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INTEGRATION IN THE GERMAN-POLISH BORDER REGION – STATUS QUO AND POTENTIAL

In the run-up to EU enlargement, barriers to factor movements and trade impediments between the EU and acceding countries have been reduced. Therefore, economic integration between Poland and Germany has to some extent already taken place before Poland will accede to the EU in 2004. In this article, the regional dimension of cross-border economic relations between Poland and Germany is analysed, focussing on regions located at the border between Poland and Germany. The empirical results indicate that thus far integration in the border region has most probably been largely due to increasing trade. Furthermore, steady migration flows between Poland and Germany have affected the factor endowment of the border region. Concerning the future development of integration, there still seems to exist potential for intensifying trade as well as for advancing factor market integration.

Keywords: regional analysis, economic integration, border regions, EU enlargement

INTRODUCTION

Border regions along the present external border of the EU are expected to play a critical role in the course of enlargement since they cover large areas in accession countries. Borders changed from separating lines to contact points and promote the re-orientation of economic linkages from East to West (Rasmini 2002, p. 2). Currently, border regions among "old" and "new" member states – which will become internal border regions of the EU in 2004 - attract special interest of policy makers since they are considered as regions facing plenty of economic problems. The special role of border regions for processes of integration is expressed by specific regional policies directed towards border regions implemented by the European Commission and on the national level. Regional policy for border regions of the European Commission is based on the assessment that border regions may be expected to benefit from enlargement only in the medium and long term. Whereas in the short term, they may need to adjust more than other regions to rapidly changing market conditions (Commission of the European Communities 2001a, p. 11). Therefore, the most rapid and direct

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impact of ongoing integration in Europe should be felt in EU-regions bordering candidate countries which will become internal EU border regions when enlargement is a reality.

In 2004, the regions along the border between Germany and Poland will also become internal border regions of the EU. This paper deals with the status quo of integration in the German-Polish border region. As a starting point for the analysis, implications for integration in the German-Polish border region are derived from economic theories. Furthermore, the development of institutional border impediments between Poland and Germany since 1989 is summarized. Afterwards economic integration in terms of cross-border economic relationships between Poland and Germany is analysed. This is in order to describe the cross-border relations of factor and goods markets between Poland and Germany, putting special emphasis on regions close to the border. The article concludes with a summary and gives an outlook.

1. ADVANCING INTEGRATION BETWEEN POLAND AND GERMANY

1.1. Economic Impact of Decreasing Border Impediments?

In the following it is shortly summarized what economic theories imply for the integration of goods and factor markets in the course of decreasing border impediments. Generally, integration theories predict that the reduction of border impediments stimulates cross-border economic relationships (Niebuhr and Stiller 2004). Cross border economic integration takes place via several transmission mechanisms like trade, direct investment, migration, commuting and cross-border shopping. As a consequence, the segmentation of markets by border effects might decrease and cross-border disparities in factor income and prices may vanish. Related cross-border market integration affects economic development of the regions involved. Border regions will be disproportionately affected by economic repercussions of integration if the intensity of cross-border economic relationships depends on distance. That means that inter-regional trade and factor market relations will be the more intensive the closer are two regions to each other. Regarding the Polish-German integration such mechanisms would imply that, ceteris paribus, regions close to the border would be involved more strongly in trading and exchanging production factors with Germany and Poland respectively than the involved nations on average.

Integration theory mainly deals with trade as a driving force behind the cross-border integration of markets (Niebuhr and Stiller 2004). Trade models imply that integration, via the reduction of trade impediments, will increase international trade if relative prices for goods differ among nations. Resulting inter- and intra-industry trade will affect the international pattern of specialization. Related structural changes within countries are driven by an intra-country reallocation of production factors among sectors. Trade can serve as a substitute for migration and foreign direct investments, i.e. the more countries trade, the lower will be factor flows between them.

Furthermore, a model developed by Rauch (1991) shows that intra- and inter-country transportation costs matter for external trade. Since transportation costs to abroad differ between regions, spatial proximity to other countries influences the degree of participation in international trade. The model implies that ceteris paribus trade with neighbouring countries should be relatively high for border regions. Furthermore, the reduction of border impediments should attract investment to regions offering relatively low transportation costs to foreign markets. Hence, spatial proximity to foreign countries can be considered as a location advantage in the course of integration.

Traditional location models (Lösch 1944, Giersch 1949/50) and new economic geography models imply that trade liberalization might positively affect location conditions of border regions. This goes back to the fact that due to decreasing trade impediments the outward orientation of economic activities partly replaces inward orientation since new markets for buyers and suppliers emerge abroad (Krugman and Livas 1996). Based on considerations as to market access, new economic geography models suggest that reducing border impediments could attract consumers, production factors and firms to internal EU border regions (Niebuhr and Stiller 2004). This originates from the fact that integration raises the market potential of non-border regions to a larger extent than that of inner regions. Regions are more attractive for labour and firms, the higher their market potential is.

But the new economic geography does not allow drawing clear-cut conclusions concerning the economic impact of decreasing border impediments for border regions. According to this location theory the spatial impact of integration is ambiguous. This goes back to the lock-in effects and path dependencies of economic development which are relevant in new economic geography models. Therefore, it is also a possible model outcome that integration – the reduction of trade costs and impediments for cross-border movement of production factors – does not change the spatial structure at all. Under this assumption integration effects will not be concentrated in border regions. And border regions would not attract production factors in the course of trade liberalization.

Concerning labour migration, new economic geography models imply that labour might be attracted to border regions – from abroad as well as from other domestic regions – since wages increase due to the increasing market potential. Also traditional migration theories imply that workers will migrate towards regions where wages are comparatively high and unemployment is relatively low (Massey et al. 1993, Molho 1986). Furthermore, migration theories point to the relevance of personal networks in making the migration decision. Key elements of migration networks are intense relations among persons in regions of origin and destination (Straubhaar 2000). Spatial distance between country of destination and origin only plays a minor role for the migration of labour by affecting migration costs. And there are no hints in traditional migration theory that border regions are preferred destinations of migrants.

Altogether, migration theories imply that urban regions offering favourable labour market conditions and attractive living conditions might generally have an advantage in attracting labour. Furthermore, it seems to be more probable that those regions already having a relatively high share of foreigners will rather be the destination of immigrants from abroad than regions with low labour market participation of foreigners. According to migration theories, the concentration of migrants in border regions is probable if these regions offer favourable living conditions, good labour market opportunities and contacts for network migrants.

Concerning the spatial allocation of foreign direct investments, it is sometimes argued that border regions could become attractive locations for foreign direct investments due to high market potential and spatial proximity to foreign markets – arguments also put forward in location models (Barjak 1998, p. 224). However, in most models of foreign direct investment the decision to invest depends mainly not on location factors but the expected future development of a country (Caves 1996). This relation does not support a specific preference for allocating direct investments in border regions. This also applies to the argument that the improvement of political stability positively affects direct investments. Therefore, for instance, transformation and the establishing of market economies as well as joining the WTO and OECD might have increased Poland's attractiveness for foreign direct investment (Lammers 2003).

To sum up, one might conclude from certain trade models that proximity between regions matters for their trade intensity. If trade costs are relevant for the intensity of cross-border trade, border regions should be more strongly involved in trading with neighbouring countries than internal regions and might attract investment – predominantly from exporting firms. The assessment that trade depends on distance is supported by empirical tests of gravity models. Corresponding analysis are empirically highly significant in explaining the volume of trade between two regions by the economic size of these regions and the distance between them (Deardorff 1998, Fidrmuc and Fidrmuc 2003). Furthermore, new economic geography models imply that trade liberalization might attract firms and labour to border regions increasing factor endowment. But migration theories do no provide specific arguments suggesting that migrants from abroad should concentrate in border regions. Thus in total, economic theories rather do not support the assessment that direct investment from abroad as well as immigrants are likely to concentrate in border regions. However, the potential for tight cross-border labour market relations due to commuting is an aspect of integration, which is specific for border regions.

1.2. Border Impediments between Germany and Poland

National borders matter for economic development since they impede international trade and factor mobility as well as spillover, e.g. related to innovation processes or agglomeration economies. Therefore, the intensity of inter-regional economic relationships is low or does not take place at all in case of regions being separated by borders (see Figure 1).

A basic feature of EU integration is that tariff barriers to trade have been completely abolished and that non tariff barriers to trade with goods, services, information and factor movements have been continuously reduced. Reduction of customs duties and quantitative restrictions in trade between the EU and acceding countries have already taken place in the run-up to EU enlargement. Trade liberalization has effected a substantial institutional change among member states and acceding countries in the course of which tariff barriers for trading industrial goods have been almost completely abolished.

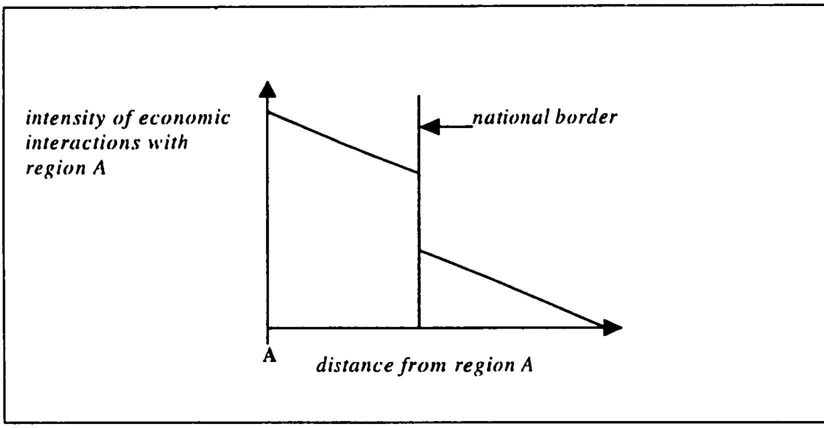

Fig. 1 Borders Impede Economic Relationships
Source: Author's own diagram following Henk van Houtum (2000)

Trade impediments between Germany and Poland have been reduced successively during the 1990s too. In 1991, the liberalization of cross-border trade was initiated with an agreement to set up a Free Trade Zone between Poland and the EU. An interim agreement eliminating customs duties for manufactured goods imported to the EU from Poland has already been implemented in 1992. In 1994, the Europe Agreement came into force providing further reductions in trade barriers, cooperation in economic, financial technical and cultural fields, and a forum for political dialogue. Additionally, the liberalization of trade in services, migration and capital flows has already taken place to some extent between EU and Poland. In the course of advancing integration between Poland and EU, e.g. cross-border commuting in line with the "Grenzgängerabkommen" principally allows a closer integration of regional labour markets in the German-Polish border region.

However, it is important to mention that having, to a large extent, abolished tariffs between Germany and Poland does not mean that trade between these countries is almost free of barriers. As to the relevance of border effects previous experiences in the course of EU integration imply that, despite institutional liberalization, border impediments for trade will probably still be a matter of concern between Germany and Poland.

This can be concluded from empirical studies on the relevance and development of border impediments for intra-EU trade. These analyses imply that significant border impediments to trade are still existing among EU states, although tariffs were already abolished decades ago (Bröcker

1998, Head and Mayer 2000, Nitsch 2000). The corresponding studies estimate the intensity of border effects by comparing the intensity of intra-national and international trade flows in the framework of a gravity model, finding that domestic regions interact much more intensely than interacting with foreign regions. Furthermore, experiences in the course of the European integration illustrate that it takes a relatively long time until the segmentation of markets by national borders loses importance. Empirical studies by Nitsch (2000) and Head and Mayer (2000) imply a strong decrease of border impediments between EU states during the 1980s and a steady decrease during the 1990s. Hence, reductions of border effects were relevant a long time after tariffs were abolished between EU states.

To sum up, trade impediments between Poland and Germany have substantially decreased during the last decade as well as to some extent barriers to movement of capital and labour. These developments opened up opportunities for the advancing integration of German and Polish markets. Altogether, the impact of advancing integration between Poland and Germany would be especially felt in border regions if the intensity of inter-regional interactions depends on distance. Therefore, the reduction of border impediments between Poland and Germany might have increased cross-border co-operation and trade relations of firms in border regions relatively strongly. Then the economic impact of enlargement should ceteris paribus be the more relevant the closer the regions to acceding countries are. This would be an argument supporting the assessment of the European Commission (2001a) that the most rapid impact of EU enlargement would be felt in border regions. But according to economic theories a higher integration in the international division of labour entails positive not negative welfare effects for the regions involved.

In the following, data on trade, foreign direct investment and migration between Germany and Poland are presented focusing on regions close to the border. Of course, looking at this field of economic activities only covers one part of cross-border economic integration in the German-Polish border region. Therefore, the following analysis does not allow drawing conclusions on how integration has affected economic growth in the regions considered but describes the status quo of integration in the German-Polish border region with regard to selected aspects.

2. EMPIRICAL RESULTS

2.1. Definition of the German-Polish Border Region

In the analysis at hand, the German-Polish border region is defined for NUTS I regions since data required for the analysis are not available for lower regional levels. Considered regions for Germany are the Bundesländer located at the German-Polish border (Brandenburg, Mecklenburg-Western Pomerania, Saxony) and Berlin which is surrounded by a border-Bundesland. These regions are referred to as "border-Bundesländer". In Poland, the corresponding regions are Voivodships located at the border (Lower Silesia, Lubusz, West Pomerania). Furthermore, the analysis includes Greater Poland which is not directly located at the border but as close to it as parts of the German border-Bundesländer. These four Polish regions will subsequently be described as "border-Voivodships". For assessing the state of regional integration – measured by cross border trade, labour migration and direct investment – national averages are compared to corresponding figures of border-Bundesländer and border–Voivodships. As a starting point for the analysis cross-border disparities regarding per capita income, economic structure and unemployment rates are briefly described. The degree of cross-border disparities adds to other indicators for market segmentation in the border region.

2.2. Economic Disparities between Voivodships and Bundesländer at the Border

Border-Bundesländer show specific sectoral employment patterns compared to employment shares of the agricultural sector, manufacturing and services on an aggregated level for Germany. The share of the agrarian sector in Germany's border regions is three times as high as it is in Germany on average (see Figure 2). Furthermore, the low share of employment in manufacturing in the border-Bundesländer points to the weak industrial base symptomatic for the Bundesländer in East Germany. The relatively strong specialization in services in the German part of the border region is also typical for East Germany's Bundesländer indicating the relative importance of the public sector as an employer.

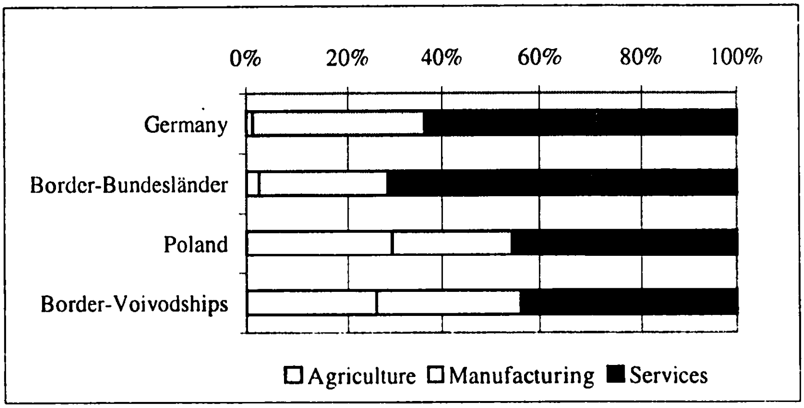

Fig. 2 Sector Shares in Total Employment*, 2001
Source: German Labour Office and Polish Statistical Office. *Without self-employed persons

The Polish part of the border region is to a lesser extent specialized in services and agriculture than the rest of Poland is on average. Thus, we find a relatively high employment share of manufacturing in the Voivodships bordering Germany. The Voivodships at the border even employ a higher share (30.2 %) of the labour force in manufacturing than the neighbouring Bundesländer (25.8 %). Furthermore, we have striking cross-border disparities regarding agriculture. This sector still employs one fourth of the labour force in the border-Voivodships while only 2.5 % of border-Bundesländer employees belong to the agrarian sector. Altogether, there exist distinct disparities between Germany and Poland regarding the relative weight of economic sectors.

Furthermore, cross-border disparities with regard to per capita income – measured by gross domestic product per capita - are pronounced (see Figure 3). While border-Bundesländer have a per capita income – expressed in purchasing power parities – of around 70 % of the EU average, the Polish regions had an income level of roughly 40 % of the EU average in 2000. The relative income position of border regions within Germany and Poland strongly differs as well. With regard to per-capita income border-Bundesländer are clearly lagging behind the German average while income disparities among border-Voivodships and Poland are negligible. Developments since 1995 indicate that the cross-border income gap is decreasing. While per-capita-income relative to EU average has decreased in the German part of the border region it has increased in the Polish part.

Consequently, living standards in both parts of the border region are narrowing.

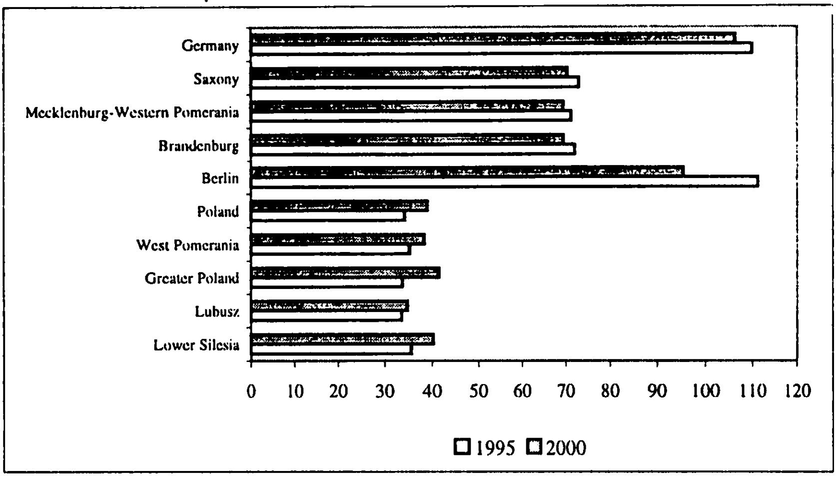

Fig. 3 GDP per Capita, Purchasing Power Parities, EU=100, 1995, 2000
Source: Eurostat, Region Database

Table 1

Unemployment rates, 1998, 2001

	Unemployment rates 1998	Unemployment rates 2001
Germany	9.6	7.8
Berlin	14.2	12.5
Brandenburg	17.5	13.8
Mecklenburg-Western Pomerania	19.3	15.0
Saxony	17.5	14.0
Poland	9.9	18.4
Lower Silesia	11.2	24.1
Lubusz	11.5	23.6
Greater Poland	7.7	19.0
West Pomerania	12,6	21,5

Source: Eurostat, Region Database

Instead, disparities in employment opportunities are widening while regions along both sides of the border are faced with serious labour market problems (see Table 1). While unemployment has decreased in Germany and border-Bundesländer from 1998 to 2001, it has increased enormously in

Poland. In consequence, unemployment rates are now higher in the border-Voivodships than in the border-Bundesländer. In 2001, unemployment rates in border-Bundesländer were much higher than in Germany on average – reaching almost 15 % in Mecklenburg-Western Pomerania. Also in Poland, unemployment in regions close to the border is higher than in Poland on average. In three border-Voivodships the unemployment rate was higher than 20 % in 2001.

To sum up, compared to EU averages, the German as well as the Polish regions at the border have relatively low GDP per capita. German border regions also strongly lag behind the national average regarding per capita income. Unlike their German neighbours, the Polish border regions are not marked by distinct economic backwardness compared to the rest of the country. Cross-border per capita income disparities have been decreasing since 1995 but are still distinct. Furthermore, there are striking cross-border disparities regarding economic structures. In the Polish regions the agrarian sector has a significantly higher employment share than in Germany while the contribution of the service sector is lower in Poland than it is in Germany. Labour market opportunities are comparatively bad in the Polish as well as in the German border region, whereas unemployment rates are distinctly higher in border-Voivodships than in border-Bundesländer.

2.3. Integration of the German Polish Border Region – Status Quo

2.3.1. Trade

As a result, the regional dimension of trade integration for trading goods between Germany and Poland is analysed. Sufficient statistical data for trade with services – which can be assumed to be especially relevant in border regions – are not available. Generally, trade between East and West Europe has increased immensely since 1989. The transformation of the Central and Eastern European economies has eliminated the preferences for intra CEEC trade as well as many barriers to trade between Eastern and Western Europe. As a result, the CEECs have oriented their foreign trade towards Western Europe. Simultaneously, the institutional integration between the EU and Eastern Europe may also have driven this process (see Piazolo (2001), p. 23). Also trade relations between Germany and Poland have enormously increased since the breakdown of the Iron Curtain (see Table 2).

Table 2

Exports and Imports between Poland and Germany, DM million, 1992 and 2002

	1992	2002
Imports from Poland	8286.9	14183.3
Exports to Poland	8233.1	16063.1

Source: German Statistical Office

In the following analysis we focus on the regional dimension of trade between Poland and Germany. Figures 4 and 5 indicate the relative importance of trade relations among Germany, border-Bundesländer and Poland. Trade relations are expressed as regional shares in total exports in respect to imports. The analysis starts with data from 1995 since regional trade statistics for Poland are not available earlier. First of all, Poland's share in Germany's total imports and exports has only increased slightly since 1995. In 2001, roughly 2.4 % of German total exports went to Poland and 2,4 % of German imports came from Poland.

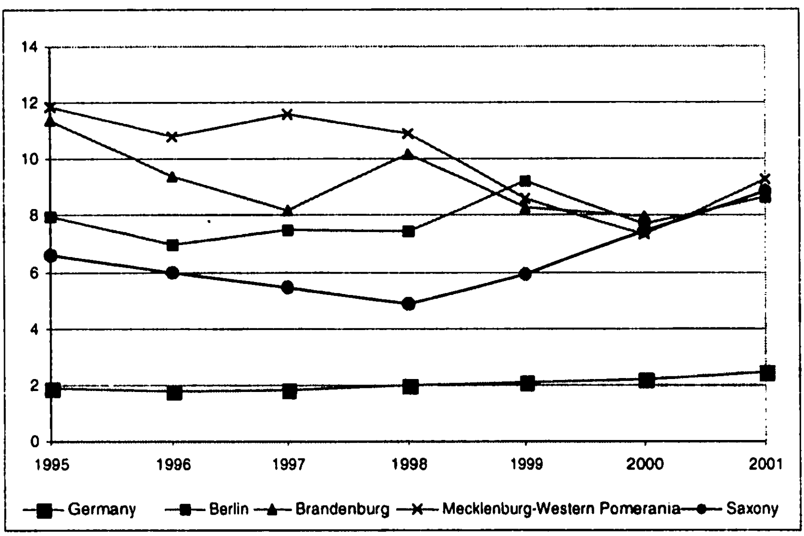

Fig. 4 Regional Share of Imports from Poland in Total Imports, 1995–2001
Source: German Statistical Office

The figures illustrate quite clearly that on average the trade relations between Poland and the German border-Bundesländer are relatively more important than between Poland and Germany on average. About 9 % of the imports of border-Bundesländer had their origin in Poland in 2001. Furthermore, the import and export shares of Poland reveal that for border-Bundesländer – except for Brandenburg – Poland is on average more important for importing goods than as an export market (see Figure 4 and 5). Only between 3 % to 5 % of Saxony's, Mecklenburg-Western Pomerania's and Berlin's exports are directed towards Poland. However, data for Brandenburg exhibit the fairly high importance of exports to Poland for Brandenburg's economy.

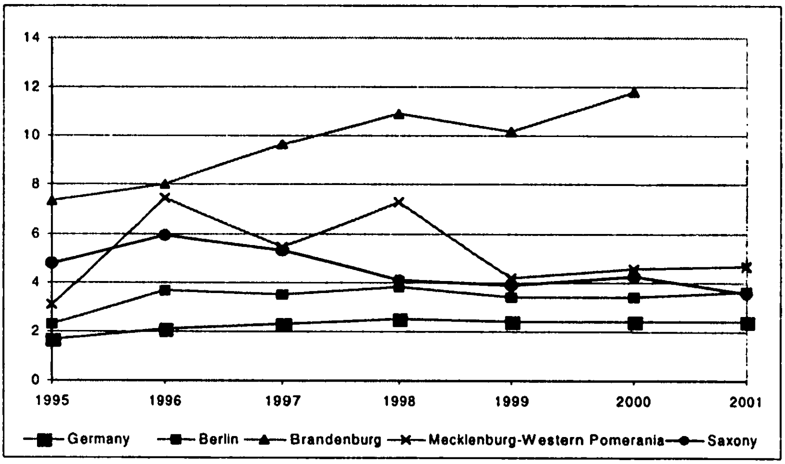

Fig. 5 Regional Share of Exports to Poland in Total Exports, 1995-2001
Source: German Statistical Office

In total, Germany is for Polish firms a more important market for exports than for imports (see Figure 6 and 7). In the year 2001, 34 % of total Polish exports were sent to the German market while 24 % of Poland's imports had their origin in Germany. The intensity of trade relations between Germany and border-Voivodships, measured by regional import and export shares, have only slightly changed since 1995. It is striking that the border-Voivodships are more strongly involved in trade with Germany than Poland on average is. This holds especially for Lubusz, Greater Poland and Lower Silesia while trade between West Pomerania and Germany takes place at a level slightly above average.

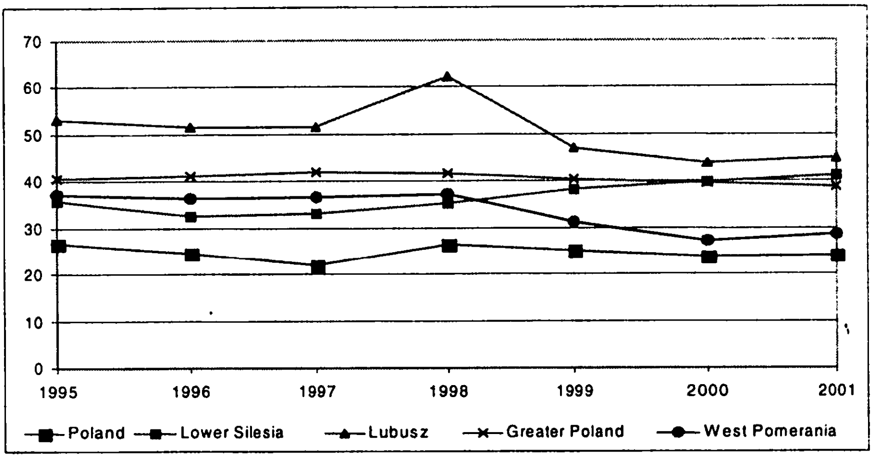

Fig. 6 Regional Share of Imports from Germany in Total Imports, 1995-2001
Source: Polish Statistical Office

The importance of Germany for exports from the border-Voivodships is fairly higher than it is for imports. The share of border-Voivodships exports to Germany ranges from 34 % to 61 % while the share of imports from Germany ranges from 24 % to 45 %. Interestingly, for trade relations between Poland and Germany there are strong similarities to the pre-World War II pattern: in 1929 31.2 % of Poland's total exports went to Germany and 34 % in 2001. Differently, only 8.9 % of Poland's exports were directed towards Germany in 1984 (see Piazolo (2001), p. 23).

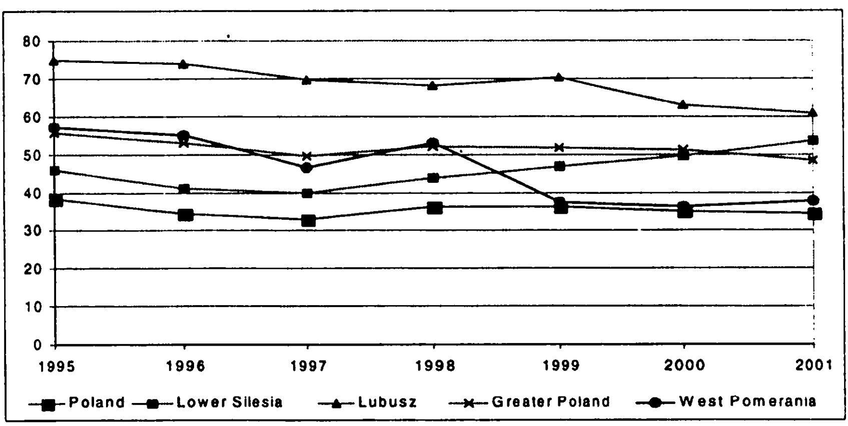

Fig. 7 Regional Share of Exports to Germany in Total Exports, 1995-2001
Source: Polish Statistical Office

When evaluating the importance of trade for integration effects – and the potential for intensifying integration in the German-Polish border region - one should not only look at relative figures,. but also at the overall participation of border-Bundesländer and border-Voivodships in international trade (see Table 3). Openness to trade – measured by export share in GDP – is, compared to the German average, relatively low for the Bundesländer bordering Poland. This at least partly goes back to the relatively low employment share of manufacturing in the border-Bundesländer.

Table 3

Export Share in GDP, 2001

	Export/GDP
Germany	29.4
Berlin	10.7
Brandenburg	9.2
Mecklenburg-Western Pomerania	8.3
Saxony	14.4
Poland	4.6
Lower Silesia	6.2
Lubusz	6.7
Greater Poland	5.3
West Pomerania	5.0

Sources: Statistical Offices of Germany and Poland, own calculations

Compared to the Polish average, the border-Voivodships appear to be relatively open to trade exporting a higher share of their GDP than Poland does on average. Disparities regarding the openness to trade between Poland's border-Voivodships and Poland on average is relatively small compared to the corresponding disparities on the other side of the border. Nevertheless, border-Bundesländer have a higher export share in GDP than neighbouring Voivodships.

In this relation it is important to mention the data presented does not cover the total trade. Trade in services and cross-border shopping is missing in the analysis. Nevertheless, these kinds of economic linkages are specific for border regions and seem to play an important role in everyday life of the border regions. For example Dascher (2003, p. 9) states that long queues of shoppers do (not only on weekends) document that there are numerous Germans who shop in markets at Slubice, which is the Polish part of the border twin cities of Frankfurt (Oder) and Slubice. The relevance of cross-border shopping is an additional argument for the above average intensities of trade relations among the regions along the border between Poland and Germany.

2.3.2. Migration, Commuting and Direct Investment

Like international trade, international migration, cross-border commuting and direct investments abroad are potential forces behind cross-border market integration between Germany and Poland. In the following, some figures are presented for these cross-border economic activities between Poland and Germany. Regarding migration, regional analysis is restricted to Germany since corresponding regional data is not available for border-Voivodships for a longer period of time.

Germany and Poland had intensive migration relations from 1991 to 2000. In total, 1,002,201 people came from Poland to Germany and 851,699 people migrated from Germany to Poland during the considered period of time. Interestingly, there is migration from Poland to Germany as well as the other way round. For instance, about 71,000 Polish people immigrated to Germany while about 70,000 people from Germany immigrated to Poland in the year 2000. Significant migration from Germany to Poland stands in contrast to the migration theory predicting migration from low wage countries to countries with higher wages. With regard to labour market disparities between Germany and Poland, one should expect that people should primarily migrate from Poland to Germany.

All border-Bundesländer offer less favourable labour market conditions than Germany on average due to high unemployment rates and relatively low wages. Nevertheless, labour market conditions are much better in border-Bundesländer than in the neighbouring Voivodships, and border-Bundesländer have been a destination for migrants from Poland during the last few years. From 1991 to 2000 a share of the 13.4 % immigrants from Poland to Germany went to border-Bundesländer. But migration also took place in the other direction. 14 % of emigrants to Poland came from border-Bundesländer. For border-Bundesländer – except Berlin – emigration to Poland was approximately as high as immigration from Poland (see Figure 8).

Only Berlin realized distinct net migration gains from Poland during the considered period of time. This may partly be explained by the fact that among the border-Bundesländer, Berlin has the lowest unemployment rates and the highest per capita income. Furthermore, the population share of Polish employees is comparatively high in Berlin and relatively low in the other border-Bundesländer. In 2001, there were 73,294 Polish employees in Berlin, 7,532 in Brandenburg, 3,782 in Mecklenburg-Western Pomeranian and 10,980 in Saxony. These figures correspond to a population share of Polish employees of approximately 0.2 % in Brandenburg, Mecklenburg-

Western Pomerania and Saxony. In Berlin the population share of labour force from Poland is 2.2 %. Therefore, Berlin might be a preferred destination of network migrants from Poland. Furthermore, migration figures suggest that especially Mecklenburg Western-Pomerania is not an attractive destination for migrants from Poland.

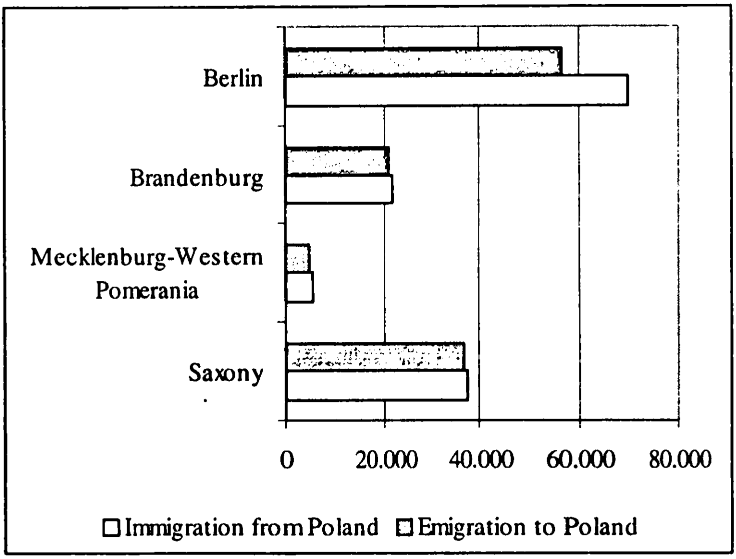

Fig. 8 Migration Between Border-Bundesländer and Poland, 1991-2000
Source: German Statistical Office

Migration to and from Poland constitutes a large share of total migration flows related to Germany. About 9.7 % of Germany's immigrants came from Poland and 12.2 % of Germany's emigrants went there during the time period from 1991 to 2000 (see Figure 9). The relative importance of immigration from and emigration to Poland are for Berlin and Saxony distinctly above the German average. Therefore, migration between Poland and Germany has especially affected labour endowment of these border-Bundesländer.

Another potential source for market integration across the border – especially in border regions – is commuting as a regionally limited form of labour mobility. Official figures on the total number of commuters from Poland to Germany are not available from German statistics. Estimations in the literature jointly suggest a relatively low commuting level in the German-Polish border region. For instance, Dascher (2003, p. 27), who hints for the twin-cities of Frankfurt (Oder) and Slubice, at the fact that Frankfurt (Oder) exhibits significantly below average foreign employment since workers from Poland are not attracted by that region. Currently, commuting seems to take place only at a very low level across the border between Poland and Germany and labour market integration due to commuting in the border region does not seem to be yet very advanced. Barjak (1998) hints at the aspect that not only unfavourable labour market conditions on both sides of the border but also insufficient cross-border infrastructure along the Polish-German border region might be an impediment for commuting. Bad infrastructure negatively influences potential commuting time and increases commuting costs which makes it less attractive to have a job on the other side of the border.

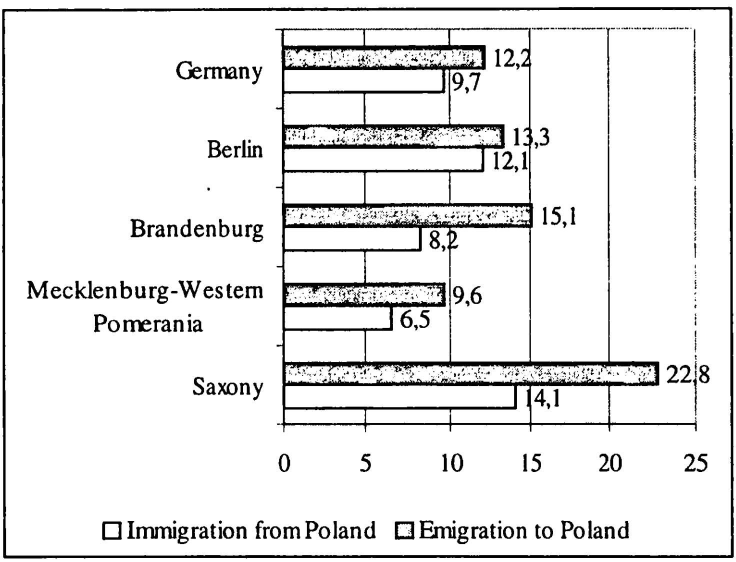

Fig. 9 Share of Polish Migrants in Total Migration, 1991-2000
Source: German Statistical Office

Finally, foreign direct investments between Germany and Poland are considered. With regard to foreign direct investment, we only present regional data for German border-Bundesländer since corresponding figures are not available for Voivodships. Direct investment relations between Germany and Poland have continuously increased during the last years. For instance, German direct investments in Poland were nine times as high in 2001 as they were in 1995 (German Central Bank 2003). Concerning direct investment the data reveal – compared to the total share of direct investments from Germany to Poland – relatively more intense investment relations between Berlin, Brandenburg and Saxony on the one side and Poland on the other. Furthermore, only very low direct investments flow from Mecklenburg-Western Pomerania to Poland. Altogether investment from Poland in German border-Bundesländer is very low (see Figure 10) – having a share of 0.02 % in total foreign investment in Germany.

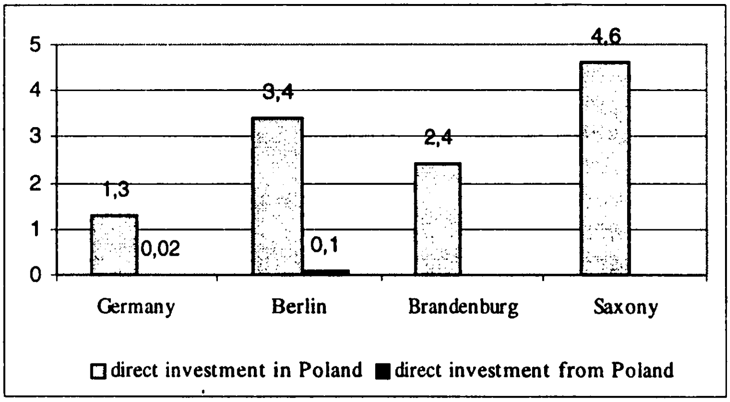

Fig. 10 Share of direct investment from and to Poland, Germany and Bundesländer, 2000*, in %

Source: German Central Bank. For Mecklenburg Mecklenburg-Western Pomeranian direct investment in Poland and for Brandenburg direct investment from Poland are negligible. No direct investment in Mecklenburg-Western Pomeranian and Saxony from Poland. * Data for Berlin from 2001

2.4. Integration of the German-Polish Border Region – an Evaluation

Institutional changes between Germany and Poland gave rise to intensified integration among these countries since 1991. Also Voivodships and Bundesländer located along the German-Polish border have taken part in this development. The empirical results indicate that thus far integration in the border region has most probably been largely due to increasing trade. Border-Bundesländer and border-Voivodships are important trading partners for Poland respectively Germany. Furthermore, also migration between Poland and Germany – at least to some extent – released economic integration effects in the border region. Additional integration effects result from direct investments of border-Bundesländer in Poland which have been rising during the last years. Instead, direct investment from Poland in Germany are more or less negligible. And cross-border commuting still seems to play a minor role for market integration in the border region.

Altogether, trade integration among "old" and "new" EU member states is often considered as fairly advanced (see Buch 2003, Piazolo 2001). However, despite advanced trade liberalization the integration of Polish and German goods markets has most probably not yet been completed, among other factors due to the relevance of non-tariff border impediments along the German-Polish border. In the literature it is frequently argued that there is still a high potential for reducing institutional border impediments, for instance going back to different institutional qualities (de Groot et. al 2004). Furthermore, border impediments will decrease due to stopping customs inspections and waiting time at the border. Cross border relations are also impeded by the poor quality of cross-border traffic infrastructure, which might be seen as a serious impediment to development of the border region (Krätke 1998, p. 25). Hence, reduction of non-tariff trade impediments and improvement in cross-border infrastructure would reduce transaction costs and might thus release incentives for intensifying economic relationships within the German-Polish border region. If so, additional integration effects in the German-Polish border region might emerge due to declining border impediments.

Voivodships and Bundesländer located at the border have already developed relatively more intensive trade relations with Poland and Germany respectively than the countries did on average. But currently it does not seem as if the border-Bundesländer have already exploited their potential for trading with Poland (Kunze and Schumacher 2003 and Riedel et al 2001). Arguments for unexploited trade potential between border-Bundesländer and Poland are derived from gravity models. Poland is expected to have relatively high economic growth rates in the future, which is likely to further stimulate trade with Germany. Riedel et al (2001) conclude from an analysis based on a gravity model that export potential from border-Bundesländer to Poland is relatively high. They argue that regions close to the German-Polish border have the chance to benefit above average from rising demand in Poland merely due to their geographical proximity to Poland. Of course, the same conclusion would hold the other way round. Trade between Germany and border-Voivodships also depends on economic development in the German part of the border region. Furthermore, border-Bundesländer as well as border-Voivodships have potential for increasing openness to trade.

Different from trade, the liberalization of labour markets between Poland and Germany will only succeed stepwise after 2004. However, it is sometimes questioned whether it will at all be possible to restrict labour mobility between countries having a common goods market (see Buch 2003, p. 193). Generally, regarding East-West migration potential, differing estimations exist whereby assumptions regarding development of economic disparities between East and West, labour market perspectives and migration costs are crucial determinants of corresponding projections (for an overview see Bruder 2003 and Hille and Straubhaar 2001). Also with regard to migration from Poland to Germany estimations differ but have in common that the migration potential is assessed as relatively low due to assuming favourable economic development prospects for Poland (see Hönekopp 2002). For instance, the median variant of the European Integration Consortium (2000) implies for a period of 15 years a total migration potential from Poland to Germany of 541,000 people. For the same period of time the projection of Sinn et al. (2001) implies a migration potential from Poland to Germany of about 1,144,00 people. Altogether, projections imply modest migration flows not even higher than migration between Poland and Germany during the last years. Assessing migration potential for border regions is difficult since corresponding estimations do not exist.

For future migration between Germany and Poland not only the development of economic disparities is important. Regarding intra-EU labour mobility, several impediments seem to matter which might also become relevant for future labour market integration between Poland and Germany. This can most probably be expected at least after the short term allocation effects due to labour market liberalization between Germany and Poland – which will have taken place in practice in 2011 at the latest. This assessment goes back to the fact that labour mobility in the EU is in general relatively low compared to the migration level we should expect because of wage disparities between EU countries (van Houtum and van der Velde 2004). With regard to geographical mobility within the EU, the European Commission comes to the conclusion that it is low "... due to a number of factors, including cultural, and in particular linguistic barriers, regulatory barriers, insufficient or complex systems of recognition of skills and competences, and an ageing of the labour force (European Commission 2001b). Straubhaar (2000) emphasises the relevance of factors contributing to immobility of labour with regard to labour mobility within the EU. Accordingly, insider advantages hold workers off from leaving their place of living (van Houtum and van der Velde 2004). Most probably impediments of this kind will also be relevant along the German-Polish border.

At present, despite a considerable wage gap between Germany and Poland, only relatively few workers commute across the German-Polish border. However, this might change as soon as labour markets between Germany and Poland have been more liberalized. Based on a gravity model Riedel et al. (2001) estimate the commuter potential across the border between Poland and Germany assuming that labour movements between Poland and the EU will be completely liberalised. They find for an average commuting distance of 100 to 150 km a commuter potential of 1.2 % to 2 % of the population in the region where commuters go. Riedl et al. (2001) evaluate this commuter potential as relatively low in view of rather large wage gap between Germany and Poland. It should be stressed that the relatively low commuter potential can be directly explained by the gravity model. Commuter potential depends to a large extent on the population size in the respective regions as well as on distance. Since population density in the German as well as in the Polish part of the border region is very low, substantial commuting cannot be expected to rise in the near future (Barjak 1998). However, this does not mean that commuting in the Polish-German border region will be below the average of comparable regions.

Commuter flows may be even lower than estimated by Riedl et al. (2001), who assume for their estimates a wage gap of 1:7 for the German-Polish border region. Already in the year 2001, wage disparities between Germany and the Poland were lower. For instance, the average monthly gross wage in manufacturing in Brandenburg (€ 1855) is roughly four times as high as in Lubusz (€ 448) (see Dascher, 2003, p. 31). Decreasing wage disparities are likely to reduce commuter flows since the propensity to commute depends strongly on earning opportunities.

Also Hönekopp (2002, p. 10) argues that there are several arguments against high commuting pressure from Polish to German border regions, e.g. related to the relatively unfavourable economic situation of German border regions. Furthermore, he hints at the aspect that commuting from Poland might be influenced in the mid term by demographic ageing in Germany reducing labour supply – also in German border regions. However, additional incentives for commuting could rise due to the improving infrastructure in the border region and quitting border controls.

CONCLUSION

Altogether, economic integration between Poland and Germany has already taken place to some extent although substantial administrative steps of integrating Poland in the EU – e.g. free movement of labour and participating in the Currency Union – are still outstanding. Therefore, the economic development of Poland and Germany – and also of the German-Polish border region – has, to some extent, already been influenced by an increasing market integration between these countries.

Generally, most important driving forces of the cross-border integration of markets are migration, direct investment and trade. Additionally, in border regions among others also commuting may contribute to close economic linkages across the border. The empirical results indicate that thus far integration in the border region has most probably been largely due to increasing trade. Additionally, migration already takes place at a substantial level – from Poland to Germany as well as the other way round which has also affected the labour endowment of the German-Polish border region. Furthermore, foreign direct investment from Germany in Poland substantially increased during the last years. Whereas commuting – most probably – did not have a substantial impact on advancing integration in the German-Polish border region during the last few years.

Judged by the intensity of economic relationships of border-Voivodships and border-Bundesländer across the German-Polish border, there still seems to be some potential for deeper integration – regarding factors as well as goods markets. However, since trade between Germany and Poland has already been liberalized to a large extent we cannot expect substantial changes in trade patterns between Germany and Poland right after the enlargement in May 2004. Yet steady effects of Poland's EU accession on trade relations between Germany and Poland are highly probable since there is still potential for reducing transaction costs and stimulating trade. The same holds for direct investment relations between Germany and Poland that can be expected to rise after Poland has joined the EU. Furthermore, an increase in commuting as well as additional migration flows can be expected after completion of labour market liberalization between Germany and Poland as well.

Future development of market integration between Germany and Poland highly depends to a high degree on cross-border incentives for trade, foreign direct investment and labour market integration among these countries. How cross-border economic relationships will develop depends to a large extent on economic growth of the German-Polish border region itself and the development of price disparities between Germany and Poland. Furthermore, the intensity and development of border impediments between Germany and Poland will influence the potential for advancing division of labour in the border region. Hence, a policy aimed at supporting integration in the border region should be directed towards reducing border impediments.

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