In the Centre of Europe: the Berlin-Brandenburg Metropolitan Area within the Enhanced European Union

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Abstract

European integration provokes competition between the European metropolitan areas. At the same time, the question at which locations services of highest centrality are produced remains open. The paper analyses how far the German capital Berlin accepts the challenge to accommodate headquarters of multinational firms. Our investigation shows that Berlin's qualifications to attract headquarters despite the fact of its small numbers are quite well. Analysis of enterprise data from "Die großen 500" (a collection of data of the 500 largest enterprises of Germany, ranked by revenue) yields that the number of headquarters residing in Berlin has increased subtly but continuous during the last 15 years. Moreover, an investigation of micro data at the level of the firm from Business Registers of Berlin and Brandenburg provided by the Research Data Centre of the statistical office for Berlin and Brandenburg clearly shows different patterns of structural change for three concentric regions: the state of Berlin, the inner circle of administrative districts of the state of Brandenburg around the German capital ("engerer Verflechtungsraum", inner interlacing area), and the circumferential regions of the state of Brandenburg ("äußerer Entwicklungsraum", outer developing area): While inside of Berlin the shares of business services suppliers at regional sales and employment increase and the corresponding shares of manufacturing industries drop, we observe opposite developments in the periphery of the state of Brandenburg. Here, additionally, employment both in service and in manufacturing industries are decreasing in absolute terms. The inner interlacing area of the state of Brandenburg benefits from its proximity to Berlin.
These results are in accordance to the predictions of theories of functional change of cities of different type and size: Metropolitan centres are specializing in provision of business service industries that are one precondition for the attraction of headquarters of national and multinational firms; locations of manufacturing industries are shifted to regions more distant from the centre. Last but not least, one advantage of Berlin could be the spatial proximity to the Central and Eastern European Countries with their growing market potential.

Key words: headquarters, metropolitan area, national and multinational firms
JEL Classification: O10, R39.

1. Introduction

The structural change of the Berlin economy forced by the German unification isn't completed yet. At the same time the designer of the Berlin economic policy are confronted with the next big challenge: the proceeding European integration, concrete: the accession of six new countries of Central and Eastern Europe to the European Union. The aim of the paper is to find an answer to the question what effects the eastern enlargement of the EU (beside other integrating factors) will have on the position of Berlin within the hierarchy of European metropolises; what are the effects of market integration of areas both this and the other side of the former Iron Curtain on regional production and employment, particularly in the metropolitan area of Berlin?

Metropolises were confronted with problems arising from the unification of hitherto separated economic spaces already hundreds of years ago. The different growth paths of former residential cities during and after the integration of German micro states (Zollverein, North German Confederation) clarify the bandwidth of options for metropolises today that have to find and

to sustain their position in the large economic spaces resulting by integration processes. Standard tools of urban planning are the seminal foundations of spatial order of economy and of systems of central places by LÖSCH and CHRISTALLER. Recently, they were supplemented by mathematically stringent formulated models of central places coming along with computationally intensive simulations. The present paper is based on such models of New Economic Geography (NEG) that are showing results that seem rather simple: the creation of large market areas by integration provokes changes on the edge of metropolitan hierarchy; there will be winners and losers, at the beginning of the integration process we can't predict its outcome. Perhaps some early indicators can help to draft some conjectures regarding the question whether one metropolis will sustain, strengthen or lose its position.

However, NEG models provide a certain direction to indicate such early indicators: winners of integration will be these metropolises succeeding to commit the production of such goods and services to itself that have the first position of value creation chain, that are subsumed to management and design, and that don't have any substitutes. Accordingly, the range of these goods is the whole marked area of consideration. In the realm of public goods they are provided by ministries, universities, state research institutes, cultural centres and many other institutions; in the sphere of private business they are the services produced by headquarters (HQ) of multinational companies (MNC). Apparently, there exists a discrepancy between the strong concentration of production of public goods of the highest order and the small number of HQ of MNCs residing in the German capital.

The spatial separation of the domains of decision making and production has risen due to the fast development of information and communication technology (ICT); correspondingly we can observe increasingly functional labour division between metropolises on the one, and the cities of their hinterland on the other hand: while in metropolises a concentration of HQs takes place, attracting enterprises that provide upstream services (banking houses, insurances companies, consulting, data processing, and so on), production facilities are located nearby highways and rails to secure access to transport intensive resources and sales markets. The possibility of observation of these activities we can use to answer two questions: 1. What HQs of large MNCs were located in Berlin after the fall of the wall, and how this stock developed after? 2. What structural change took place in Berlin during the last years with regard to the proportion of manufacturing industries and company-related service production, and what specifics reveals the comparison of changes in Berlin, the inner circle and the outer circle of Brandenburg districts around it?

Finally, we touch upon a third question that is related both to predictions of traditional spatial economics as well as NEG: what effects has EU enlargement on economic growth of the regions of the accession countries as well as of the eastern border regions of the old EU-15, to which belongs the metropolis Berlin, too? According to LÖSCH, the centre of economic activity relocates to the geographical centre of the (now integrated) area. For Berlin this implies: if the centre moves to the east, a revival of economic activities should be happen in the border regions of Brandenburg and Saxony. Likewise, but more differentiated are the conclusions of NEG. Our investigation is based on former empirical contributions that have found out that the western border regions of the accessing countries have some advantages regarding economic growth. Our analysis is confined to the interpretation of some plot maps of regional economic growth.
The next section sketches the theoretical framework of the contribution in a very raw manner and lists some related literature. After that, section 3 provides empirical results. We've analysed data from the dataset “Die großen 500” (the big 500), the business register URS95 pro-

vided by the statistical office of the states of Berlin and Brandenburg, and from SNA data stored by Eurostat in the EU regio database. The final section concludes.

2. Theoretical and empirical foundations

2.1. Effects of integration on economic importance of cities and regions

Problems to predict the economic future of Berlin arise because of the complexity of superimposed historical, political and economic processes that are running in the metropolis, the metropolitan area and the surrounding areas by different speed. Accordingly, explanation and prediction requires to separate integration processes running at different regional levels, affecting notably metropolises. BRÖCKER (1990) provides a survey of spatial effects of integration: only the approach of LÖSCH – the reduction of the market area of a firm located at the border to a half circle tends to result in a relocation of the firm near to the centre; integration rebuilds the "natural" full-circle market area – yields empirically testable hypotheses.[1] Further approaches – neoclassical trade theory, New Trade Theory, the theory of dynamic integration effects – don't afford unique predictions. BRÖCKER optimistically concludes that the non distinctive distribution of winners and losers of integration should be recognised as opportunity: "The more we can't distinct a priori where the losers are located the better the chance will be that regional blocking coalitions against social developments that are preferable from an economic view should not appear."[2]

More recently, NIEBUHR/STILLER (2005) provide a survey of theoretical and empirical studies of integration effects. Additionally to the approaches presented in BRÖCKER (1990) some aspects of NEG models are discussed. For example, KRUGMAN/LIVAS ELIZONDO (1996) explain the relocation of production facilities from Mexico City to localities near the US-American-Mexican border (so-called "maquiladoras") . Certainly, this approach doesn't have any instantaneous equivalence with the German-Polish border area. However, one can suppose that better access to German markets should give the western Polish voivodeships some attractiveness.[3] Standard models of NEG[4] predict advantages for the regions along the borderline, but these positive effects must not appear if the transport costs are extremely low. Empirically evidence for these outcomes is not provided yet.

Based on the NEG models by PFLÜGER (2004) and BRÜLHART (2004), as well as the methodology of estimation applied by HANSON (1999), NIEBUHR (2004) analyses the effects of Western European Integration particularly on the border regions of the EU-15 countries. Transport costs are expressed as units of travel time; the process of integration is simulated by modification of the travel time matrix. For this purpose NIEBUHR uses some parameters from estimated regressions of regional market potential on per capita income and employment (as proxies of regional wages) in EU-15 regions. She finds a significant influence of the remove of border barriers particularly on regions that are located close to internal borders. NIEBUHR (2005) builds on this study, applying the same parameters of changing transport costs to the countries of the enhanced EU-27. The results of that investigation predict significant effects of integration particularly for the small CEECs Slovenia, Czech Republic, Slovakia and Hungary, that

[1] GIERSCH (1988) notes that this effect is "scarcely visible to the naked eye". — In case of the German-Polish Border the existence of an economic barrier is, of course, not limited to the institutional border; rather linguistic, cultural and mental differences should be considered.
[2] P. 59 (own translation).
[3] See also KRÄTKE (1999).
[4] See KRUGMAN (1991) and FUJITA *et al.* (1999)

are located at the eastern border of EU-15, and moderate effects for countries that are large or located in peripheral areas like Poland or Bulgaria. The magnitude of effects seems rather small, however, the market of EU-15 has significant importance for CEECs. In contradiction to BRÜLHART (2004), NIEBUHR finds only small effects of integration on the market potential in Eastern Germany. This should be valid for the German capital that lies close to the Polish border, too.

But, NEG permits some insights into the mechanisms of development of urban hierarchies. TABUCHI/THISSE (2008) have modelled the process of formation of an urban hierarchy in consequence of falling transport costs. In the course of development the number of cities that are in the higher levels of hierarchy decreases (particularly in the highest level), while the centrality of cities remaining here – expressed as high share of population and low elasticity of substitution between the goods and services provided there – increases. In history such processes took place again and again. One important outcome is the impossibility of prediction, which metropolis will belong to the group of winners (or losers) of the integration process. To this conclusion also BRÖCKER (2005) arrives, who points to the possibility of advantages at the start of the process (a central position, for example), "but there is no determinism"; already "the strong believe that certain agglomerations will belong to the winners can become manifest in self-fulfilling expectations".[5] However, the outcomes of these hierarchical NEG models highlight some aspects of the features of the winner regions: Metropolises at the top of the urban hierarchy are these locations that attract the production of goods and services of highest centrality, lowest substitutability,[6] and highest range. In the realm of public goods these are the highest functions of government and administration; in the private economy they are functions of management and coordination fulfilled by headquarters of multinational companies.

So far, we can summarize that from traditional location theory we should expect some positive effects of integration for Berlin because of its closeness to the adjacent new EU member countries that have caught up quickly, and of the removal of disadvantage of the former EU border region. But theory cannot give any prediction about the magnitude of these effects and their variation in time. Core-Periphery models provided by NEG predict that foremost the new member countries will gain profits from integration. At a second stage, Berlin could profit from the growing market potential of its enterprises. The outcomes of hierarchical models deserve some deeper considerations.

2.2. From sectoral to functional urban hierarchy

For several decades we can observe a new kind of labour division between cities holding different positions in the urban hierarchy: In the past, (from economic point of view) different cities primarily had different structures of manufacturing industries that were located there. Recent decades increasingly reveal differences of concentration of parts of vertically disintegrated enterprises (that can be categorised rather vertically by function than horizontally by sector) that are assigned to different types of cities. HQs of MNCs are more concentrated in (or nearby) large metropolises, while production takes place in smaller cities that are often sectoral specialised.[7] This development was promoted by the enormous progress of information and communications technology (ICT) in the second half of the 20th century that had the consequence of falling transport costs between the domains of management and of production

[5] P. 15 (own translation).
[6] CHRISTALLER (1933) p. 51.
[7] See DURANTON/PUGA (2004) and GROSSMAN/HELPMAN (2001).

within enterprises. Another reason for this change and its necessity were the rising costs of congestion and other urban costs in large cities.[8]

Another important precondition for the attraction of HQs of MNCs is the supply of manifold services that are input factors of HQs (banks, insurance, consultancy, data processing, for example) at the location. We will denote them as company-related services. DAVIS/HENDERSON (2004) show for the US, that an increase of company-related services of 10 % goes along with an increase of HQs of 3.6 %. STRAUSS-KAHN/VIVES (2006) identify further HQs of the same industrial branch, closeness to a big airport, low corporate taxes and low wages as important factors to attract headquarters. At this juncture, Berlin has strong advantages because of its strong cultural scene, its nice arrangement of green spaces, water, and urban areas, and further amenities that could deserve as substitutes for monetary wages.[9] Other factors that attract human capital to Berlin are its universities and other numerous research and educational institutions, and its media cluster.[10]

Summarizing, our line of arguments is: integration decreases the number of market areas, but enhances their size. The number of metropolises in a system of central places decreases (alternatively: the highest positions of urban hierarchy reorganise themselves), the range of headquarter services produced there increases. Simultaneous, functional specialization of metropolises and cities located in the hinterland takes place: While headquarters increasingly concentrate to metropolitan areas, production is more dispersed to the fringe. HQs are reliant to a well-developed infrastructure of company-related services. One feature that a growing metropolitan area should demonstrate is a growing number of HQs. Another characteristic that could deserve as early indicator is the growing share of company-related services at employment and value creation, particularly within the centre of the metropolitan area.

The next section describes how the stock of HQs that locate in the metropolitan area of Berlin has changed during the last two decades. Then we analyse the development of company-related services in the state of Berlin and the inner and outer circle of Brandenburg around Berlin. At last we look to the regional development of per capita income in NUTS-2 regions of CEECs and Eastern Germany and its possible consequences for Berlin and Brandenburg.

3. Empirical findings

3.1 Choice of the regional unit

One first problem of any description of metropolitan areas is the spatial demarcation of the area itself. In the case of Berlin, investigations that are related to the close demarcation within the motorway ring around the city show results that are in sharp contradiction to investigations of the same matter related to a wider spatial limitation. German statistics provide data for the state Berlin in its administrative-territorial delimitation and for the inner circle of area around Berlin that is belonging to the state of Brandenburg ("innerer Verflechtungsraum" and "äußerer Entwicklungsraum", see above).[11] As an example fig. 1 shows the development of population figures for Berlin in its administrative-territorial demarcation (+) and in the de-

[8] See BADE *et al.* (2004).
[9] See ROBACK (1982).
[10] DALMAZZO/DE BLASIO (2007) find this for Italian cities. For Berlin such investigation should be done, too.
[11] This area is composed by parts of administrative districts of the state Brandenburg. For its specification, see "Verordnung über den Landesentwicklungsplan für den Gesamtraum Berlin-Brandenburg (LEP GR) – ergänzende raumordnerische Festlegungen für den äußeren Entwicklungsraum, vom 20. Juli 2004"

marcation of the inner interlacing space (x). The population size of Berlin in its close limits shrunk since 1995. Superficially one could consider Berlin as a shrinking city. Looking at the figures for the inner interlacing space we've to state a completely different development: The population of Berlin was fairly constant until 1998 (indeed, many inhabitants of the core city moved since1995 to municipalities located in the interlacing area) and is growing since then.

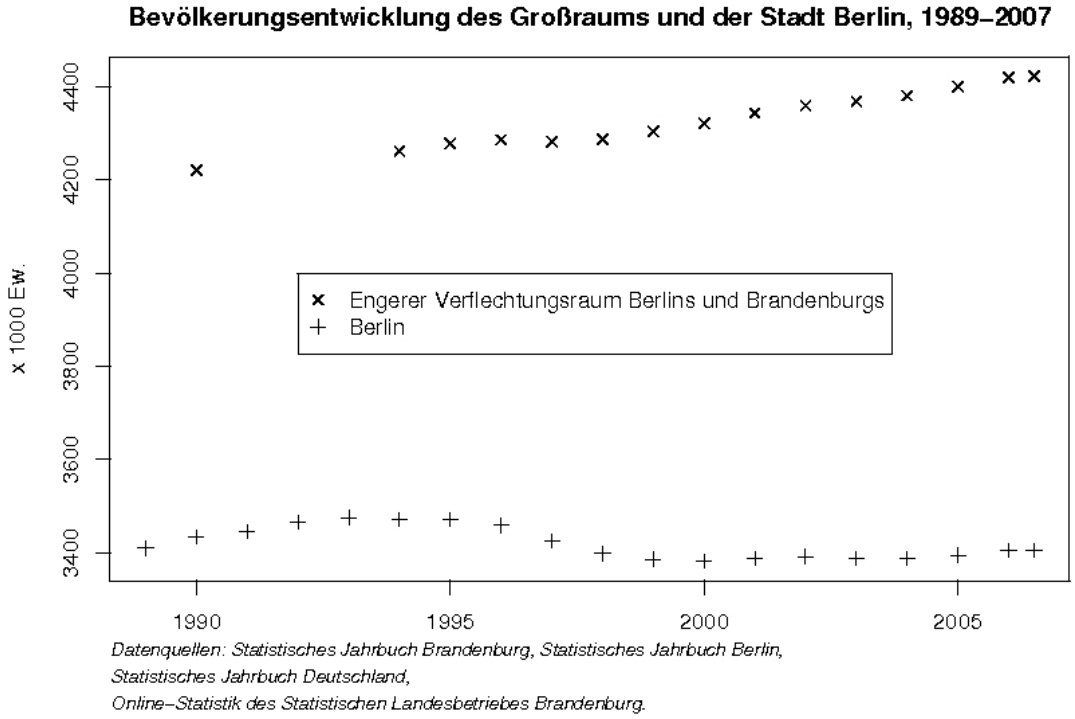


Fig. 1: Development of population size of Berlin, 1989–2007

Eurostat uses similar delimitations for its Urban Audit Statistics. Fig. 2 at next page shows examples of population developments in some metropolitan areas of Germany and four CEECs. In all cases the figures differ for close and wide delimitation, but the sign of development remains the same except for Berlin.

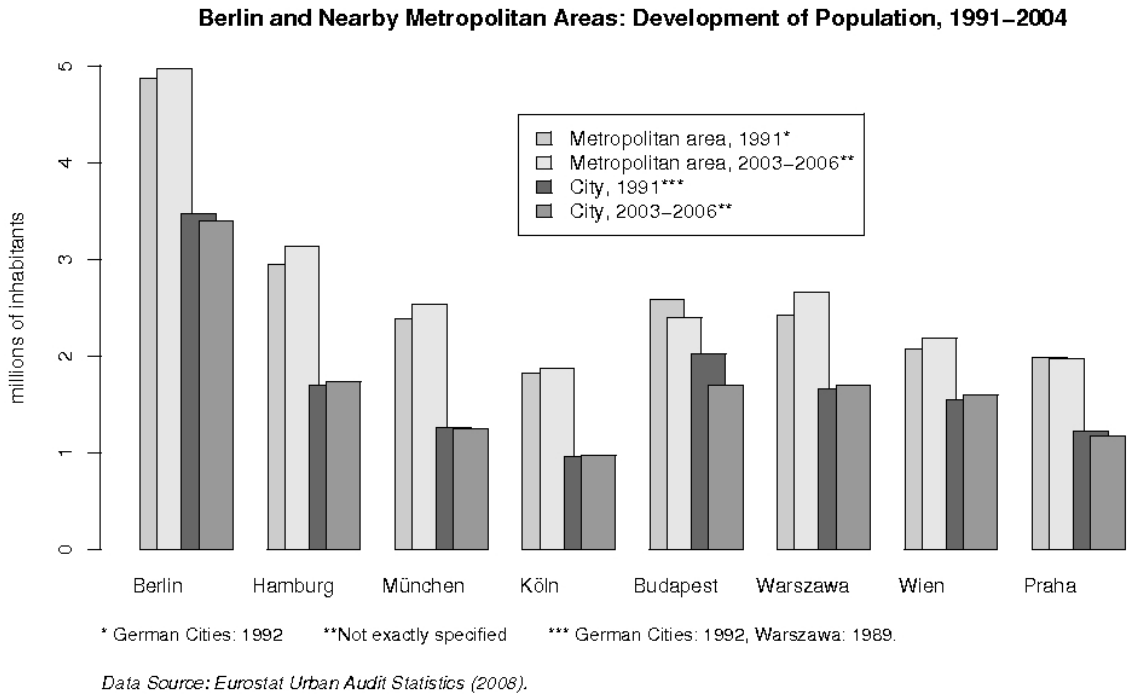


Fig. 2: Development of population size of metropolises and metropolitan areas

We must conclude that outcomes of analyses of metropolitan areas have to be regarded with caution. In the case of Berlin it seems inevitable to look booth to figures for the state itself and its surrounding area.

3.2 Headquarters in Berlin and in other metropolitan areas of Germany

The notion of *headquarters* (or head office of a large enterprise) is not clearly defined; furthermore, it depends on the order of magnitude of enterprises in consideration. Etymologically it stems from the military, as so-called creative units of enterprises (e.g. construction, design) are in accordance with staff units of armed forces. When we count the number of HQ in German metropolitan areas the notion of headquarter is applied to corporate headquarters of a German enterprise or the German corporate headquarters of a MNC as the location of the registered office. To evaluate the position of Berlin over time we analysed a data set for the 500 enterprises with the largest sales ("The Big 500", 1992–2003: SCHMACKE (2003), 2004–2006: SCHMACKE (2007)). The data set contains addresses (*et al.)* of registered offices of 500 (or more)[12] enterprises with the largest sales turnover that are liable to publish the audited year-end financial statements. Table 1 shows the absolute frequencies of headquarters assigned to the German state where its registered office was located.[13] Table 2 lists theses numbers for Berlin and seven other metropolitan areas.

[12] To get some regularity particularly at the bottom fringe of the data set, its size occasionally was enlarged up to over 600.

[13] The abbreviations are: S-H: Schleswig-Holstein, HH: State of Hamburg, NSa: Lower Saxony, HB: State of Bremen, NRW: North Rhine-Westphalia, HE: Hesse, R-Pf: Rhineland-Palatinate, BaW: Baden-Württemberg, Bay: Bavaria, Saar: Saarland, B: state of Berlin, Brb: state of Brandenburg, M-V: Mecklenburg-Western Pomerania, Sa: Saxony, Sa-A: Saxony-Anhalt, Th: Thuringia.

Table 1: Absolute frequency of headquarters of German enterprises with the largest sales over 15 German states, 1992–2006 (Source: The Big 500)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
S-H	9	9	9	10	12	10	13	12	11	11	11	9	9	10	9
HH	43	43	44	45	47	46	48	49	50	51	50	45	47	46	46
NSa	28	28	29	28	32	29	32	33	33	31	33	32	33	33	33
HB	8	8	9	8	8	8	8	8	8	7	7	6	6	7	7
NRW	164	164	158	165	166	167	174	171	184	187	194	174	165	175	170
HE	73	73	70	66	65	65	74	75	87	87	91	83	81	88	87
R-Pf	14	14	13	16	13	12	11	12	13	12	13	11	13	12	13
BaW	71	71	73	69	69	72	74	74	85	84	90	90	88	86	86
Bay	77	77	71	68	62	67	77	80	87	88	90	78	87	92	91
Saar	8	8	7	8	8	6	8	8	9	9	10	10	10	9	9
B	12	12	11	12	11	10	13	13	14	14	17	15	17	19	20
Brb	1	1	1	1	2	4	4	4	5	3	3	3	3	4	4
M-V	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
Sa	4	4	3	3	3	2	2	3	3	3	3	3	3	3	3
Sa-A	1	1	1	0	0	0	0	0	2	2	2	2	2	2	1
Th	0	0	1	1	2	2	2	3	2	3	3	2	3	3	3
Sum	513	513	500	500	500	500	540	545	594	593	618	563	567	589	582

Berlin is the sole German state as well as the sole German metropolis that displays for the whole period an upward trend of residing headquarters that are listed in the data base. Likewise, the share of enterprises listed in The Big 500 and registered in Berlin has risen, starting from a very low level, but steadily and continuously. Because of the sometimes changing cut-off, figures in table 2 appear rather too small (units that reside already long at one location don't come into the data base ore must leave it because other units are growing faster, for example). For Berlin I collected a corrected row of figures from public accessible sources (the last row of table 2) that accounts for enterprises that were listed not all years in The Big 500 but have located in Berlin all the time, too. This deviation we should find for all metropolises, not only for Berlin.

To find answers to the question what headquarters are residing in Berlin, some additional research was necessary because of changing names, changing structure of enterprises and the already mentioned changing cut-offs. Sources were, above all, the web sites of the firms, to some extend information provided by Wikipedia. The results are displayed in table 3. Apparently, a very small stock of old Berlin enterprises has resided in the western part of the city during the whole period of division (BewaG, DeTeWe, Otis, Otto Reichelt, Schering, Springer) ore has survived the privatisation of former GDR state holding companies (DWA Berlin/Adtranz Hennigsdorf that went to Bombardier, VEB Minol that was purchased by elf, VEAG that now belongs to Vattenfall). Other enterprises sometimes were cut-off from the data base because they are rather small (GEMA, Otis), or came into the data base later because of merger processes (Herlitz, Air Berlin), while other firms were purchased by companies outside from Berlin (Reichelt, Berliner Elektro, Hoechst Agro (former AgrEvo)). Another group of large enterprises was generated by privatisation of municipal firms

(Berlinwasser, Vattenfall, GASAG), or by economic policy of the federal state (Deutsche Bahn). Last but not least, some large companies really moved to Berlin (Dussmann, Coca Cola, Cap Gemini, KPMG, Storck) or leaved it (IBM, SAT 1). The already mentioned last row of table 2 summarizes the numbers of headquarters residing in Berlin for each year.

Table 2: Number of headquarters of German enterprises with the largest sales over 15 German states in eight German metropolitan areas, 1992–2006 (Source: The Big 500)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
	Number:														
Düsseldorf	30	30	29	29	26	25	30	13	12	14	17	15	14	16	16
Frankfurt	30	30	29	25	21	22	22	23	26	25	27	24	24	27	26
Hannover	14	14	13	13	13	13	14	13	11	11	12	11	11	11	11
Köln	23	23	20	21	21	21	19	16	17	16	18	16	14	17	17
München	34	34	32	28	28	29	28	34	37	38	38	32	32	36	36
Stuttgart	22	22	23	21	20	22	21	21	25	25	27	25	24	25	25
Berlin	12	12	11	12	11	10	13	13	14	14	17	15	17	19	20
Hamburg	43	43	44	45	47	46	48	49	50	51	50	45	47	46	46
	Share as percent of the number of enterprises in the data set, this year														
Düsseldorf	5.8	5.8	5.8	5.8	5.2	5	5.6	2.4	2	2.4	2.8	2.7	2.5	2.7	2.7
Frankfurt	5.8	5.8	5.8	5	4.2	4.4	4.1	4.2	4.4	4.2	4.4	4.3	4.2	4.6	4.5
Hannover	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.4	1.9	1.9	1.9	2	1.9	1.9	1.9
Köln	4.5	4.5	4	4.2	4.2	4.2	3.5	2.9	2.9	2.7	2.9	2.8	2.5	2.9	2.9
München	6.6	6.6	6.4	5.6	5.6	5.8	5.2	6.2	6.2	6.4	6.1	5.7	5.6	6.1	6.2
Stuttgart	4.3	4.3	4.6	4.2	4	4.4	3.9	3.9	4.2	4.2	4.4	4.4	4.2	4.2	4.3
Berlin	2.3	2.3	2.2	2.4	2.2	2	2.4	2.4	2.4	2.4	2.8	2.7	3	3.2	3.4
Hamburg	8.4	8.4	8.8	9	9.4	9.2	8.9	9	8.4	8.6	8.1	8	8.3	7.8	7.9
	Numbers for Berlin (own research)														
Berlin	13	13	13	14	15	16	19	19	19	19	20	20	21	22	22

The significant growing number of headquarters residing in Berlin has continued in recent years (for example the German Head Office of Pfizer is placed to Berlin). This indicates a tentative closing of the scissors between the range of public and private services produced in Berlin. One can say that Berlin perhaps feels its way to the path of metropolitan development. In contrast to this interpretation stands the still small number of headquarters residing here that cannot increase fast. Firms that have chosen one location for its headquarters don't move quickly. As in the recent past, Berlin will profit foremost from start-ups, founding of new companies, mergers and acquisitions and expansion of MNCs into the European space. One important precondition for this we'll analyse in the next subsection.

Table 3: Residence time of headquarters listed in The Big 500 in Berlin, 1992–2006 (own research)

Name des in DG500 gelisteten Unternehmens oder des Vorgängers	In Berlin:
Berliner Kraft- und Licht (BewaG)-Aktiengesellschaft	1992-2002
Daimler-Benz Inter Services AG (debis)	1992-2006
DeTeWe Deutsche Telephonwerke AG & Co.	1992-2006
Deutsche Waggonbau	1992-1993
elf oil AG*	1992-2006
GEMA Gesellschaft für musikalische Aufführungs-, und mechanische Vervielfältigungsrechte	1992-2006
IBM Deutschland GmbH	1992-1993
Otis GmbH	1992-2006
Otto Reichelt AG	1992-1995
Schering AG	1992-2006
Axel Springer Verlag AG	1992-2006
VEAG Vereinigte Energiewerke AG	1992-2002
AgrEvo (Gruppe)	1994-1999
Herlitz AG	1994-2006
P. Dussmann GmbH & Co. KG	1995-2006
Berliner Elektro Holding AG	1992-1999
SAT 1 Satellitenfernsehen GmbH	1996-2002
KPMG Deutsche Treuhand-Gesellschaft AG Wirtschaftprüfungsgesellschaft	1998-2006
August Storck KG	1998-2006
Cap Gemini Ernst & Young Deutschland GmbH	2000-2006
Coca-Cola Erfrischungsgetränke AG	1997-2006
Deutsche Bahn AG	2000-2006
Berlinwasser Holding AG	2002-2006
Vattenfall Europe AG	2003-2006
Vattenfall Europe Transmission GmbH	2003-2006
Coca-Cola Deutschland Verkauf GmbH & Co. KG	2003-2006
Air Berlin GmbH & Co. Luftverkehrs-KG	2004-2006
Bombardier Transportation GmbH	2001-2006
Berliner Wasserbetriebe	2005-2006
GASAG Berliner Gaswerke AG	1998-2006
Adtranz (DaimlerChrysler Rail Systems GmbH, Hennigsdorf)	1996-2000

3.2 Company-related services in Berlin and in the inner interlacing area Berlin-Brandenburg

The examination of industry structure of the economy of Berlin in its territorial-administrative demarcations and in the delimitations of the inner interlacing area of Brandenburg, and of the two parts of Brandenburg (inner interlacing area and outer developing area) 2001 and 2006 is displayed in tables 4–11 p. 20 –24. The data set was provided by the research data centre of state office for statistics in Berlin and Brandenburg and was evaluated by means of controlled remote data processing. The business register for German firms was new developed by the German Statistical Office. Berlin and Brandenburg belong to the first German states that pro-

vide these data for research purposes. One peculiarity of these data is the two year lag between data of sales and employment reporting and publishing. For example, sales and employment data published in the business register 2006 stem from 2004, while the numbers of firms reporting data are the current numbers of 2006. We name the annual data sets by its published names (2006 and 2001). Industry classifications A–Q stem from WZ 2003 classification. The presentation of these data 2001 for Berlin and 2001 and 2006 for Brandenburg should be an absolute novelty.[14]

Company-related services in Berlin

The sector of company-related services[15] has a heavy weight in Berlin. Its share has further increased during the years 2001–2006: In 2001, 30697 companies have reported its sales to the office, that were 33 % of all reporting companies. 2006 this share was risen to 36.6 %. The share of business done in sector K related to the sales of all sectors was 25.1 % in 2001 (indeed 1999, see above) and 36.6 % in 2006 (2004). By share of sales, the sector of company-related services is the largest economic sector of the capital. The number of commercial units that have reported to the Federal labour office employees employed in sector K was 18599 in 2001; their share at all units reporting employees has increased from 25.3 to 27 %. The share of employees likewise has risen: starting from 159524 in 1999 it has increased from 16.1 to 18.8 % of total reported employment. The sales of firms of this sector show an increase of 67.8 %, sectoral employment of 16.8 %. Only sector I (communication and traffic) has increased its sales still higher – this reflects the establishment of Deutsche Bahn headquarters in Berlin. Also increase of employment is significant and exceeded only by increase of Berlin hotel and restaurant industry (sector H).

The weight of banking houses and insurance companies in Berlin (sector J) has rather decreased: while sales have risen by one percent, the share at sales of all reporting firms has fallen by 0.1 %; the number of employees declined by 5.3 % (the share at employees reduced by 0.2 %). The significant risen number of firms of this industry (companies reporting sales: increase of 25.7 %, companies reporting employees: increase of 30.7 %) indicates change of the size structure of the Berlin banking houses and insurance companies due to the weakness of this sector in Berlin generally.

Last but not least we look at the development of the O-sector (production of other public and personal services) that contains e.g. representation of corporate and professional interests, institutions of science, culture and education, amongst others, and is important for the attraction of HQ of large enterprises, too. In this sector the number of firms reporting sales strongest increased (by 36.4 %); the increment of firms reporting employees was 22 %. Although the share of sales at sales as a whole decreased slightly by 0.4 % the share at employment increased from 7.5 to 8.5 %. The underlying structural change should be investigated separately.

Changes of industrial structure in Berlin and Brandenburg

The comparison of structural change in Berlin and its surrounding concentric areas, displayed in tables 4–11, provides evidence for the change of urban hierarchy according to theories that predict functional elements of urban hierarchy. We confine our analysis to the manufacturing industries C (mining), D (manufacturing) and E (energy and water supply) and to sector K

[14] For Berlin the 2006 data were published in AMT FÜR STATISTIK BERLIN-BRANDENBURG (2007). To assure intersubjectively comparability the applied methods of examination here and there are the same.

[15] In WZ 2003 this is sector K "Real estate and housing, leasing of personal property, production of services not quoted otherwise".

(company-related services).[16] The decline of employment in manufacturing factories 1999–2004 was in the metropolitan area (Berlin plus inner interlacing area: -8.5 %) significantly smaller than in the state of Berlin (-10 %). In the Brandenburg part of inner interlacing area the decline of industrial employment was far much smaller (-3.4 %). Because many old firms owned by state in Brandenburg have closed ore strongly reduced their employment, the modest decline in the inner interlacing area of Brandenburg indicates that many firms moved from Berlin to the inner interlacing area of Brandenburg. This doesn't apply to the outer developing area of Brandenburg, where employment declined by 8.9 %. However, in the outer developing area sectors C–E display the highest share of sales (41.3 %) and employment (19.4 %). — On the other hand, some Brandenburg companies become controlled by Berlin headquarters due to mergers (Adtranz located in Hennigsdorf to Bombardier, Lausitzer Braunkohle located in Senftenberg to Vattenfall).

Sector K displays similarities and differences for Berlin, the inner interlacing area and the outer developing area of Brandenburg: For all three regions the sector shows the strongest positive (in the outer developing area: weakest negative) change. The same is valid for the number of commercial units with employees subject to social insurance contribution. For sales this is true only for Berlin (68.8 %) and the Brandenburg part of the inner interlacing area (42.3 %): in the outer developing area the growth of sales in sectors C–E (34.8 %) exceeds the growth of sales in sector K (32,5 %). The growth of the number of firms belonging to sector K and residing in the Brandenburg part of inner interlacing area that have reported sales (55.1 %) exceeds the growth of this number for firms residing in Berlin (26.1 %), but still at a low level (shares 2006: 27.3 % in the Brandenburg part of inner interlacing area *vs.* 36.6 % in Berlin).

Fig. 3 summarizes these changes of sectoral structure: The concentric circles symbolise the inner interlacing and the outer developing areas of Brandenburg surrounding Berlin. At first, look at the circle in the top left-hand corner of the figure. The three sectors of the circle filled by different colours symbolize three different measures of quantity and change, respectively: the dark grey (or green) sector represents the sales of firms belonging to sector K related to the sales of all firms that reported their sales (of 2004) in 2006. This relation times 100 yields the share of sales of sector K in 2004. The light grey (or orange) sector of the circle represents the growth of the sales done by firms belonging to sector K between 1999 and 2004, in percent. Finally, the white (or yellow) sector represents the change of the share of sales done by firms belonging to sector K between 1999 and 2004 as percent points. For example: In Berlin the share of sales of firms belonging to sector K was 30 % in 2004. From 1991 to 2004 the sales of this sector have increased by 67.8 %, the share of the sector at the sales of all sectors has risen by 4.8 percent points (that means, the share of sector K in 1999 was 25.2 %). The circle in the top right-hand corner of the figure displays the same figures for sales of firms belonging to sectors C, D or E. The figures at the bottom of fig. 3 display the development of employment in commercial units of the same sectors, likewise.

The figures presented in fig. 3 clearly show that the contrasts between metropolis, its surrounding area and its periphery that already existed in 1999 have increased during the following five years. In the sphere of the metropolis the shares of company-related services at sales and employment have increased, starting from a high level. The shares of manufacturing sectors have decreased here. In peripheral regions, the manufacturing sectors gained importance in spite of the decline of employment, while the share of company-related services remained

[16] The aggregation of sectors C–E was necessary to warrant data protection.

at low level. The Brandenburg part of inner interlacing area gains from this process of development. These structural shifts are according to the theory of functional labour division in urban hierarchies: While management functions and their proximate upstream inputs are produced in metropolises and their vicinity, production takes place in more remote areas.

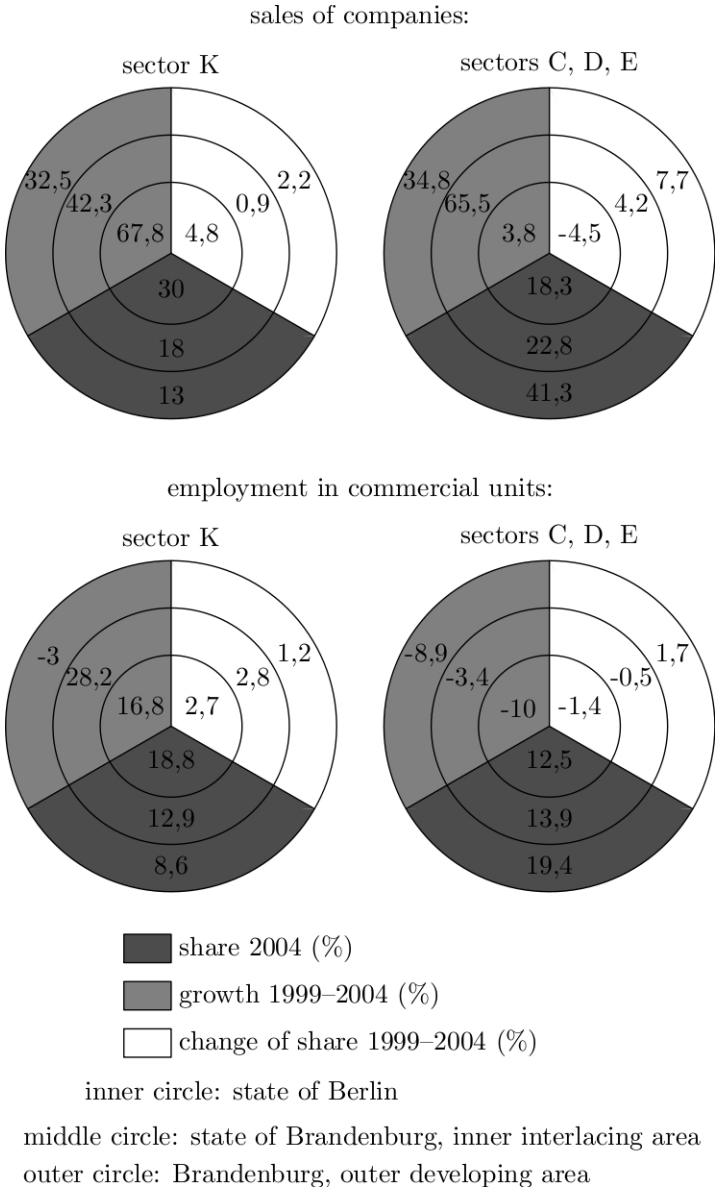
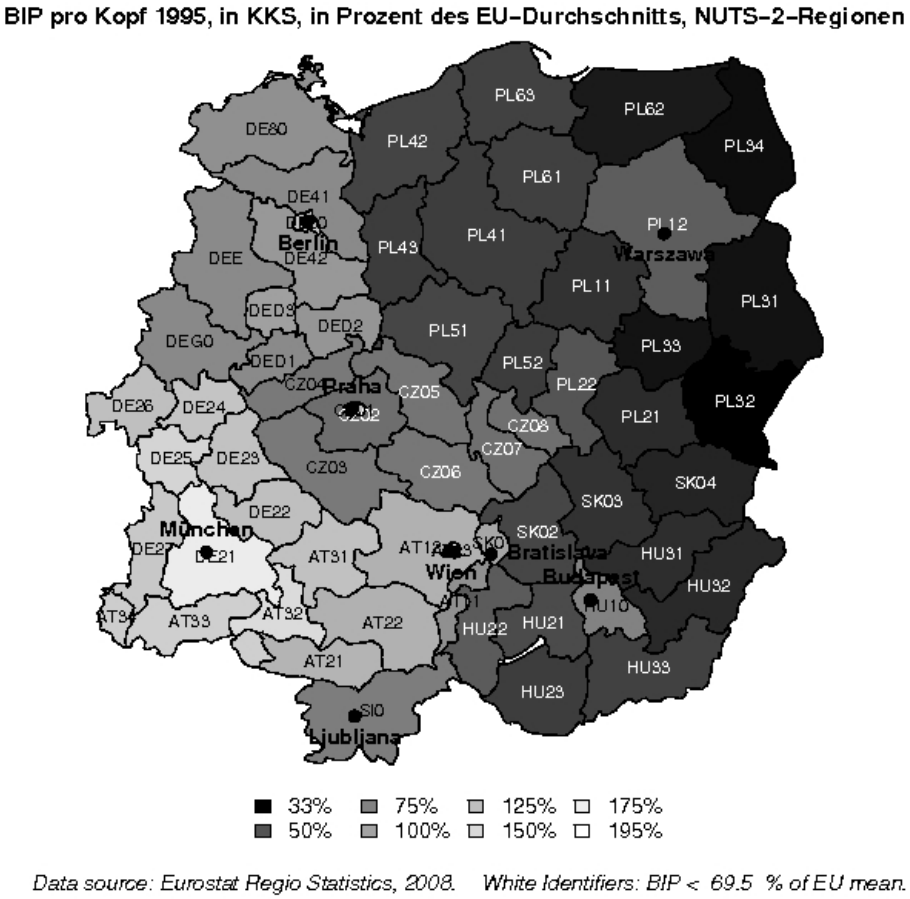


Fig. 3: Berlin, the inner interlacing area, and the outer developing area: shares, growth and changes of shares of sales and employment in selected sectors

However, the importance of manufacturing for Berlin should not be underestimated: The number of headquarters is growing very slowly, it will be a long process to attract headquarters in a quantity that is adequately to the mass of political functions of the German capital. Furthermore, the huge reservoir of unemployed land that could be used to locate manufacturing firms and the favourable geographical position of Berlin can promote parallel processes that attract simultaneous manufacturing factories representing the state of the art, and management functions with a worldwide range.

3.4. Development of per capita income in the CEECs

Finally, it seems worthwhile to have a look on regional development in CEECs that could contribute to growing market potentials of German regions that are located close to the border of old EU-15. As mentioned in section 2, Niebuhr (2004) and (2005) predict for the first stage of the adjustment process a rather small rise of market potentials in the western regions of CEECs that were adjoined to the EU-15. Eurostat provides data for NUTS-2 regions of per capita income in purchase power standards (PPS)[17] that should be related to market potential. Plotting these data to maps should reveal patterns of regional development that could be in accordance to the predictions of the theory.



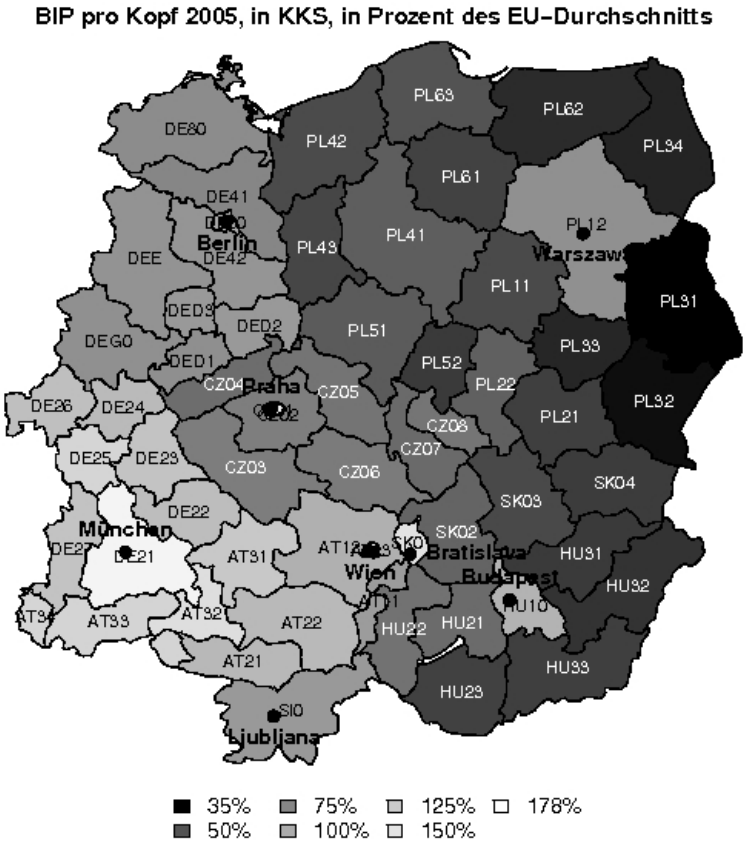
Data source: Eurostat Regio Statistics, 2008. White Identifiers: BIP < 69.5 % of EU mean.

Fig. 4: Poland, Czech Republic, Slovakia, Hungary, Slovenia, the new German states and the Free State of Bavaria: GDP per capita in PPS, in percent of European average, 1995

In fig. 4–6 regional GDP per capita (adjusted for national price development) in 1995, 2005 and their changes 1995–2005 for some EU accession countries and the eastern part of Germany are plotted on maps. Looking at fig. 4, the strong gap between east and west and between the new German states and Bavaria attracts attention. To accent these differences regions that display figures lower the median are labelled white, all others are labelled black.

[17] Unfortunately, these PPS are computed using national deflators instead of regional ones.

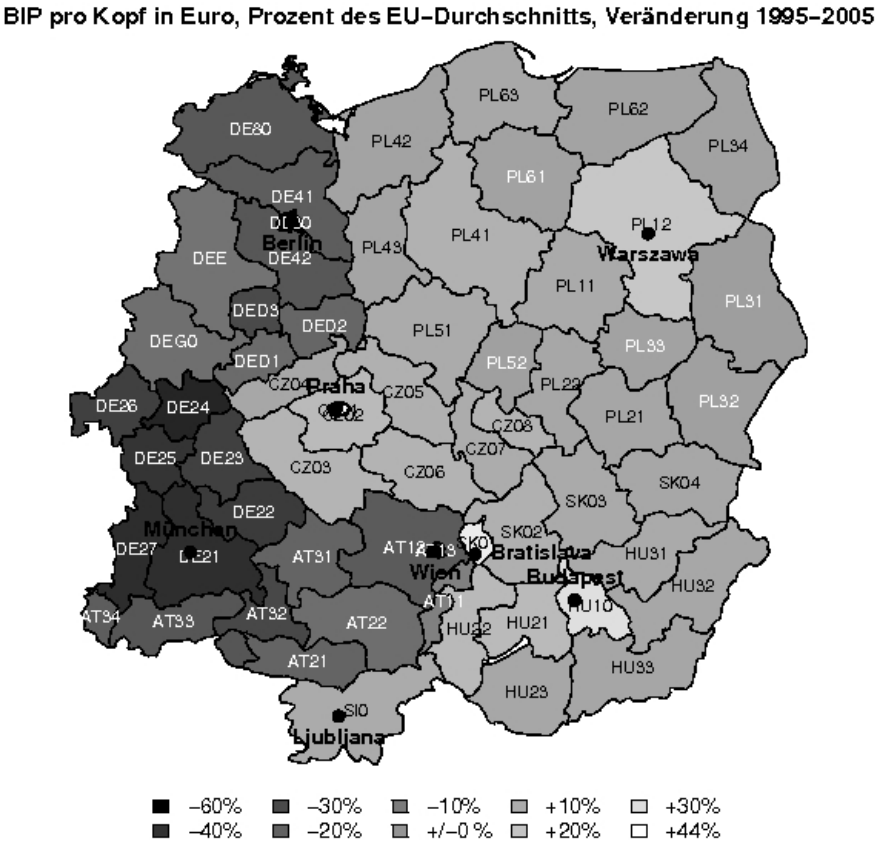
The weakest position at the beginning of the considered time period is taken by these regions of Poland, Slovakia and Hungary that border to White Russia, the Ukraine and Serbia. Otherwise per capita income of Regions PL12, CZ01, SK01, HU10 and Sl10 with the metropolises Warszawa, Praha, Bratislava, Budapest and Ljubljana are clearly over the national averages.



Data source: Eurostat Regio Statistics, 2008. White Identifiers: BIP < 70.5 % of EU mean.

Fig. 5: Poland, Czech Republic, Slovakia, Hungary, Slovenia, the new German states and the Free State of Bavaria: GDP per capita in PPS, in percent of European average, 2005

From fig. 5 we see that these regions have gained from structural change during the transition period most of all. The development of metropolitan areas was not the issue of NIEBUHR (2005), but the displayed patterns are, perhaps, not in contradiction to the predictions of the theories of functional labour division in urban systems. Structural change in transition countries was driven by dying old manufacturing factories and creation of new service industries that primarily arose in metropolitan areas. In contradiction to the weak GDP growth in the regions of PL42 (Zachodniopomorskie) and PL43 (Lubuskie) we find strong growth in PL41 (Wielkopolskie) and PL51 (Dolnoslaksie). This band continues to south-west via the Czech regions CZ01, CZ02, CZ03, CZ05, CZ06 (Praha, Stredni Cechy, Jihozapad, Severovychod and Jihovychod), SK02 in Slovakia (Zapadne Slovensko) and HU21 (Kozep-Dunantul) and HU22 (Nyugat-Dunatul) towards Slovenia (Sl10). Generally, these regions were traditionally economically strong.



Data source: Eurostat Regio Statistics, 2008. White Identifiers: Change < 6.5 %.

Fig. 6: Poland, Czech Republic, Slovakia, Hungary, Slovenia, the new German states and the Free State of Bavaria: GDP per capita in PPS, in percent of European average, change 1995–2005 as percent points

Fig. 6 displays changes of GDP per capita in PPS as percent points for the same regions. Here the order of regions displayed by colours of regions and its labels seems inverted: GDP growth in new accessed EU members is higher than in the border regions of Germany and Austria. In spite of the exceptionally high growth rates of regions containing the national capitals, this clearly confirms the results of NIEBUHR (2005). The economic growth in the band reaching from Wielkopolskie in Poland towards Slovenia probably gains momentum from its proximity to adjacent western EU member countries. This hypothesis, of course, has to be investigated by much deeper analysis.

The observed patterns of regional economic development don't contradict theoretical findings. To what extent Berlin will profit from increasing market potentials in adjacent regions of CEECs certainly depends on the ability of Berlin to attract a large share of sales centres and other management functions orientated to the Eastern European space.

4. Conclusions

Berlin as German capital performs political functions of highest centrality. As location of

headquarters of multinational companies its backwardness is striking yet. To cope with its size and its central position it has to grow into its role that Berlin already plays on the stage of policy. Without any doubts, this will be a long lasting process.

The aim of this investigation was to identify early indicators to get insight into the nature of such process, provided that it already has started. In detail, we asked: 1. How much headquarters of large enterprises are residing in Berlin, is there any development? 2. Does the sectoral structure of enterprises located in Berlin and its surrounding areas display some features that are typical for metropolitan areas containing headquarters of MNCs, is there any structural change that could result in such structure? 3. Can we observe some catching up of adjacent regions of the new EU accession members that can create market potentials for Berlin in the future?

To find answers several datasets were analysed and interpreted in the light of theories outlined in section 2. The investigation of the data set "The Big 500" has shown that the share of head offices of large German enterprises residing in Berlin is small but permanently growing. Except Berlin only Munich and Stuttgart display a positive trend of a growing number of headquarters, even though without that significance that we observe in Berlin. Additionally, Berlin is the sole metropolis whose share of headquarters collected by this data set has risen over the whole period 1992–2006. Though, compared with other German metropolises this growth process takes place at a still very low level, and a big part of new created headquarters are the outcomes of privatisations. However, this doesn't joggle the matter of fact that any new headquarters contributes to the charisma of Berlin as a location where management decisions reaching around the globe are met. Simultaneously the mixed composition of new accrued head quarters gives evidence to the kind of growth of the Berlin economy in the future: Berlin may gain from organisational changes of large enterprises (mergers, division, outsourcing, joint ventures) because such decisions give reason to discuss the question of location anew. A jumping number of headquarters moving to Berlin is absolutely unlikely; however, a continuous row of small steps should likewise contribute to an increasing economic weight of Berlin.

A thick supply of company-related services is one important production factor of headquarters and a precondition for its attraction. The outcomes of analysis of the new German business register URS95 for Berlin and the inner interlacing area and the outer developing area of Brandenburg clearly displayed a pattern in dimensions both of space and of time: In the core area of Berlin (the state of Berlin) the sector of company-related services takes a large share at employment and sales that is growing furthermore while the share of production in manufacturing industries has decreased strongly. With increasing distance from the metropolis these relations become reversed: While the inner interlacing area of Brandenburg around Berlin gains from its proximity to the capital (growing shares of employment in company-related services and manufacturing sectors), the already high share of manufacturing in the outer developing area of Brandenburg at sales and employment is increasing. Such spatial pattern of structural change is in accordance to theories of changing urban systems from hierarchies determined by sectoral composition of urban economies to hierarchies shaped by functional formation of cities. However, Berlin possesses some peculiarities that give reason to assume a broader industrial structure compared with other European metropolises; we should expect a rather slowly growth of service industries of different range, accompanied by only slowly decline of manufacturing industries that should specialise in high tech production.

The examination of regional GDP figures for CEECs and some adjacent German regions was carried out by means of geographic maps that displayed some patterns of regional economic

activity that could be interpreted in the light of old and new theories. The observed above-average economic growth in a band reaching from the centre of Poland in the north through the central regions of Czech and Hungary until Slovenia confirms the outcomes of the NEG provided by NIEBUHR (2005) that predict economic growth initially in the western parts of CEECs. Perhaps this catching up also can be interpreted in the sense of the outcome of AUGUST LÖSCH. Border regions are very specific and traditionally economically weak. The catching up processes in CEESs have started in regions were the national capital is located. This should be a signal for Berlin to strengthen its position towards a global economic player. If the convergence process in CEECs comes to its final stage Berlin gets its opportunity to take part in the profits of integration if it's well prepared.

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Appendix: Tables

Table 4: State of Berlin: Changes of sectoral structure of the number of firms reporting sales, 2001 and 2006, and of sales itself, 1999 and 2004

sector (WZ 2003)	number of firms 2001	share 2001	change 2001--2006	share 2006	change of share 2001--2006	Sales 1999 (Euro)	share 1999	change 1999--2004	share 2004	change of share 1999--2004
all	93102	100	14.3	100		91470706	100	40.7	100	
CDE	4867	5.2	9.1	5.0	-0.2	22678920	24.8	3.8	18.3	-6.5
F	10439	11.2	-6.5	9.2	-2.0	6344526	6.9	-50.9	2.4	-4.5
G	21731	23.3	1.7	20.8	-2.6	27574931	30.1	26.9	27.2	-2.9
H	7762	8.3	6.2	7.7	-0.6	1753036	1.9	17.9	1.6	-0.3
I	4689	5.0	-1.1	4.4	-0.7	2750875	3.0	544.5	13.8	10.8
J	335	0.4	25.7	0.4	0.0	959477	1.0	25.6	0.9	-0.1
K	30697	33.0	26.8	36.6	3.6	22981538	25.1	67.8	30.0	4.8
O	9507	10.2	36.4	12.2	2.0	3120469	3.4	23.6	3.0	-0.4
other	3075	3.3	32.6	3.8	0.5	3306934	3.6	8.6	2.8	-0.8

Source: Microdata from Business register URS95, provided by Statistical Office of the States of Berlin and Brandenburg; own computations.

Table 5: Inner interlacing area incl. State of Berlin: Changes of sectoral structure of the number of firms reporting sales, 2001 and 2006, and of sales itself, 1999 and 2004

sector (WZ 2003)	number of firms 2001	share 2001	change 2001--2006	share 2006	change of share 2001--2006	Sales 1999 (Euro)	share 1999	change 1999--2004	share 2004	change of share 1999--2004
all	117423	100	16.1	100		109643383	100	39.7	100	
CDE	6565	5.6	6.6	5.1	-0.5	26054709	23.8	11.8	19	-4.8
F	14690	12.5	1	10.9	-1.6	8426133	7.7	-45.2	3	-4.7
G	28000	23.8	3	21.2	-2.7	34409096	31.4	24.5	28	-3.4
H	9545	8.1	5.5	7.4	-0.7	2065492	1.9	15.2	1.6	-0.3
I	6025	5.1	2.6	4.5	-0.6	3575302	3.3	479.2	13.5	10.3
J	483	0.4	15.7	0.4	0	981685	0.9	24.9	0.8	-0.1
K	35962	30.6	30.9	34.5	3.9	26089609	23.8	64.8	28.1	4.3
O	11916	10.1	34.8	11.8	1.6	4132495	3.8	17.9	3.2	-0.6
other	4237	3.6	33.5	4.2	0.5	3908862	3.6	14	2.9	-0.7

Source: Microdata from Business register URS95, provided by Statistical Office of the States of Berlin and Brandenburg; own computations.

Table 6: State of Brandenburg, inner interlacing area: Changes of sectoral structure of the number of firms reporting sales, 2001 and 2006, and of sales itself, 1999 and 2004

sector (WZ 2003)	number of firms 2001	share 2001	change 2001--2006	share 2006	change of share 2001--2006	Sales 1999 (Euro)	share 1999	change 1999--2004	share 2004	change of share 1999--2004
all	24321	100	22.9	100		18172677	100	35.1	100	
CDE	1698	6.98	-0.5	5.65	-1.3	3375789	18.58	65.5	22.76	4.2
F	4251	17.48	19.5	17	-0.5	2081607	11.45	-27.8	6.12	-5.3
G	6269	25.78	7.8	22.61	-3.2	6834165	37.61	14.7	31.94	-5.7
H	1783	7.33	2.8	6.13	-1.2	312456	1.72	0.4	1.28	-0.4
I	1336	5.49	15.6	5.17	-0.3	824427	4.54	261.5	12.14	7.6
J	148	0.61	-6.8	0.46	-0.1	22208	0.12	-5.4	0.09	0
K	5265	21.65	55.1	27.32	5.7	3108071	17.1	42.3	18.02	0.9
O	2409	9.91	28.5	10.36	0.5	1012026	5.57	0.3	4.14	-1.4
other	1162	4.78	36.1	5.29	0.5	601928	3.31	43.7	3.52	0.2

Source: Microdata from Business register URS95, provided by Statistical Office of the States of Berlin and Brandenburg; own computations.

Table 7: State of Brandenburg, outer developing area: Changes of sectoral structure of the number of firms reporting sales, 2001 and 2006, and of sales itself, 1999 and 2004

sector (WZ 2003)	number of firms 2001	share 2001	change 2001--2006	share 2006	change of share 2001--2006	Sales 1999 (Euro)	share 1999	change 1999--2004	share 2004	change of share 1999--2004
all	40903	100	-0.8	100		25939159	100	9.8	100	
CDE	3737	9.14	-10.4	8.25	-0.9	8719805	33.62	34.8	41.28	7.7
F	6869	16.79	-3.4	16.35	-0.4	4010825	15.46	-45.6	7.66	-7.8
G	11870	29.02	-11.8	25.8	-3.2	6697733	25.82	-1.2	23.23	-2.6
H	4004	9.79	-8	9.07	-0.7	672630	2.59	-18.8	1.92	-0.7
I	1877	4.59	-3.1	4.48	-0.1	730283	2.82	25.8	3.23	0.4
J	176	0.43	-17.6	0.36	-0.1	23562	0.09	-15.2	0.07	0
K	5990	14.64	25.5	18.52	3.9	2788470	10.75	32.5	12.97	2.2
O	3041	7.43	8.5	8.13	0.7	779264	3	14.8	3.14	0.1
other	3339	8.16	9.8	9.04	0.9	1516587	5.85	22.2	6.51	0.7

Source: Microdata from Business register URS95, provided by Statistical Office of the States of Berlin and Brandenburg; own computations.

Table 8: State of Berlin: Changes of sectoral structure of the number of firms reporting employment to the Federal Labour Office, 2001 and 2006, and of the number of employees itself, 1999 and 2004

sector (WZ 2003)	number of firms 2001	share 2001	change 2001--2006	share 2006	change of share 2001--2006	employees 1999	share 1999	change 1999--2004	share 2004	change of share 1999--2004
all	73412	100	6.8	100		989836	100	-0.1	100	
CDE	4296	5.9	-0.2	5.5	-0.4	137113	13.9	-10	12.5	-1.4
F	7759	10.6	-12.5	8.7	-1.9	69701	7	-43.7	4	-3.1
G	14730	20.1	-1.4	18.5	-1.6	128514	13	-7.6	12	-1
H	5889	8	11.6	8.4	0.4	35025	3.5	23.7	4.4	0.8
I	2934	4	8.4	4.1	0.1	59059	6	12.4	6.7	0.7
J	1175	1.6	30.7	2	0.4	36951	3.7	-5.3	3.5	-0.2
K	18599	25.3	13.8	27	1.7	159524	16.1	16.8	18.8	2.7
O	5952	8.1	22	9.3	1.2	74627	7.5	13.3	8.5	1
other	12078	16.5	8.5	16.7	0.3	289322	29.2	0.9	29.5	0.3

Source: Microdata from Business register URS95, provided by Statistical Office of the States of Berlin and Brandenburg; own computations.

Table 9: Inner interlacing area incl. the State of Berlin: Changes of sectoral structure of the number of firms reporting employment to the Federal Labour Office, 2001 and 2006, and of the number of employees itself, 1999 and 2004

sector (WZ 2003)	number of firms 2001	share 2001	change 2001--2006	share 2006	change of share 2001--2006	employees 1999	share 1999	change 1999--2004	share 2004	change of share 1999--2004
all	96633	100	5.9	100		1260821	100	-0.1	100	
CDE	6027	6.2	-0.9	5.8	-0.4	176072	14	-8.5	12.8	-1.2
F	11161	11.5	-10.5	9.8	-1.8	98429	7.8	-41	4.6	-3.2
G	20294	21	-2.1	19.4	-1.6	175035	13.9	-5.6	13.1	-0.8
H	7449	7.7	9.2	7.9	0.2	42578	3.4	19.8	4	0.7
I	4234	4.4	8.1	4.5	0.1	82549	6.5	12.9	7.4	0.8
J	1631	1.7	23.6	2	0.3	42497	3.4	-4.8	3.2	-0.2
K	22095	22.9	15.2	24.9	2	186774	14.8	18.5	17.6	2.7
O	7834	8.1	17.7	9	0.9	93170	7.4	10	8.1	0.7
other	15908	16.5	7.6	16.7	0.3	363717	28.8	1	29.2	0.3

Source: Microdata from Business register URS95, provided by Statistical Office of the States of Berlin and Brandenburg; own computations.

Table 10: State of Brandenburg, inner interlacing area: Changes of sectoral structure of the number of firms reporting employment to the Federal Labour Office, 2001 and 2006, and of the number of employees itself, 1999 and 2004

sector (WZ 2003)	number of firms 2001	share 2001	change 2001--2006	share 2006	change of share 2001--2006	employees 1999	share 1999	change 1999--2004	share 2004	change of share 1999--2004
all	23221	100	3.1	100		270985	100	0.1	100	
CDE	1731	7.45	-2.6	7.04	-0.4	38959	14.38	-3.4	13.86	-0.5
F	3402	14.65	-6	13.36	-1.3	28728	10.6	-34.3	6.96	-3.6
G	5564	23.96	-3.9	22.34	-1.6	46521	17.17	-0.1	17.12	0
H	1560	6.72	0.2	6.53	-0.2	7553	2.79	1.7	2.83	0
I	1300	5.6	7.6	5.84	0.2	23490	8.67	14.3	9.9	1.2
J	456	1.96	5.3	2.01	0	5546	2.05	-1.8	2.01	0
K	3496	15.06	22.5	17.9	2.8	27250	10.06	28.2	12.87	2.8
O	1882	8.1	4.1	8.19	0.1	18543	6.84	-3.4	6.6	-0.2
other	3830	16.49	4.9	16.79	0.3	74395	27.45	1.6	27.85	0.4

Source: Microdata from Business register URS95, provided by Statistical Office of the States of Berlin and Brandenburg; own computations.

Table 11: State of Brandenburg, outer developing area: Changes of sectoral structure of the number of firms reporting employment to the Federal Labour Office, 2001 and 2006, and of the number of employees itself, 1999 and 2004

sector (WZ 2003)	number of firms 2001	share 2001	change 2001--2006	share 2006	change of share 2001--2006	employees 1999	share 1999	change 1999--2004	share 2004	change of share 1999--2004
all	45150	100	-14.3	100		494200	100	-17	100	
CDE	3954	8.76	-13.2	8.88	0.1	87388	17.68	-8.9	19.39	1.7
F	6209	13.75	-20.9	12.69	-1.1	64016	12.95	-49.9	7.82	-5.1
G	11158	24.71	-20.8	22.85	-1.9	66314	13.42	-20.6	12.84	-0.6
H	3551	7.86	-21.4	7.22	-0.6	13558	2.74	-18	2.71	0
I	2158	4.78	-10.4	5	0.2	24184	4.89	-9.2	5.35	0.5
J	917	2.03	-11.3	2.1	0.1	8040	1.63	-16.6	1.63	0
K	4732	10.48	-2.6	11.92	1.4	36522	7.39	-3	8.63	1.2
O	3430	7.6	-13.4	7.68	0.1	29114	5.89	-18.9	5.76	-0.1
other	9041	20.02	-7.4	21.66	1.6	165064	33.4	-10.8	35.88	2.5

Source: Microdata from Business register URS95, provided by Statistical Office of the States of Berlin and Brandenburg; own computations.