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Location conditions in East Germany and in Poland from the point of view of the companies

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A joint research project at the European University Viadrina, DIW Berlin and the Polish Academy of Science has investigated how companies assess their locational conditions and whether there is a relationship between location attributes and the company performance. In both countries the majority of companies assessed the same location attributes as being important or unimportant for the company's performance. Some remarkable differences were found in the evaluation of locational quality. In both countries, the supply of skilled employees is deemed to be the most important quality criterion of a location, and the current situation regarding this location factor is assessed as satisfactory. The companies in Poland more often evaluate the supply of training and qualification facilities as important compared to companies in East Germany, and the availability is assessed as good in both regions. Less important are traffic conditions. This is–not unexpectedly–assessed worse by Polish companies compared to the East German ones. The support by chambers of commerce is more often important for the Polish companies compared to East German ones. This potentially reflects the different importance of commercial authorities in both countries. Local administration is on average rated worse by the East German companies compared to Polish counterparts.

One of the main challenges for transition economies is to create market conditions and infrastructures that are comparable with those in developed market economies. The question about the current situation of locational conditions and how they affect the performance of companies is investigated in a project which is funded by the German Science Foundation (DFG).[1] The first results for the East German companies indicate, that a beneficial regional environment positively affects both innovativeness as well as company performance.[2] This report provides information about which locational conditions are rated by companies of selected industries[3] in Poland and Eastern Germany as particularly important for their business success, how these companies assess the quality of locational factors at their locations and how the ratings differ between the two countries. The analyses regarding the rela-

1 DFG project (STE 1687-1): Standortfaktoren, Innovativität und Unternehmensentwicklung. Eine empirische Analyse ostdeutscher und polnischer Unternehmen.

2 Cf. Eickelpasch, A., Lejpras, A., Stephan, A.: Hard and Soft Locational Factors, Innovativeness and Firm Performance: An Empirical Test of Porter's Diamond Model at the Micro-Level. Discussionspaper DIW Berlin, Nr. 723, 2007.

3 The sample includes companies from knowledge-intensive industries (in particular manufacturing of chemical products, machinery and equipment, medical and optical instruments, telecommunication equipment, data processing, and research & development services). Cf. Götzfried, A.: European Employment Increasing in Services and Especially in Knowledge-Intensive Services. Statistics in Focus – Science and Technology, Paris 2004.

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L25, O31, R30

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Table 1
Importance and assessment of locational conditions by companies in East Germany
Shares in percentages

Locational condition	Importance of locational condition[1]	Assessment of locational condition[2]					Assessment index[3]
		very bad	bad	satisfactory	good	very good	
Supply of qualified labour force	82	9	27	33	28	4	–0,39
Performance of local banks	58	21	24	31	20	4	–1,40
Super regional accessibility by traffic	56	7	17	24	40	11	1,63
Image of the region	55	5	20	29	39	7	0,72
Proximity to clients	53	4	11	27	45	14	2,47
Supply of training and qualification facilities	51	4	10	43	41	3	1,49
Local traffic conditions	48	5	16	27	44	9	1,78
Support by the Länder government	45	14	24	26	28	7	–1,50
Performance of local promotion agencies	45	10	19	32	33	6	–0,43
Support by the chambers of commerce	37	9	19	40	28	4	–0,78
Proximity to universities	32	2	3	14	52	30	3,67
Performance of local authorities	31	19	24	33	19	6	–1,35
Performance of local labour office agencies	29	21	23	32	20	3	–1,76
Proximity to suppliers	26	7	9	31	42	12	2,34
Proximity to research institutes	26	3	4	19	49	26	2,83

1 Locational condition is important
2 Only if locational condition is important
3 Average of assessments from -10 („very bad“) to 10 („very good“)

Source: Survey of the DIW Berlin. **DIW** Berlin 2008

tionship between locational conditions and business performance of companies are not completed yet.

Firm performance is affected by many factors to a varying degree. This also holds for locational attributes. In the analysis we consider only those locational characteristics, which are expected to be important for the majority of firms. These characteristics are regional product markets, labour market, regional availability of knowledge, performance of local authorities and the transportation accessibility of the regions. In total 15 different location attributes were included in the surveys which cover these different aspects.

The database for the analysis was constructed from surveys of companies in East Germany and Poland. For the first time it is therefore possible to compare company ratings in both regions regarding important location and company characteristics (cf. box)

Availability of skilled employees is of utmost importance

The importance of the different location attributes is measured as the share of companies that regard the respective location attribute as "very important".[4] Accordingly, the most important location attribute is the availability of skilled employees. 82 percent of the companies rate this attribute as "very important" (table 1). Respectively one third of the companies that categorize this factor as being very important[5] assess their current local situation as "good or very good", as "satisfactory", or as "bad" or "very bad". The mean of the assessment has a value of -0.4 and is therefore close to zero.[6]

Less important factors are the performance of banks (58 percent of companies assess this as important), the super regional traffic infrastructure (56 percent), the image of the region (55 percent), the proximity to customers (53 percent), and the supply of further training and education facilities (51 percent). The valuation of companies regarding these criteria is rather diverse: the proximity to customers is rated as good by most companies, the traffic connections are rated as satisfactory, and the performance of local financial institutes is rated negatively.

Less frequently, the following locational conditions are classified as important: local traffic conditions

4 Not measured are the real location conditions, but the assessments of companies. Apparently, these may not correspond to the real conditions. However, the assessments are relevant as they reflect the opinions of decision makers at companies which may lead to immediate actions.

5 Only those companies were included in the analysis which rated a location attribute as very important.

6 The scale ranges from -10 (very bad) to +10 (very good).

(48 percent), support by local authorities and by chambers of commerce (45 percent each), research infrastructure (universities 32 percent, research institutes 26 percent) and proximity to suppliers (26 percent). The central result is, that local authorities (local banks, labour agencies, state level administration, business promotion agencies, etc) as well as company associations, are assessed negatively. Very positive are the assessments with regard to the regional research infrastructure (universities and research institutes) as well as regional supply of intermediate products.

Availability of skilled employees in Poland assessed slightly better

As a most important locational condition, the surveyed Polish companies view the availability of skilled employees. 91 percent, slightly more than in East Germany, attribute the utmost importance to this facet (table 2). One third of them are content with the regional supply of qualified labour force. Among the remaining companies, there are more, which assess the availability of skilled labour as “good” or “very good” (38 percent), than those which regard the availability as “bad” or “very bad” (25 percent). The value in the assessment index is +0.9. The regional supply of training and qualification facilities appears to be very important, as well. For three quarters of the companies, it has great importance. All over, they are content with it (assessment index: +2.3).

The other locational conditions are behind by far. Less than half of the companies associate it with high importance. The most important ones are the services of the local banks (50 percent), the proximity to universities (46 percent), the services of local authorities (44 percent), the supra-regional traffic connections (43 percent), the proximity to clients (42 percent), the image of the region (42 percent), and the regional traffic connections (40 percent). All these factors are positively assessed throughout. The good assessments are outstanding in case of the proximity to universities (assessment index: +4.9) and the proximity to clients (assessment index: +3.4).

No significant differences in the assessment between Poland and East Germany

Comparing the rank order of the locational attributes, a significant similarity appears: In East Germany as well as in Poland, the availability of skilled

Table 2

Importance and assessment of locational conditions by companies in Poland

Shares in percentages

Locational condition	Importance of locational condition[1]	Assessment of locational condition[2]					Assessment index[3]
		very bad	bad	satisfactory	good	very good	
Supply of qualified labour force	91	4	21	37	31	7	0,95
Supply of training and qualification facilities	75	2	9	36	44	9	2,31
Performance of local banks	50	3	8	23	59	8	2,75
Proximity to universities	46	1	1	8	45	44	4,95
Performance of local authorities	44	7	19	36	34	4	0,12
Super regional accessibility by traffic	43	10	19	30	31	9	0,99
Image of the region	42	8	9	28	40	14	1,61
Proximity to clients	42	2	3	27	54	14	3,38
Local traffic conditions	40	7	17	33	34	9	1,05
Proximity to suppliers	36	0	6	21	63	10	3,23
Proximity to research institutes	35	0	8	16	50	26	2,83
Performance of local labour office agencies	31	11	26	32	26	5	–0,51
Support by the Länder government	27	14	35	28	18	5	–1,99
Support by the chambers of commerce	27	10	17	32	33	8	–1,00
Performance of local promotion agencies	15	19	22	39	17	3	–1,37

1 Locational condition is important
2 Only if locational condition is important
3 Average of assessments from -10 („very bad“) to 10 („very good“)

Source: Survey of the European University Viadrina, Frankfurt/Oder. **DIW** Berlin 2008

Data basis of company surveys in East Germany and Poland

Two surveys of companies from East Germany and Poland are the data basis of the analysis. The survey in East Germany was conducted by the German Institute for Economic Research Berlin (DIW Berlin) on behalf of the Ministry of Education and Science in the autumn 2004. It was addressed to about 29000 companies from branches of manufacturing and selected production-related services; 6000 companies participated. The survey of the companies in Poland was carried out in the summer 2007 by the European University Viadrina, Frankfurt/Oder in cooperation with the Polish Academy of Sciences Institute of Economics, Warsaw, and was funded by the German Research Foundation (DFG). It was addressed to 3000 companies from the knowledge-intensive sectors of manufacturing and services; 280 of them participated. The list of questions of the questionnaire in East Germany was partially adopted. In order to reduce the influence of the structural differences, 593 companies from the East German sample were included that are similar to 248 Polish companies in terms of branch, size, age and affiliation to a firm group (table). The identification of comparable East German companies is achieved using the so-called propensity score matching approach. Here, for every Polish company, one or more comparable East German companies are assigned.[1]

1 A detailed description of the matching approach is shown in Caliendo, M., Kopeinig, S.: Some Practical Guidance for the Implementation of Propensity Score Matching. Journal of Economic Surveys, 22(1), 2008, 31-72.

Table
Characteristics of the included companies
Shares in percentages

	Companies located in ...	
	East Germany	Poland
Companies total	100,0	100,0
Manufacture of chemicals and chemical products	6,7	10,5
Manufacture of machinery and equipment	16,9	15,3
Manufacture of office machinery and computers	0,8	0,8
Manufacture of electrical machinery and apparatus	17,0	13,7
Manufacture of radio, television and communication equipment and apparatus	2,4	2,4
Manufacture of medical, precision and optical instruments, watches and clocks	12,5	11,7
Manufacture of motor vehicles, trailers and semi-trailers	5,6	10,5
Manufacture of other transport equipment	4,7	3,6
Post and telecommunications	0,2	0,8
Computer and related activities	10,3	10,1
Research and development	2,0	1,2
Other business activities	20,9	19,4
Ownership		
Independent company	85,2	77,8
Companies owned by foreign companies	6,6	10,5
Size classes by employees		
1 to 9 employees	25,3	16,5
10 to 19 employees	28,0	17,7
20 to 49 employees	20,9	22,6
50 to 99 employees	11,8	12,5
100 to 199 employees	8,4	12,1
200 to 499 employees	4,7	11,3
500 and more employees	0,8	7,3
Memo item: number of companies	593	248

1 After matching.

Source: Surveys of the DIW Berlin and of the European University Viadrina, Frankfurt/Oder. **DIW** Berlin 2008 employees is of utmost importance for companies. However, the companies in Poland are more content with the regional supply of qualified labour forces than in East Germany.

Moreover, the regional supply of training and qualification facilities, the proximity to customers and universities, the traffic connections, the services of local banks and the image of the region are considered important by many companies both in Poland and East Germany. Thereby, the traffic connections in Poland are assessed worse than in East Germany, but the other factors – in part considerably – better.

A remarkable difference between the two groups of companies emerges as well in the assessment of public authorities. The support of the regional administrations, the state (Land) government and the local development agencies are regarded more important by many companies in East Germany than in Poland. It might be related to the different assignment of tasks in both regions. The federal states (Bundesländer) in Germany, by virtue of the developed federalism, shape the land use planning and regional policy independently to a large extent. The voivodships in Poland are the equivalent units to the federal states. They do not have a legislative competence. Both in Germany and Poland, municipalities grant operating building permissions and other licences, collect municipal taxes and fees, run business promotion – mostly in separate corporations – and often offer industrial areas. The companies in Germany are members by obligation in local chambers, whereas, the membership is voluntary in Poland.

The authorities are assessed differently. In Poland companies are much more content with the local authorities, which also are very important to them, compared to companies in East Germany.

Location demands of innovative firms

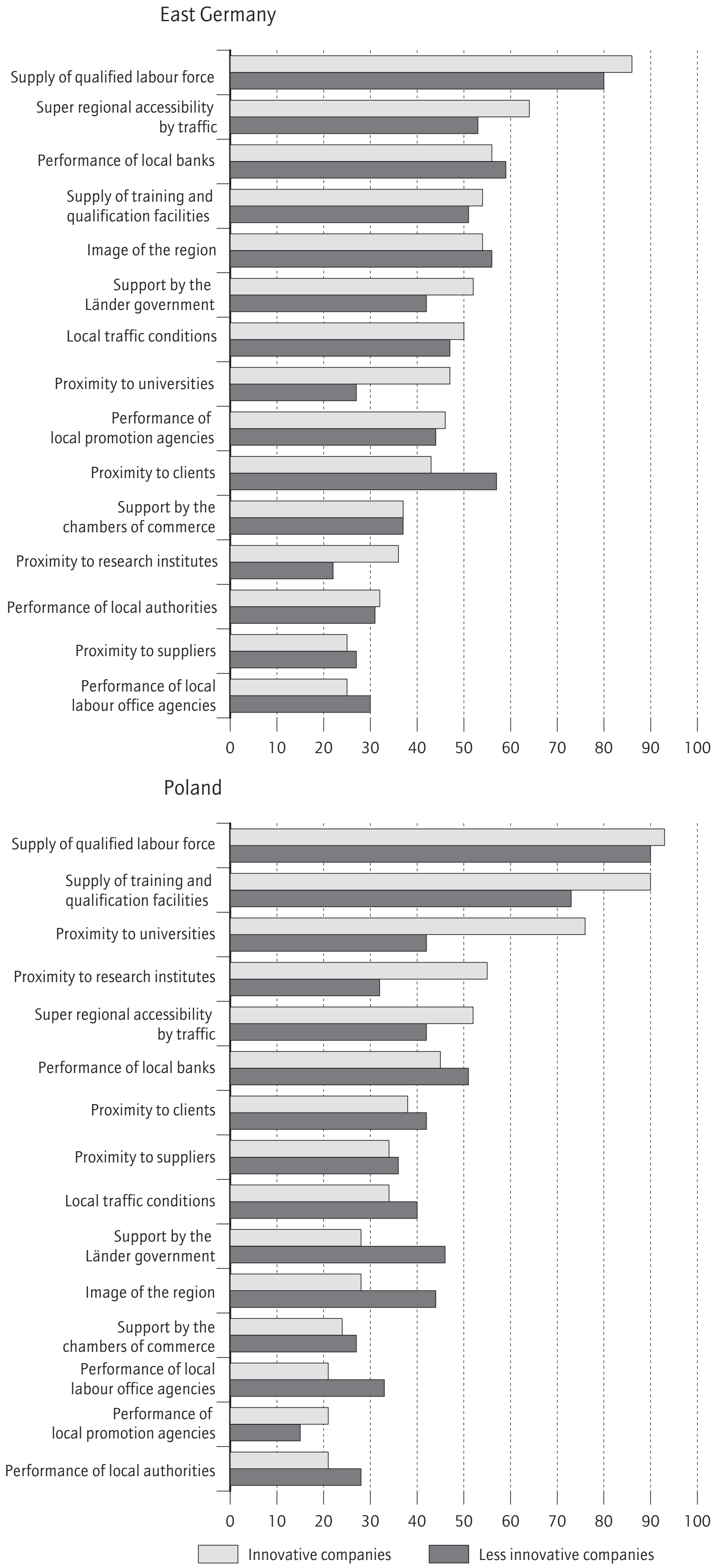
Innovative companies are crucial for the future development of an economy. Innovative companies are more often in growing markets and they perform better in terms of growth and exports than non innovative companies do.[7] Also, innovative companies make higher demands on their location than non innovative do. Hence, their assessment of the location is analysed separately for the innovative and less innovative companies.

7 Cf. e.g. Eickelpasch, A., Pfeiffer, I.: Unternehmen in Ostdeutschland – wirtschaftlicher Erfolg mit Innovationen. Wochenbericht des DIW Berlin, Nr. 14/2006.

Figure 1

Importance of locational conditions by companies according to their innovativeness

Shares of the companies that consider a particular factor important, in percentages



Source: Surveys of the DIW Berlin and the European University Viadrina, Frankfurt/Oder. **DIW** Berlin 2008

In this study those companies are called innovative which develop completely new products and introduce them into the market. In the East German sample the share of innovative companies defined this way reached 27 percent of all companies and, thus, more than double of the share in the Polish sample (12 percent).

For innovative companies in East Germany some specific location conditions like the proximity to universities and research institutes, the supraregional traffic conditions and the regional supply of qualified labour are significantly more important than for less innovative companies whereas the nearness to local clients is less important to innovative companies than to less innovative (figure 1). Hence, concerning the judgments of the companies on the locational conditions mentioned, there are only few differences between the two types of companies observed. This result can be an indication for the distinct orientation of innovative companies in East Germany towards markets outside the area of their location.

In the Polish sample the results are similar. Also here the nearness to universities and research institutes, the supply of qualification by local institutions, the supraregional traffic conditions and the regional supply of qualified labour are more important for innovative firms than for less innovative firms, and the nearness to local clients is less important. However, compared to East Germany the innovative Polish firms assess the locational conditions more positively than the less innovative do. Especially, this counts for the nearness to universities and for the supply of labour qualification and training opportunities.

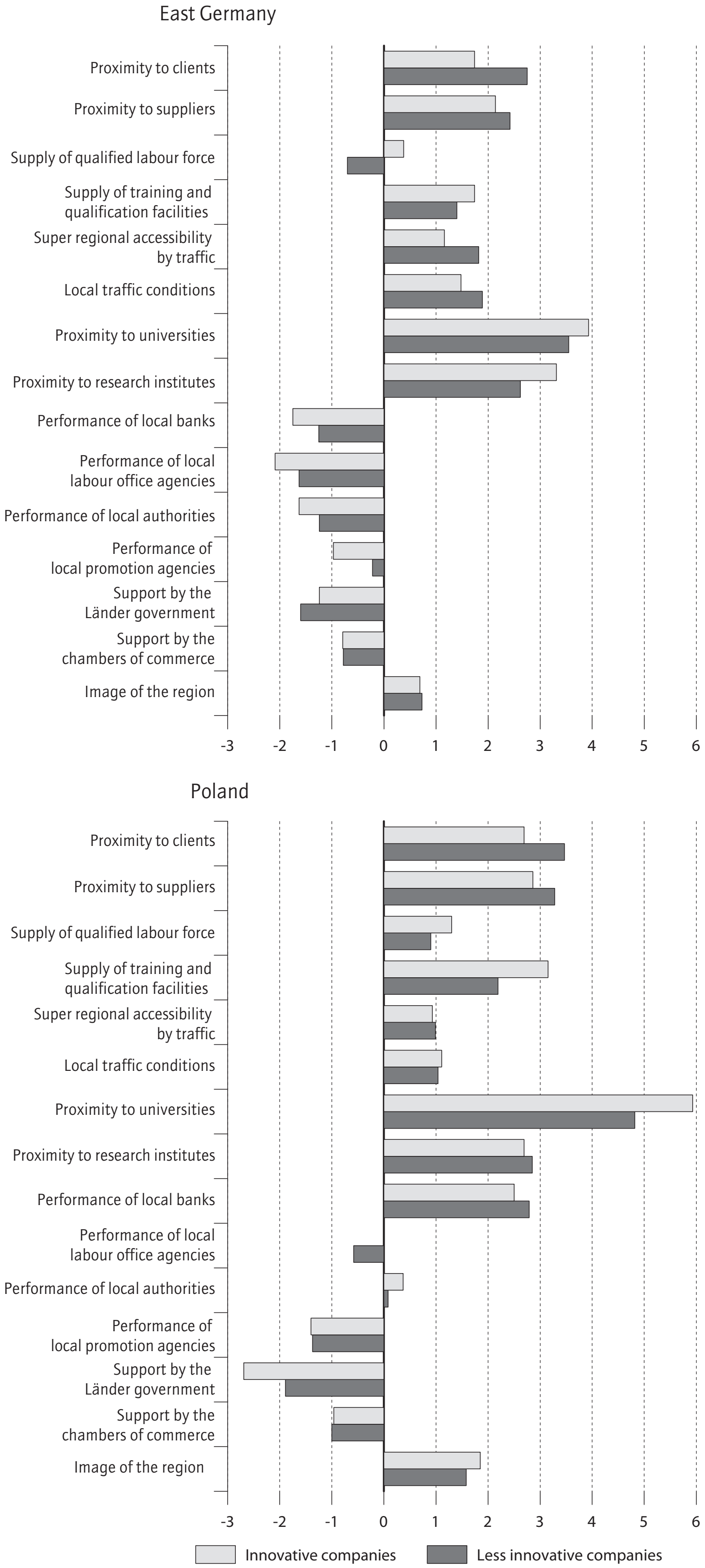
Conclusions

The companies in Poland and in East Germany make more or less the same demands on their location. However, the quality of the locational conditions is assessed partly differently. In Poland and in East Germany the availability of qualified labour is very important. In addition, for the Polish firms the opportunities for further qualification and training of their work force are important issues. In both areas the supply of qualified labour and the opportunities for further labour qualification are assessed as being satisfying. Hence, the relevance of universities and research institutes at site are assessed differently. Although this is not the most important locational factor, it is much more often assessed as being "important" in Poland than it is in East Germany. Between innovative firms in East Germany and in Poland the difference is very marked.

Figure 2

Assessment of locational conditions by companies according to their innovativeness

Average of assessments from -10 to +10



Source: Surveys of the DIW Berlin and the European University Viadrina, Frankfurt/Oder. **DIW** Berlin 2008

The assessments by the companies surveyed alone support the notion that location matters for the performance of companies. Obviously, the qualification of labour, and for innovative firms the transfer of knowledge, are crucial for economic success. Consequently, strengthening the qualification of the regional labour force and the regional technical and scientific expertise are major pre-conditions in Poland and in Germany for further growth of companies and, thus, regions.

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