawson 1999).

O'Donnell & Blumentritt (1999) and Maskell & Malmberg (1999) argue that interaction effects exist between firm-specific and location-specific resources. A city or region can realize a sustainable competitive advantage if it offers location-specific resources that are complementary to the firm-specific resources of the multinational firm and thus contribute to upgrading know-how. O'Donnell & Blumentritt show that firm-specific resources upgrade the know-how of a region/city and – in a dynamic view – location-specific resources increase the attractiveness of the location for the investments of MNCs. Therefore, complementarity between firm-specific and location-specific resources exists. Location-specific advantages which result from the spill-over effects of MNCs' investments in firm-specific resources and capabilities can be further increased by a 'snowball'-effect (Dugan 2000, 39), because the attractiveness of these locations stimulates further investments by MNCs (Scott 2000; Fujita, Thisse 2000). The more important the strategic decision-making role of the local headquarters of the MNCs, the more the MNC will invest in firm-specific resources and capabilities at the headquarters location, and upgrade location-specific know-how (Malecki 1999; Florida 1996). Consequently, we can conclude that the interactions between firm-specific and location-specific resources can only be examined if we apply the resource-based view of the firm to evaluate the strategic importance of location factors.

3. Competitive Advantages of Cities: A Resource-based Approach

Now we develop a resource-based view of the competitive advantages of cities by combining Porter's diamond model with the resource-based theory of the firm.

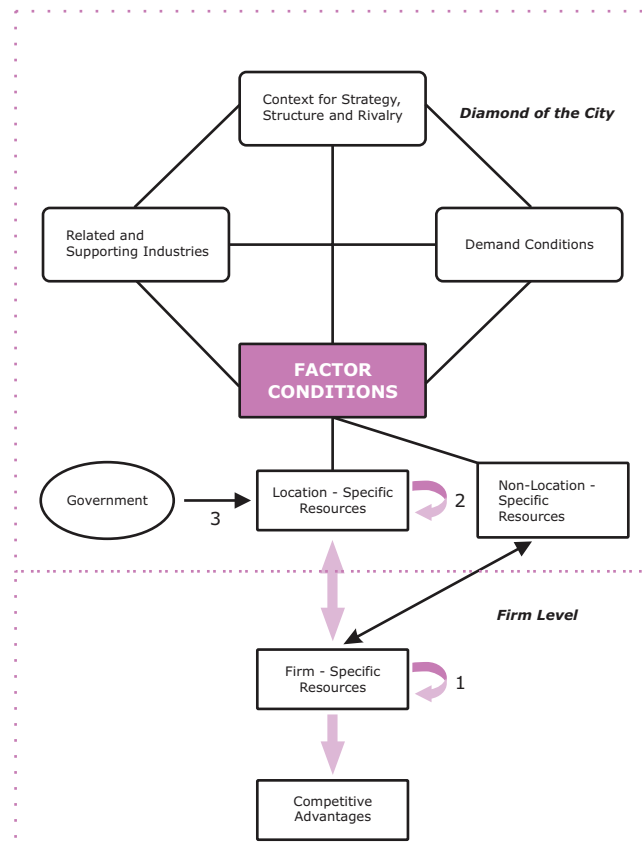
3.1 Complementarity between Location-specific and Firm-specific Resources

Following the resource-based view of the firm, sustainable competitive advantages can be realized if the companies have firm-specific resources and competencies that result in long-term profit advantages (as strategic rents) compared to their best competitors (Peteraf 1993; Peteraf, Barney 2003). These resources and capabilities enable the firms to succeed in a dynamic international environment. In order to develop a resource-based approach to the competitive advantages of cities, we have to answer the following questions: (1) What is the relationship between the 'pillars' of Porter's diamond model and firm-specific resources for the creation of sustainable competitive advantages of a MNC, and (2) how can the location's policy

influence its advantages as a headquarters for firms? Only if we can show that the determinants of the diamond model influence the resources and capabilities of the firm- and hence its competitive position- can we derive a resource-based policy for locations.

Resources and capabilities that generate competitive advantages may be location- or non-location-specific (Rugman, Verbeke 1992). Location-specific and non-location-specific resources refer to the factor conditions in the diamond model (see figure 1). Location-specific resources result in local competitive advantages if they are complementary to the firm-specific resources and capabilities of the multinational firm (Buckley, Carter 1999). Therefore, a multinational firm will invest in a certain location if the location-specific resources lead to competitive advantages compared to investments in another location.

Figure1 : A Resource-based Approach to the Competitive Advantages of Cities



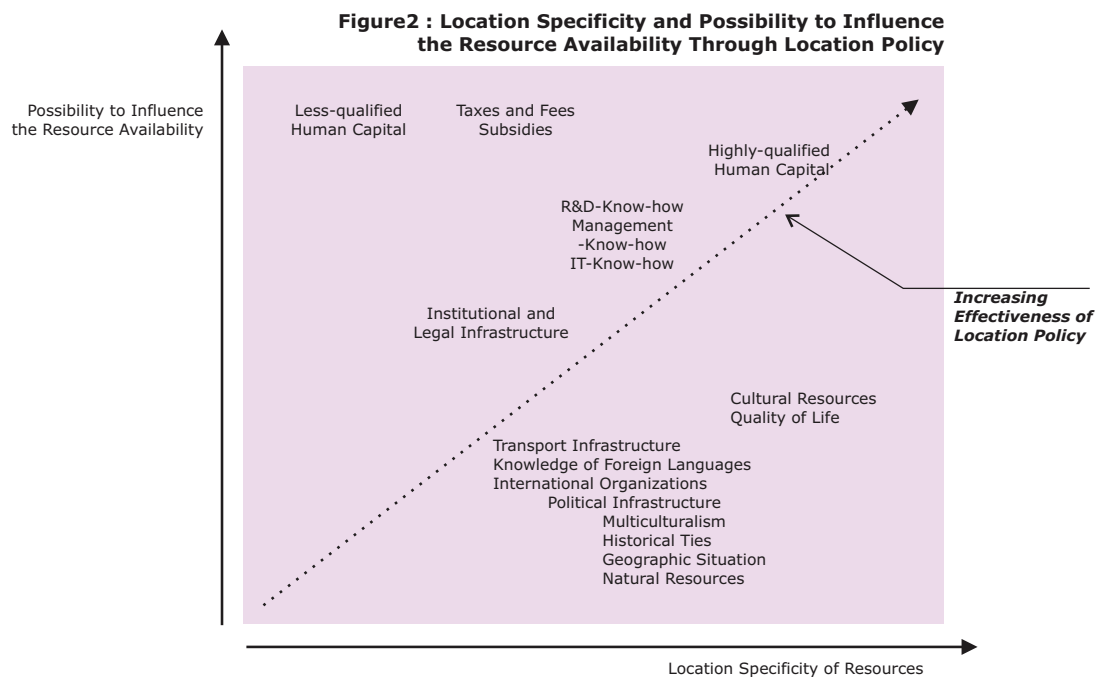
According to Porter & Sölvell (1998), specific human capital and knowledge resources primarily generate long-term competitive advantage. In addition, location-specific advantage also depends on physical and infrastructure resources (Porter 1990; 2003). The degree of location-specificity considerably varies between the different forms of resources. The

higher the degree of location-specificity, the larger the location-based competitive advantages of the firm; a change of location would mean a loss of location-specific rents (Enright 1998). The location's policy is only relevant to the MNC's decision to locate its headquarters if it is able to influence the availability of location-specific resources and competencies. The more easily it can influence the location-specific resources, the more likely a location policy may contribute to the upgrading of know-how. A location's policy can be initiated by the local government and other institutions (e.g. chambers, trade associations) to increase the availability of resources, e.g. through education, research, technology, transportation, labour market and integration measures. In figure 2 we show that the effectiveness of a resource-based location policy is positively related

resources; for instance, multiculturalism is the basis for the development of the language and cultural skills of the people.

3.2 Resource Dynamics and the Competitive Advantages of a City

The resources and capabilities of the firm and the determinants of the diamond frequently change in a dynamic international environment. Only those firms that permanently develop new products and processes by upgrading their resources and capabilities will succeed in this dynamic competition (Schumpeter 1912, Prahalad, Hamel 1990). Hence, in order to be able to permanently innovate, the firm must have capabilities to acquire and create new knowledge (i.e. dynamic



to the degree of location specificity of resources and the possibility to influence resource availability through the location's policy measures. The higher the degree of location-specificity of resources, the greater the location-bound competitive advantage, and, in addition, the more easily the availability of location-specific resources can be influenced by the location's policy. Location-specific resources that can be influenced by policy measures include qualified human capital, specific R&D and management know-how, institutional infrastructure and cultural resources. Location-specific resources largely outside the influence of policy measures include natural resources, geographic situation, historical ties and cultural characteristics. The latter determine the local competitive advantage not only by directly influencing headquarters location decisions but also by stimulating the development of other location-specific

capabilities (Teece et al. 1997), see '1' in figure 1). Furthermore, in a dynamic view, firm-specific resources and capabilities influence the development of location-specific resources by the upgrading of know-how (see '2' in figure 1), which triggers further interaction effects in the diamond model. Hence the 'stickiness' of a location increases (Markusen 1996). A resource-based location policy can positively or negatively influence the competitive advantages of a city by changing the location specific resources that are complementary to the competencies of the MNC (see '3' in figure 1).

To summarize, the resource-based view of competitive advantage of a city can be stated by the following propositions:

- (I) A city can realize a sustainable competitive advantage if it offers location-specific resources that are complementary to

the firm-specific resources and capabilities of the MNC.

(II) The location's policy is effective if it positively influences the development and upgrading of location-specific resources

4. Advantages for Headquarters in Vienna for Central Europe: Empirical Results

We investigated the competitive advantages of Vienna as a headquarters location for MNCs in Central Europe. In particular, we examined the advantages/disadvantages of Vienna as a headquarters location (specifically as a CEE/SEE-headquarter location) compared to the second-best headquarters location in Central Europe. The city is a headquarters location as regional home-base for MNCs that coordinate business activities in CEE/SEE (Central, East and South East European countries) from Vienna. In 2001 and 2002 we sent out questionnaires to 134 CEE/SEE-headquarters in Vienna and received 51 questionnaires; 7 could not be used due to lack of data.

4.1 Characteristics of the MNCs

Before examining its advantages for headquarters we present some characteristics of the MNCs in Vienna.

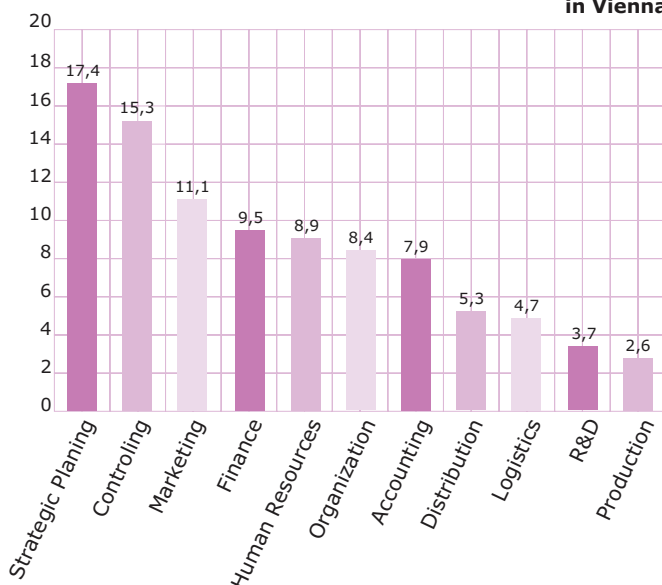
4.1.1 Industry, Size of the Firm and CEE/SEE-Markets

Most of the companies are in the chemical, pharmaceutical, cosmetics, banking, insurance and service industries, and almost 60 percent of the firms have more than 100 employees at their CEE/SEE-headquarters in Vienna (see table 1). The CEE/

Table 1 : Characteristics of the Companies: Industry, Company Size and Markets of the CEE/SEE-Headquarters

Industry	Percentage
Chemical/Pharmaceutical/Cosmetics Industry	29
Banking/Insurance/Services	16
Supplies	12
Machine Industry	9
Food Industry	7
Steel and Metal Processing Industry	7
Construction Industry	5
Appliances/Electronic Entertainment	5
Agricultural Products	2.2
Energy Industry	2.5
Tobacco Industry	2.5
IT-Industry	2.5
Size of the Firm	
< 10 Employees	5
10 - 100 Employees	35
> 100 Employees	59
no data	1
CEE/SEE Markets	
Czech Republic	43
Hungary	43
Slovakia	41
Slovenia	34
CEE (general)	32
Romania	32
Croatia	30
Poland	25
Bulgaria	20
Serbia and Montenegro	16
GUS-States	14
Bosnia and Herzegovina	9
Macedonia	9
Baltic States	7
Albania	7

Table 2 : Competencies of CEE/SEE-Headquarters in Vienna



SEE-headquarters coordinate the following markets from Vienna. Most of the companies are present in the Czech Republic (43 %), Hungary (43 %), Slovakia (41 %) and Slovenia (34 %) as direct neighbours and almost one third of the companies are generally active in the CEE-countries (see table 1).

4.1.2 Competencies of CEE/SEE- Headquarters in Vienna

Which decisions are made by the regional headquarters in Vienna? This question is very important because it shows the strategic role of the CEE/SEE-headquarters for MNCs. The more strategic decision making competencies are transferred to the headquarters, the stronger the headquarters' influence on local investment decisions. The data in table 2 indicate that CEE/SEE-headquarters in Vienna have an important strategic role; more than 40 % of all decisions refer to strategic, control and organi-

zational decisions.

4.2 Specific Resources and Advantages for Headquarters

Following our resource-based approach developed in section three we examine the following hypothesis: Vienna can realize a competitive advantage compared to the second-best CEE/SEE-headquarters location if it offers location-specific resources and capabilities. Since we do not have data on firm-specific resources and capabilities of the MNCs, we cannot examine complementarity between firm-specific and location-specific resources.

4.2.1 Measurement of Advantages for Headquarters

We measure the advantages for headquarters as follows:

- Based on Porter's model (1990), we differentiate between the following location factors (see appendix 1): Physical, human, knowledge, cultural, political and social resources.
- Evaluation of the strategic relevance of the location factors for the MNC. We asked the following question: how important are the location factors for the realization of long-term competitive advantages of the MNC? (1 – not important; 5 – very important).
- Determination of local advantages and disadvantages. We asked the following question: to what extent do the location factors - listed in appendix 1 - lead to advantages/disadvantages of Vienna as a CEE/SEE-headquarters location compared to the second best headquarters location in Central Europe? (disadvantage: - 3 to -1; advantages: +1 to +3; no advantage/no disadvantage: 0).
- The overall evaluation of strategic advantages/disadvantages for headquarters is carried out by multiplying the location advantages/disadvantages with the strategic relevance factor.

4.2.2 Advantages for Headquarters in Vienna as a CEE/SEE-Headquarters Location

Before we analyse the advantages/disadvantages for headquarters in Vienna, we have to evaluate the strategic relevance of the location factors for the MNCs.

- Evaluation of the strategic relevance of the location factors

The strategic relevance of the location factors (S'), which varies between 1 and 5, are presented in table 3. The most important location factors are highly-qualified human capital, knowledge of foreign languages, political stability, connection to the international airport, management know-how, traffic connections to CEE and SEE and geographic distance to CEE and SEE. In particular, the transport infrastructure, human capital and knowledge resources (such as know-how in banking and information technology, knowledge of East European languages, quality

Table 3 : Strategic Relevance of Location Factors

Strategic Relevance(S')*	
Highly-qualified Human Capital	4.55
Knowledge of Foreign Languages	4.10
Political Stability	4.10
Connection to the International Airport	3.95
Availability of Management-Know-how	3.90
Transport Connection to CEE/SEE**	3.80
Geographic Distance to CEE/SEE	3.75
Competencies of Banks (CEE/SEE)	3.70
Flexibility of Public Administration	3.60
Labour Costs	3.55
Availability of IT-Know-how	3.55
Efficiency of Public Administration	3.55
Knowledge of East European Languages	3.45
Low Taxes, Fees	3.45
Low Strike Frequency	3.45
Quality of Education (Universities)	3.40
Restrictive Reg.for Permits of Residence for Foreigners	3.40
Work Permits for Foreigners	3.40
Availability of Logistic Resources	3.30
Quality of Logistic Resources	3.30
Degree of Liberalization of the Labour Market	3.25
Quality of Education (Middle and High Schools)	3.15
Quality of Life	3.15
Flexibility of Working Hours	3.15
Historical Ties to CEE/SEE	3.05
Costs of Office Space	3.00
Quality of Office Space	2.80
Availability of Office Space	2.75
Cost of Living	2.75
Subsidies	2.65
Competencies of the Insurance Comp. (CEE/SEE)	2.65
Availability of R&D-Know-how	2.60
Cultural Resources/Events	2.60
Multiculturalism of Labour Force	2.45
Availability of Public Transportation Systems	2.45
Multiculturalism of the City	2.45
Existence of International Organizations	2.20
Less-qualified Human Capital	1.55

*S' varies between 1 (no strategic relevance) and 5 (very high strategic relevance).

** (CEE/SEE): Central, East, South East European countries

of education system), and institutional factors (such as regulation of labour market and foreigners, work permits, efficiency and flexibility of public administration) have a high strategic relevance.

2. Advantages/disadvantages for Headquarters

The strategic advantages/disadvantages for headquarters from the point of view of the MNCs are determined by multiplying the location advantages/disadvantages (L) with the strategic relevance factor (S): $HQ = L * S$ (see appendix 2). For this purpose the strategic relevance factors (S') in table 3 are recoded ($S = S'/5$). We differentiate between physical, human capital, knowledge and cultural, political and social resources (see table 4). The most important advantages for headquarters regarding physical resources are the availability of the international airport, transport infrastructure and the geographic distance between Vienna and CEE and SEE countries, while the largest human resources advantages refer to highly-qualified human capital. On the other hand, labour costs and low flexibility of working hours are important disadvantages for headquarters. Regarding knowledge resources, the competencies of banks and insurance companies, management know-how as well as the quality of the education system are important advantages for headquarters. On the other hand, Vienna has deficits in R&D-know-how and foreign language skills. The largest disadvantages for headquarters regarding cultural, political and social resources refer to the political infrastructure, quality of life, historical ties to CEE/SEE and cultural resources. On the other hand, important disadvantages for headquarters result from institutional barriers regarding the restrictive regulation of the labour market and foreigners as well as the low efficiency of public administration.

4.2.3 Location Specificity of Resources and the Competitive Advantage of Vienna

Which of the resources are location-specific and thus generate high competitive advantages for Vienna as a headquarters location? According to our resource-based view of the competitive advantages of cities, the following factors show a relatively high degree of location specificity (see figure 2): Geographic distance, transport infrastructure (railways, airport), specific human capital, management know-how, historical ties, multicultural environment, quality of life and cultural resources. As argued above, Vienna's advantages for headquarters primarily result from these factors. However, there are some important deficits concerning knowledge of foreign languages (especially languages of CEE/SEE-countries), R&D- and IT- know-how

. Institutional barriers, such as restrictive regulation of the labour market and foreigners (residence and work permits),

Table 4 : Advantages/Disadvantages for Headquarters


Physical Resources	HQ Advantages/ Disadvantages
Geographic Distance to CEE/SEE	1.37
Costs of Office Space	0.46
Quality of Office Space	0.95
Availability of Office Space	0.90
Availability of Public Transportation Systems	0.79
Availability of Logistic Resources	0.78
Quality of Logistic Resources	0.90
Connection to the International Airport	1.86
Transport Connection to CEE/SEE**	1.48
Human Resources	
Highly-qualified Human Capital	1.11
Labour Costs	-0.81
Flexibility of Working Hours	-0.30
Multiculturality of Labour Force	0.22
Less-qualified Human Capital	0.01
Knowledge Resources	
Knowledge of Foreign Languages	0.57
Knowledge of East European Languages	0.28
Competencies of Banks (CEE/SEE)	1.41
Availability of IT-Know-how	0.54
Competencies of the Insurance Comp. (CEE/SEE)	0.87
Quality of Education (Universities)	0.95
Quality of Education (Middle and High Schools)	1.04
Availability of Management-Know-how	0.99
Availability of R&D-Know-how	0.38
Cultural, Political and Social Resources	
Political Stability	1.99
Low Strike Frequency	1.86
Quality of Life	1.38
Historical Ties to CEE/SEE	1.29
Cultural Resources/Events	1.11
Existence of International Organizations	0.63
Multiculturalism of the City	0.53
Cost of Living	0.24
Public Subsidies	-0.20
Efficiency of Public Administration	-0.35
Flexibility of Public Administration	-0.22
Degree of Liberalization of the Labour Market	-0.52
Low Taxes, Fees	-0.64
Permits of Residence for Foreigners	-0.73
Work Permits for Foreigners	-0.73

and the low efficiency and flexibility of public administration, are important location-specific disadvantages for headquarters because they negatively influence the headquarters' decisions. In addition, the restrictive regulations for foreigners may have an additional negative impact on the multicultural environment and consequently on language and cultural skills.

In addition, we must consider the important interaction effects between location-specific resources. A first indication

shows the correlation coefficient (without controlling for other interaction effects): (a) the correlation coefficients between the quality of education systems (middle and high school; universities) and highly-qualified human capital are positive and significant (0.308 and 0.372). Hence know-how upgrading requires investments in the quality of education systems. (b) Furthermore, the correlation coefficient between multiculturalism and knowledge of foreign languages is also positive and significant (0.548). Thus the multicultural social environment of a city increases its advantages for headquarters due to better language skills.

be increased by additional empirical studies on the advantages for headquarters in other cities.

The main management implication of this study refers to the location's policy to improve the competitive advantage of its city. A resource-based policy for a location with the goal of increasing advantages for headquarters must stimulate investments in location-specific resources and competencies. As Markusen (1996) says, the goal of a location's policy must be to increase the 'stickiness' of that location. 

4.3 Discussion and Implications

What are the competitive advantages of cities in a dynamic international environment? This paper develops a resource-based approach by integrating Porter's diamond model with the resource-based view of the firm. A city may realize sustainable competitive advantages if it offers location-specific resources that are complementary to the firm-specific resources of the multinational firm. Our study presents some evidence for Vienna as a CEE/SEE-headquarters location for multinational firms in Central Europe. Vienna's advantages for headquarters are primarily due to the existence of location-specific resources, such as geographic proximity to CEE and SEE, specific human capital, management know-how in banking and insurance, historical ties, a multicultural environment, quality of life and cultural resources. On the other hand, Vienna's most important disadvantages for headquarters result from location-specific institutional barriers and also from deficits in R&D- and IT know-how, as well as lesser knowledge of foreign languages (especially the languages of CEE/SEE-countries). A resource-based policy for a location has to reduce these institutional barriers because they directly influence the headquarters' decisions and interaction effects between institutional factors and other location-specific resources. In addition, the location's policy has to stimulate investments in education and research facilities.

There are several limitations of this study and also important research implications. First, the empirical evaluation of advantages for headquarters requires additional information on the firm-specific resources and capabilities of multinational firms in order to be able to evaluate the relationship (complementarity) between firm-specific and location-specific resources. Secondly, the selection of relevant location factors should be based not only on Porter's model but also on other approaches. Thirdly, the measurement of advantages for headquarters must be improved by using additional indicators to increase validity. Finally, the applicability of our results should

References

- Amit, R., P. Schoemaker (1993), Strategic Assets and Organizational Rent, *Strategic Management Journal*, 14, 33 – 46.
- Andersson, A. E. (1985), Creativity and Regional Development, *Papers of the Regional Science Association*, 56, 5 – 20.
- Armstrong, J. S., T. S. Overton (1977), Estimating Nonresponse-Bias in Mail Surveys, *Journal of Marketing Research*, 14, 396 – 402.
- Barney, J. B. (1986), Strategic Factor Markets: Expectations, Luck and Business Strategy, *Management Science*, 32, 1232 – 41.
- Barney, J. B. (1991), Firm Resources and Sustained Competitive Advantage, *Journal of Management*, 17, 99 – 120.
- Berry, C. R., E. L. Glaeser (2005), The Divergence of Human Capital Levels Across Cities, *Harvard Institute of Economic Research, Discussion Paper*, No. 2091.
- Blakely, E. J. (2001), Competitive Advantage for the 21st-century City, *Journal of American Planning Association*, 67, 133– 141.
- Buckley, P. J., M. J. Carter (1999), Managing Cross-border Complementary Knowledge, *International Studies of Management & Organization*, 29, 80 – 104.
- Collis, D. (1991), A Resource-Based Analysis of Global Competition: The Case of the Bearings Industry, *Strategic Management Journal*, 12, 49 – 68.
- Dugan, S. (2000), Sticky Locations, *Locum Destination Review*, 2/2000, 39 – 40.
- Dunning, John H. (1993), Internationalizing Porter's Diamond, *Management International Review*, 33, Special Issue, 7– 15.
- Dunning, J. H. (1998), Location and the Multinational Enterprise, *Journal of International Business Studies*, 29, 45 – 66.
- Enright, Michael J. (1998), Regional Clusters and Firm Strategy, in: Chandler Jr., A. D., Hagström, P., Sölvell, Ö. (eds.), *The Dynamic Firm*, Oxford University Press, Oxford, 315–339.
- Eriksen, B., J. Mikkelsen (1996), Competitive Advantage and the Concept of Core Competence: in Foss, N. J., Knudsen C. (eds.), *Towards a Competence Theory of the Firm*, London.
- Enright, M. J., R. Weder (1995), *Studies in Swiss Competitive Advantage*, Bern.
- Fahy, J. (2002), A Resource-based Analysis of Sustainable Competitive Advantage in a Global Environment, *International Business Review*, 11, 57 – 78.
- Feldman, M. P., J. Francis (2002), Entrepreneurs and the Formation of Industrial Clusters, Working Paper, John Hopkins University.
- Florida, R. (1996), Regional Creative Destruction: Production Organization, Globalization, and the Economic Transformation of the Midwest, *Economic Geography*, 72, 314 – 334.
- Florida, R. (2002), *The Rise of the Creative Class*, New York.
- Florida, R. (2005), *Cities and the Creative Class*, New York.
- Foss, N. J. (1996), Higher-Order Industrial Capabilities and Competitive Advantage, *Journal of Industry Studies*, 3, 1– 20.
- Foss, N. J., C. Knudsen (eds.) (1996), *Towards a Competence Theory of the Firm*, London.
- Fujita, M., J.-F. Thisse (2000), The Formation of Economic Agglomerations: Old Problems and New Perspectives, in: Hurriot J.-M., J.-F. Thisse (eds.), *Economics of Cities*, Cambridge, 3 – 73.
- Gakenheimer, R. (2000), The Future of Transport, Mobility and Infrastructure, in: R. Simmonds, G. Hack (eds.), *Global City Regions*, 229 – 235.
- Glaeser, E. L. (1999), Learning in Cities, *Journal of Urban Economics*, 46, 254 – 277.
- Glaeser, E., J. E. Kohlhase (2003), Cities, Regions and the Decline of Transport Costs, *NBER Working Paper*, No. 9886.
- Glaeser, E. L., A. Saiz (2003), The Rise of the Skilled City, *NBER Working Paper*, No. 10101.
- Grant, R. (1991a), The Resource-based Theory of Competitive Advantage: Implication for Strategy Formulation, *California Management Review*, Spring, 114 – 135.
- Grant, R. M. (1991b), Porter's Competitive Advantages of Nations: An Assessment, *Strategic Management Journal*, 12, 535 – 548.
- Kotler, P., D. Haider, I. Rein (1993), There's no Place Like Our Place! The Marketing of Cities, Regions and Nations, *The Futurist*, 27/6, 14 – 18.
- Lawson, C. (1999), Towards a Competence Theory of Region, *Cambridge Journal of Economics*, 23, 151 – 166.
- Lawson, C., E. Lorenz (1999), Collective Learning, Tacit Knowledge and Regional Innovative Capacity, *Regional Studies*, 33, 305 – 317.
- Makadok, R. (2001), Toward a Synthesis of the Resource-based and Dynamic-Capabilities View of Rents, *Strategic Management Journal*, 22, 387 – 401.
- Malmberg, A., O. Sölvell, I. Zander (1996), Spatial Clustering, Local Accumulation of Knowledge and Firm Competitiveness, *Geografiska Annaler*, 78B, 85 – 97.
- Malecki, E. J. (1999), Knowledge and Regional Competitiveness, Paper presented at the 'Knowledge, Education and Space' Conference, University of Heidelberg.

- Markusen, A. (1996), Sticky Places in Slippery Space: A Topology of Industrial Districts, *Economic Geography*, 72, 293 – 313.
- Maskell, P., A. Malmberg (1999), Localised Learning and Industrial Competitiveness, *Cambridge Journal of Economics*, 23, 167 – 185.
- O'Donnell, S., T. Blumentritt (1999), The Contribution of Foreign Subsidiaries to Host Country National Competitiveness, *Journal of International Management*, 5, 187 – 206.
- Peck, J. (2005), Struggling with the Creative Class, *International Journal of Urban and Regional Research*, 29, 740 – 740.
- Peteraf, M. (1993), The Cornerstones of Competitive Advantage: A Resource-based View, *Strategic Management Journal*, 14, 179 – 191.
- Peteraf, M. A., J. B. Barney (2003), Unravelling the Resource-Based Tangle, *Managerial and Decision Economics*, 24, 309 – 323.
- Porter, M. (1990), *The Competitive Advantages of Nations*, London.
- Porter, M. (1998a), *On Competition*, Cambridge.
- Porter, M. (1998b), Clusters and the New Economics of Competition, *Harvard Business Review*, November.
- Porter, M. (1998c), Porter's Microscope, *Worldlink*, July/August, 1998.
- Porter, M. (2000), The Current Competitiveness Index: Measuring the Microeconomic Foundations of Prosperity Competitiveness, in: *The Global Competitiveness Report 2000*, World Economic Forum, New York.
- Porter, M. (2003), Building the Microeconomic Foundations of Prosperity: Findings from the Microeconomic Competitiveness Index, in: *Global Competitiveness Report 2002 – 2003*, World Economic Forum, New York.
- Porter, M. Ö. Sölvell, I. Zander (1993), *Advantage Sweden*, Stockholm.
- Porter, M., Ö. Sölvell (1998), The Role of Geography in the Process of Innovation and the Sustainable Competitive Advantage of Firms, in:
- Chandler Jr., A. D., Hagström, P., Sölvell, Ö. (eds.), *The Dynamic Firm*, Oxford University Press, Oxford.
- Porter, M., H. Takeuchi, M. Sakakibara (1999), *Two Japans: Competitive Advantage and Disadvantage of Japanese Economy*.
- Porter, M., H. Takeuchi, M. Sakakibara (2000), *Can Japan Compete?* London.
- Prahalad, C., G. Hamel (1990), The Core Competence of the Corporation, *Harvard Business Review*, 68, 79 – 91.
- Rugman, A. M. und Verbeke (1992), Alain, Multinational Enterprise and National Economic Policy, in: Buckley, Peter J. (eds.), *Multinational Enterprises in the World Economy*, Elgar, Aldershot, 194-211.
- Rugman, A. M. und Verbeke, Alain (1993), Foreign Subsidiaries and Multinational Strategic Management: An Extension and Correction of Porter's Single Diamond Framework, *Management International Review*, 33, Special Issue, 71-83.
- Rugman, A. M., A. Verbeke (1998), Multinational Enterprises and Public Policy, *Journal of International Business Studies*, 29, 115 – 136.
- Rugman, A. M., A. Verbeke (2003), Extending the Theory of the Multinational Enterprise: Internationalization and Strategic Management Perspectives, *Journal of International Business Studies*, 34, 125- 137.
- Rumelt, R. P. (1987), Theory, Strategy, and Entrepreneurship, in D. Teece (ed.), *The Competitive Challenge*, Cambridge, 137 – 158.
- Sassen, S. (2000), Cities in the Global Economy, in R. Simmonds, G. Hack (eds.) *Global City Regions*, New York, 269 - 276.
- Schumpeter, J. (1912), *Theorie der wirtschaftlichen Entwicklung*, Berlin.
- Scott, A. J. (2000), *Regions and the World Economy*, Oxford.
- Spender, J. C. (1998), The Geographies of Strategic Competence, In: Chandler Jr., A. D., Hagström, P., Sölvell, Ö. (eds.), *The Dynamic Firm*, Oxford University Press, Oxford, 417 – 439..
- Sölvell, Örjan (1998), The Role of Geography in the Process of Innovation and the Sustainable Competitive Advantage of Firms, in: Chandler Jr., A. D., Hagström, P. und Sölvell, Ö. (eds.), *The Dynamic Firm*, Oxford University Press, Oxford, 441-457.
- Sölvell, Ö., I. Zander, M. E. Porter (1991), *Advantage Sweden*, Göteborg.
- Steinbock, D. (1998), *The Competitive Advantage of Finland*, Helsinki.
- Teece, D. J. , G. Pisano, A. Shuen (1997), Dynamic Capabilities and Strategic Management, *Strategic Management Journal*, 18, 509 – 533.
- Wernerfelt, B. (1984), A Resource-Based View of the Firm, *Strategic Management Journal*, 5, 171 – 180.
- Winter, S. (1995), Four Rs of Profitability: Rents, Resources, Routines, and Replication, in: C. A. Montgomery (ed.), *Resource-based and Evolutionary Theories of the Firm*, Boston, 147 – 158.

Appendix 1:

Location Factors

Physical Resources

Geographic Distance to CEE/SEE
Costs of Office Space
Quality of Office Space
Availability of Office Space
Availability of Public Transportation Systems
Availability of Logistic Resources
Quality of Logistic Resources
Connection to the International Airport
Transport Connection to CEE/SEE**

Human Resources

Highly-qualified Human Capital
Labour Costs
Flexibility of Working Hours
Multiculturality of Labour Force
Less-qualified Human Capital

Knowledge Resources

Knowledge of Foreign Languages
Knowledge of East European Languages
Competencies of Banks (CEE/SEE)
Availability of IT-Know-how
Competencies of the Insurance Comp. (CEE/SEE)
Quality of Education (Universities)
Quality of Education (Middle and High Schools)
Availability of Management-Know-how
Availability of R&D-Know-how

Cultural, Political and Social Resources

Political Stability
Low Strike Frequency
Quality of Life
Historical Ties to CEE/SEE
Cultural Resources/Events
Existence of International Organizations
Multiculturalism of the City
Cost of Living
Public Subsidies
Efficiency of Public Administration
Flexibility of Public Administration
Degree of Liberalization of the Labour Market
Low Taxes, Fees
Permits of Residence for Foreigners
Work Permits for Foreigners

* CEE / SEE refers to Central, East, South East European countries

Appendix 2:

Strategic Headquarter Advantages/Disadvantages

	HQ Advantages /Disadvantages
Political Stability	1.99
Connection to the International Airport	1.86
Low Strike Frequency	1.78
Transport Connection to CEE/SEE**	1.48
Competencies of Banks (CEE/SEE)	1.41
Quality of Life	1.38
Geographic Distance to CEE/SEE	1.37
Historical Ties to CEE/SEE	1.29
Highly-qualified Human Capital	1.11
Cultural Resources/Events	1.11
Quality of Education (Middle and High Schools)	1.04
Availability of Management-Know-how	0.99
Quality of Office Space	0.95
Quality of Education (Universities)	0.95
Availability of Office Space	0.90
Quality of Logistic Resources	0.90
Competencies of the Insurance Comp. (CEE/SEE)	0.87
Availability of Public Transportation Systems	0.79
Availability of Logistic Resources	0.78
Existence of International Organizations	0.63
Knowledge of Foreign Languages	0.57
Availability of IT-Know-how	0.54
Multiculturalism of the City	0.53
Costs of Office Space	0.46
Availability of R&D-Know-how	0.38
Knowledge of East European Languages	0.28
Cost of Living	0.24
Multiculturality of Labour Force	0.22
Less-qualified Human Capital	0.01
Subsidies	-0.20
Flexibility of Public Administration	-0.22
Flexibility of Working Hours	-0.30
Efficiency of Public Administration	-0.35
Degree of Liberalization of the Labour Market	-0.52
Low Taxes, Fees	-0.64
Restrictive Regulation for Permits of Residence for Foreigners	-0.73
Work Permits for Foreigners	-0.73
Labour Costs	-0.81

* **HQ (Strategic Headquarter Advantages/Disadvantages) =**
L (Location Advantages/Disadvantages)*S (Strategic Relevance Factor)

** CEE/SEE refers to Central, East, South East European countries