

## **The impact of Poland's EU accession on labour supply in the German-Polish border region – What can we expect?**

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### **Abstract**

While barriers to trade between EU-15 and accession countries have been completely abolished on May 1<sup>st</sup> 2004, other integration impediments remain to exist in the enlarged EU. These will steadily decrease within the next years, e.g. by new member states joining the Schengen Treaty and Euro area. A significant outstanding integration step is the liberalisation of labour mobility between EU-15 and new member states which will be realised not later than 2011. In this context it is often argued that the free movement of labour could worsen labour market problems in the former EU-15, especially in regions neighbouring the new member countries. This paper provides an assessment of the impact of enlargement on labour markets in the German-Polish border region. As a starting point for the analysis, current labour market conditions and income disparities in the German-Polish border region are analysed. Furthermore, the paper summarises relevant implications of migration theories and gives an outlook on the development of factors determining cross-border labour migration in the German-Polish border region. Finally, different estimates of migration and commuting potential affecting labour markets in the German-Polish border region until 2020 are discussed.

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## 1 Introduction

Although barriers to trade between new and old member states of the EU have been completely abolished on May 1<sup>st</sup> 2004, other integration impediments remain to exist in the enlarged EU. These will steadily decrease within the next years, e.g. by new member states joining the Schengen Treaty and Euro area. A significant outstanding integration step is the liberalisation of labour mobility between EU-15 and new member states which will be realised not later than 2011. In this context, it is often argued that introducing the free movement of labour within EU-25 could worsen labour market problems in the former EU-15 countries. Most probably, large income disparities will continue to exist during the next decades among EU-15 and most new EU member states. Disparities in income and overall living conditions are expected to constitute incentives for migration and commuting from East to West.<sup>1</sup> Especially labour markets in regions neighbouring new EU countries will be affected if commuter flows will increase.

Pessimistic expectations regarding labour market effects of immigration and commuting from Eastern Europe gave rise to temporary provisions for the free movement of labour in the enlarged EU, e.g. in Germany and Austria which are bordering accession countries. These regulations are opposed to the former EU integration process. In the past, the intensification of cross-border labour market relations was an explicit objective of EU integration policy supported by the formation of Euregios, e.g. in the French-German and the Dutch-German border region.<sup>2</sup> Altogether, different from former rounds of EU enlargement, currently free labour movement between new and old member states is considered as a challenge and not a chance of the European integration process. This paper aims at contributing to the discussion on labour market effects of enlargement with assessing the potential impact of enlargement on labour supply in the border regions of East Germany neighbouring Poland. It deals with the question whether it is reasonable to expect a huge increase of labour supply in these regions which could result in a reduction of wages and increasing unemployment among the domestic labour force in case labour mobility between Germany and Poland is liberalised. Thereby overall demographic trends are taken into account. This is an aspect often neglected when dealing with labour market issues in border regions. Nevertheless, demographic trends play an important role for development of labour supply and might strongly differ among regions. Therefore, the spatial dimension of population development has to be considered when discussing labour market issues of the German-Polish border regions.

In the following, current labour market conditions and income disparities in the German-Polish border region are analysed. Furthermore, determinants of commuting and migration and their development in the German-Polish border area are discussed. Finally, different scenarios of migration and commuting potential affecting labour markets in the German-

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<sup>1</sup> See European Foundation for the Improvement of Living and Working Conditions (2004a, 2000 b).

<sup>2</sup> See Alecke/Untiedt (2003), p. 2.

Polish border region until 2020 are presented. Within the scenarios different assumptions regarding the development of one of the most driving forces behind migration and commuting – i.e. income disparities - are considered. The paper concludes with an assessment of the labour market impact of Eastern enlargement on German border regions neighbouring Poland.

## **2 Cross border labour markets - Initial Situation in the German- Polish Border Region**

### **2.1. Regulations on cross-border labour mobility<sup>3</sup>**

#### *Temporary provisions regarding the free movement of people between Poland and Germany*

Germany opted for temporary provisions postponing the free movement of labour between Poland and Germany. Within the legal framework of The Treaty of Accession of 2003, Annex VII specific regulations regarding free movement of people exist between Germany and Poland. For a period of two years after accession, the principle of free movement of workers is set out, i.e. existing national or bilateral provisions are maintained. This means that Polish workers still need a work permit in order to get access to the German labour market. It is, however, not approved to introduce more restrictive regulations after the accession. Before the end of two years the Commission has to be informed whether the special provisions will be maintained. If no notification takes place Regulation No. 1612/68 will be applied, which means free movement of workers is no longer limited. Otherwise with consent of a qualified Council majority national or bilateral provisions can be maintained for another three years. In case of severe disturbances of the national labour market the period can be extended up to seven years after Poland's accession.<sup>4</sup> The same exemptions can be applied in case of German nationals seeking for employment in Poland. Moreover, family members of a worker who resides in Germany for a period of less than 12 months at the day of accession, are not entitled to unhindered access to the German labour market for the above stated interim period. Additionally, in order to mitigate possible disturbances of the service sector Germany is entitled to deviate for the same period from the principle of free trade in services in the fields of construction services, industrial cleaning services and services of interior decorators offered by companies based in Poland. Regarding the freedom of establishment of firms no restrictions are prevalent.<sup>5</sup>

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<sup>3</sup> The paper only deals with labour migration and not with other kinds of migration between Germany and Poland.

<sup>4</sup> See Bundesministerium des Inneren (2004).

<sup>5</sup> See Bundesministerium für Wirtschaft und Arbeit (2004).

## *Frontier commuter agreement between Germany and Poland*

According to Paragraph 6 Sentence 1 of the German *Anwerbestoppausnahmereverordnung* (ASAV) Polish frontier commuters are able to obtain an unrestricted work permit in Germany within a border region of 50 km. Necessary conditions are that Polish nationals reside in their home country in which they are not entitled for social welfare benefits. Moreover, they are not allowed to stay for more than two days per week in Germany. As a legal document a permit of residence for foreigners is not necessary. Instead, a special commuter card valid for two years is issued.

The above-mentioned regulations are meant to protect German labour markets from expected increases in labour supply due to migration and commuting from Poland. However, the agreements on commuting and migration are only temporary. Free movement of labour between Germany and Poland will be realised not later than 2011.

### **2.2. The German-Polish border region**

In the empirical analysis at hand, two regional levels are considered. Firstly, the so-called border region bases on NUTS III regions for Germany (Kreise and kreisfreie Städte) and NUTS IV regions for Poland (Powiaty and Miasta na prawach powiatu) (see Table 1 and Map 1). Kreise and Powiaty directly located at the border as well as Cities surrounded by these Kreise and Powiaty are considered to constitute the German-Polish border region. To corresponding regions we will refer as border-Kreise respectively border-Powiaty. Secondly, we investigate the German Bundesländer (NUTS I) and the Polish Voivodships (NUTS II) to which border-Kreise and border-Powiaty belong. Additionally, the Bundesland Berlin is considered which is an important destination for immigrants from Poland and hence should be considered when dealing with labour market issues of EU enlargement. Furthermore, we include the Voivodship Greater Poland in the analysis.

### **Map 1. Around here**

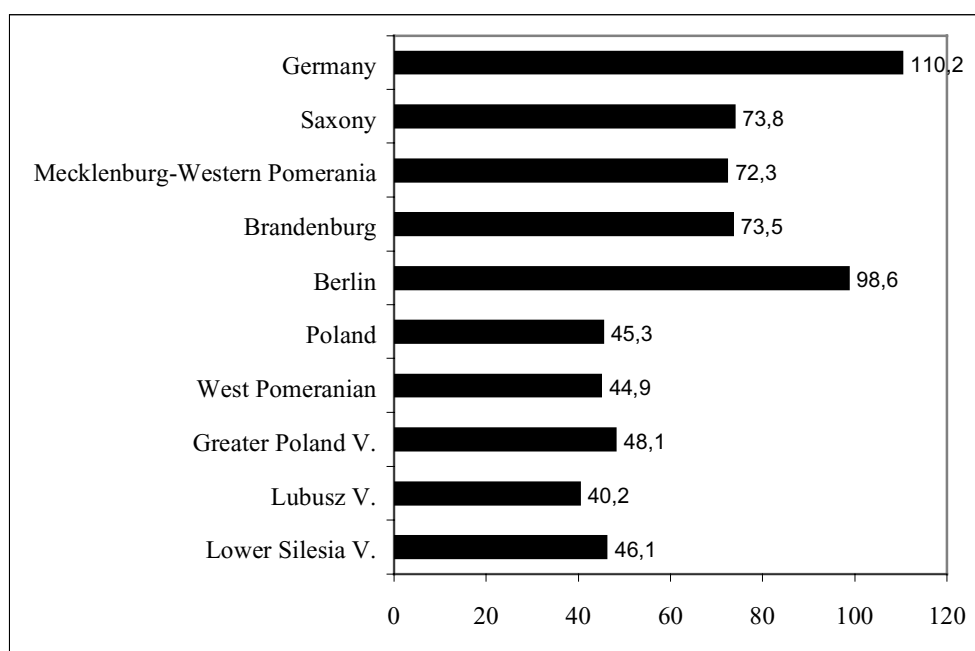
Border-Kreise share 4.6 % of the German territory and border-Powiaty cover 4.4 % of the Polish area (see Table 1). Approximately 3.6 million people have been living in the German-Polish border region in the year 2002.

**Table 1: The German-Polish Border Region**

<b>Germany</b>	
<b>Border-Bundesländer</b>	<b>Border-Kreise</b>
Berlin	
Mecklenburg-Western Pomerania	Greifswald, kreisfreie Stadt Ostvorpommern, Uecker-Randow
Brandenburg	Cottbus, kreisfreie Stadt, Spree-Neiße, Frankfurt / Oder, kreisfreie Stadt, Uckermark, Barnim, Oder-Spree, Märkisch-Oderland
Saxony	Görlitz, kreisfreie Stadt, Niederschlesischer Oberlausitzkreis, Löbau – Zittau
<b>Poland</b>	
<b>Border-Voivodships</b>	<b>Border-Powiaty</b>
West Pomerania V. (Zachodniopomorskie)	goleniowski, gryfinski, kamienski, mysliborski, policki, m. Szczecin, m. Swinoujscie
Lubusz V. (Lubuskie)	gorzowski, slubicki, sulcinski, m.Gorzow Wielkopolski, krosnienski odrzanski, zarski
Lower Silesia V. (Dolnoslaskie)	zgorzelecki
Greater Poland V. (Wielkopolskie)	

Per capita income strongly differs among German and Polish regions. In the year 2001, per capita income in border-Bundesländer range from 16,806 € (Mecklenburg-Western Pomerania) to 22,531 € (Berlin) and are roughly 3.5 to 5 times as high as per capita income in Polish Voivodships. However, when considering disparities in purchasing power the income gap among German and Polish regions appears to be much smaller (see Table 2). Measured in purchasing power parities (PPP), per capita income in Mecklenburg-Western Pomeranian, Brandenburg and Saxony account for approximately 72 - 73 % of the average over EU-15 and Accession Countries in the year 2001. Corresponding values for border-Voivodships range between 40 and 46 %. Hence, when considering purchasing power parity the income level in German regions appears not even to be twice as high as in Poland. However, an exception is Berlin having a per capita income close to 100 % of the average over EU-15 and accession countries.

**Figure 1: GDP Per Capita, Purchasing Power Parity, 2001, EU-15 + ACC =100**



Source: EUROSTAT.

The German-Polish border region is marked by serious labour market problems. High growth rates in the Polish regions in the second half of the 1990s did not give rise to a recovery of labour markets in the Polish border region. Table 3 illustrates that unemployment in the EU has significantly decreased in the EU-15 and Germany between 1998 and 2002 while it increased in Poland. On the contrary, unemployment increased in the Voivodships and German Bundesländer close to the German-Polish border. In the year 2002, unemployment rates in the Bundesländer bordering Poland strongly deviated from the German and EU average, ranging from 17.6% in Berlin to 23.6% in Mecklenburg-Western Pomerania. The same holds for the border-Voivodships – except Greater Poland - having unemployment rates which are significantly higher than in Poland on average. In the considered regions, unemployment is lowest in Berlin, Lubusz V. (17.7%) and Brandenburg (19.8 %). Within the rest of border-Bundesländer and Voivodships, unemployment rates are higher than 20%. Altogether, unemployment does not suggest that many East-German border regions offer strictly better job opportunities than neighbouring Polish regions. Unemployment rates are very similar in Mecklenburg-Western Pomerania, Lower Silesia V. and West Pomeranian V.

**Table 2: Unemployment rates in the German-Polish border regions, EU-15, Germany and Poland, 1998 and 2002**

<b>Region</b>	<b>1998</b>	<b>2002</b>
<i>EU 15</i>	9.9	7.5
<i>Germany</i>	9.6	8.5
Berlin	14.2	17.6
Brandenburg	17.5	19.8
Mecklenburg-Western Pomerania	19.3	23.6
Saxony	17.5	20.3
<i>Poland</i>	9.9	19.9
Lower Silesian V.	11.2	23.7
Lubusz V.	11.5	26.3
Greater Poland V.	7.7	17.7
West Pomeranian V.	12.6	22.4

Source: EUROSTAT.

### **3 Future Development of Labour Supply in the German-Polish border region**

The development of regional labour supply depends on several factors: the overall demographic trends given by fertility and age structure of the population, migration and commuting as well as labour participation rates. In the following we will summarise the results of regional population forecasts for Germany and Poland to assess how overall population development will impact labour markets in the border region. While overall demographic trends can be forecasted accurately, the estimation of migration and commuter flows is comparatively difficult. This goes back to the fact that labour mobility depends on a wide variety of factors for which future development cannot be predicted for sure. In order to evaluate the regional importance of future migration and commuting we summarise determinants of migration and commuting emphasised in migration theories and give an assessment concerning their probable development in the German-Polish border region until 2020. The section closes with scenarios regarding migration and commuter potential affecting labour supply in the German-Polish border region.

#### **3.1. Demographic Trends**

Overall demographic trends for Germany as well as for Poland indicate population decline and increasing population shares of upper age groups until 2020. According to current forecasts the Polish population will decline by 2.5 % and the German population by 0.8 % until the year 2020. Furthermore, for Germany and for Poland population forecasts on a



regional level exist which allow projections of the population development in the German-Polish border region as well as in the relevant German Bundesländer and Polish Voivodships. (see Table 3). These figures indicate that population development will strongly differ among corresponding regions. Population will decline in Mecklenburg-Western Pomerania and Saxony while Brandenburg and Berlin will – in contrast to the overall demographic trend in Germany – exhibit positive population growth rates. This result can predominantly be explained by Berlin being an attractive destination for migration within Germany and from abroad. Especially Brandenburg, which is surrounding Berlin, is expected to realise population increase released by processes of suburbanisation.

**Table 3: Population Development, 2003-2020**

	<b>Population (in 1,000s) 2003</b>	<b>Population growth, in % 2003-2020</b>
<b>Germany</b>	<b>82,222.6</b>	<b>-0.8</b>
<i>Eastern Germany</i>	<i>17,125.1</i>	<i>-1.4</i>
<i>Border-Bundesländer</i>	<i>12,167.3</i>	<i>+1.6</i>
Hereunder:		
Berlin	3,388.0	+3.3
Mecklenburg-Western Pomeranian	1,759.5	-3.0
Brandenburg	2,644.1	+6.5
Saxony	4,375.7	-0.9
German border region	2,222.8	-3.0
<b>Poland</b>	<b>38,191.9</b>	<b>-2.5</b>
<i>Border-Voivodships</i>	<i>8,965.8</i>	<i>-1.7</i>
Hereunder:		
Lower Silesian V.	2,899.8	-4.8
Lubusz V.	1,008.5	-1.9
Greater Poland V.	3,360.0	+1.6
West Pomeranian V.	1,697.5	-2.4
Polish border region	1,375.4	-3.5
<b>German-Polish border region</b>	<b>3,598.2</b>	<b>-3.2</b>

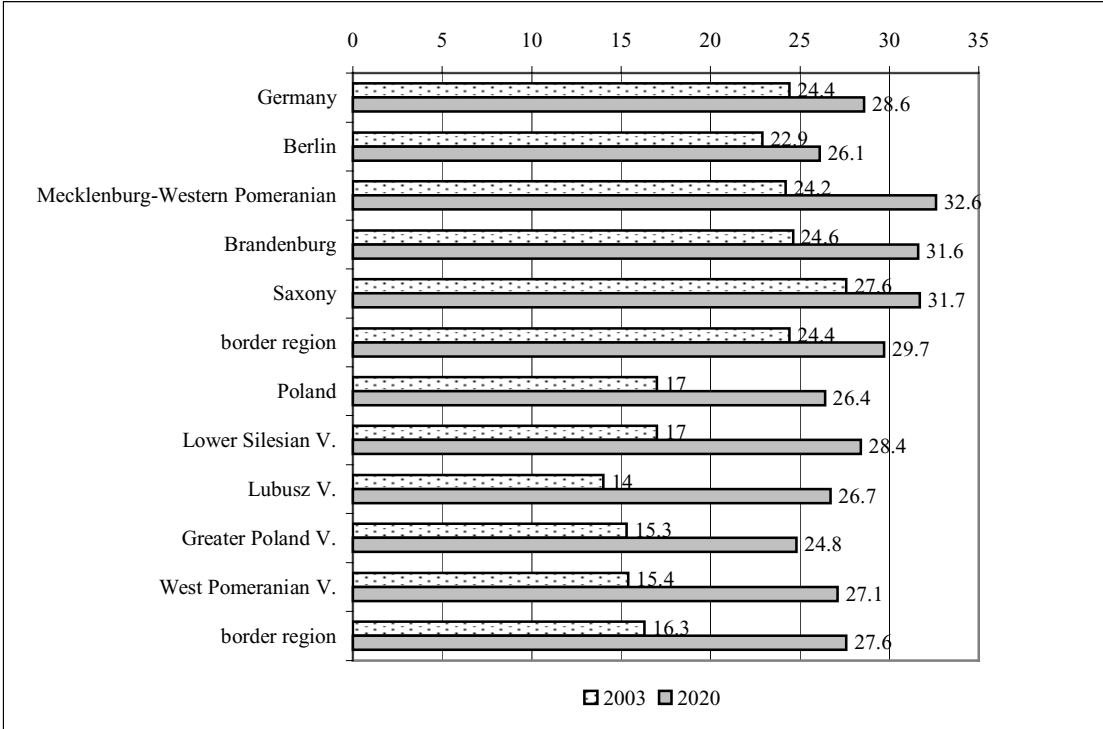
Source: Polish Statistical Office (2003); Federal Office for Building and Regional Planning (BBR 2003), own calculations.

According to Polish population forecasts, Greater Poland will be the only border-Voivodship in which population will increase during the period under consideration. Greater Poland benefits from being a preferred destination of intranational migration because of its comparatively good economic performance.

Altogether, the considered population forecasts imply a population decline by 3.2 % for the German-Polish border region until 2020. Furthermore, the age structure of the population in

the German-Polish border region will significantly change during the forecasting period. Increasing average age of the population is indicated by the development of people older than 60 years (see Figure 2). The population share of this age group will increase in all considered regions whereby these changes will be more pronounced in the Polish part of the border region than in the German one. Until 2020, the share of inhabitants older than 60 years will on average increase by 5 percentage points in the German regions and by 11 percentage points in the Polish regions. According to the population forecasts, the population share of the considered age group will amount to 29.7 % in the German regions and 27.6 % in the Polish regions in the year 2020.

**Figure 2: Population share of people older than 60 years, 2003 and 2020**

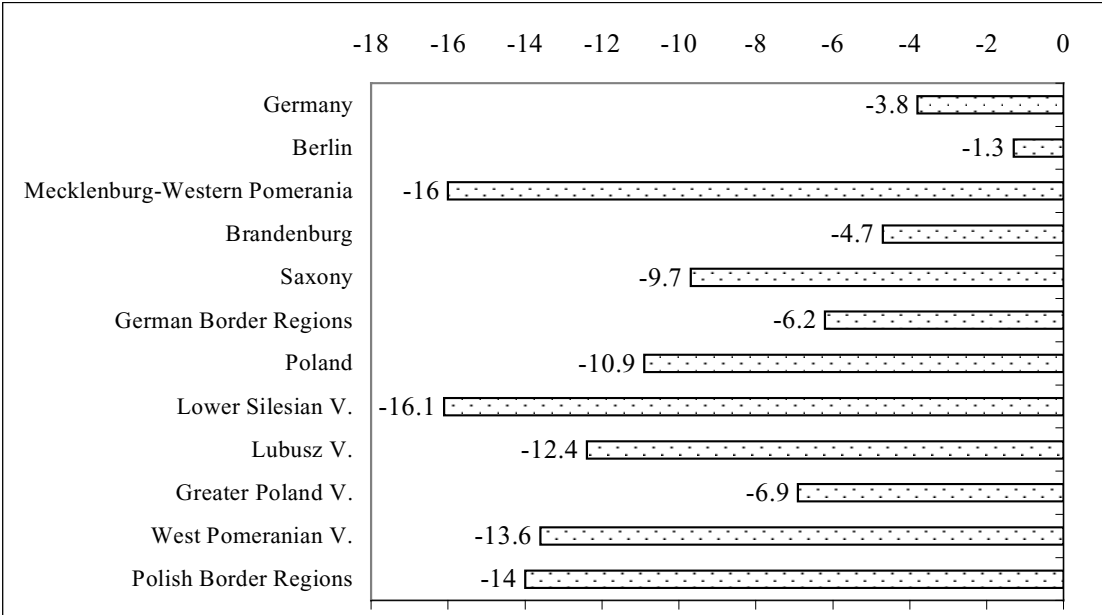


Source: Polish Statistical Office (2003); Federal Office for Building and Regional Planning (2003), own calculations.

Population ageing can be expected to strongly impact on labour market conditions in the German-Polish border region. The change of the age structure of the working population will affect the production process. Simultaneously the population of employable age will strongly decrease until 2020 (see Figure 3) – by almost 11 % in Poland and about 3.8 % in Germany. Compared to the German average, the decline of population of employable age will be relatively strong in the border-Bundesländer except for Berlin. For example, Mecklenburg-Western Pomerania presumably has to face a decline of the population of employable age of approximately 16 %. Concerning labour supply, we find the same trends in the border-Voivodships as in the neighbouring German Bundesländer whereby the decline in the population of employable age is more pronounced in Poland. For three of the border-

Voivodships a corresponding decline of more than 12 % is projected. Altogether, pressure on labour supply in the border region will ceteris paribus be reduced by demographic development trends.

**Figure 3: Decrease of population of employable age between 2003 and 2020, in %**



Source: Polish Statistical Office (2003); BBR (2003); own calculations.

**3.2. Determinants of Migration and Commuting**

*3.2.1 Implications of Economic Theories*

Besides natural population development, migration and commuting are important determinants of the development of labour supply. Traditional neo-classical models predict that the liberalisation of labour mobility will release a relocation of labour between regions marked by disparities in labour market conditions.<sup>6</sup> Labour will move from low wage regions to high wage areas until no more interregional wage disparities exist for labour of the same skill level.<sup>7</sup> Harris/Todaro (1970) developed a two sector model of rural-urban migration with urban unemployment going back to an institutionally determined minimum wage. According to the model, rural-urban migration proceeds in response to expected earnings. Labour will migrate towards urban regions as long as the wage level in these regions – the high income regions – weighted by the risk of being unemployed surpasses the wage level of other regions. As a consequence of immigration, unemployment will rise making it less attractive to migrate

<sup>6</sup> See Niebuhr/Stiller (2004) for an overview on implications of economic theories concerning integration and cross border labour markets.

<sup>7</sup> See Fischer/Straubhaar (1994).

from rural to urban regions. Altogether, 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).

More advanced migration theories go beyond considering labour market conditions as the only determinant of labour migration. In the human capital approach<sup>8</sup> migration is considered as an investment decision depending on wage level in the potential destination, qualification, age of the worker and migration costs including direct migration costs (information, search and travel costs) as well as indirect migration costs (social and physical costs).

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). Some migration theories subsume migration determinants in push factors in the region of origin (e.g. low standard of living, high unemployment, insufficient social security system, high taxes, bad environmental conditions, bad infrastructure) and pull factors at work in the region of destination (e.g. high standard of living, low unemployment, good social security system, low taxes, good environmental conditions, good infrastructure, networks).<sup>9</sup>

Spatial distance between country of destination and origin influences the migration decision due to affecting migration costs. Regarding implications for labour markets in border regions, frictional effects of distance and transaction costs are highly relevant. Labour mobility is not free of costs and there is no perfect information on labour market opportunities.<sup>10</sup> Ravenstein (1889) formulated in his laws on migration that migration predominantly takes place over short distances. Schwartz (1973) discusses economic and other factors that form the underlying adverse effects of distance on migration as implied by the negative distance elasticity of migration flows. Corresponding migration determinants are sorted into two groups: (1) increasing (with distance) costs and (2) diminishing (with distance) information.

Empirical studies imply that the probability to migrate between two regions declines as distance between them increases because migration costs rise and assessing potential migration gains becomes more difficult.<sup>11</sup> The dampening effect of distance indicates that workers located in border regions should have a relatively high incentive to migrate to neighbouring countries. Costs of migrating to neighbouring countries are comparatively low for individuals in border regions which have, due to spatial proximity, advantages in gathering information on the foreign labour market. Moreover, social costs should be relatively low due

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<sup>8</sup> The seminal paper is Sjastaad (1962).

<sup>9</sup> See Fischer/Straubhaar (1994) pp. 75-100.

<sup>10</sup> See Janssen (2000).

<sup>11</sup> See Tassinopoulos (1999).

to short travel times for visiting families abroad.<sup>12</sup> However, significant border impediments might increase transaction costs and information deficits, reducing labour mobility between neighbouring regions along national borders relative to mobility among domestic labour markets. In case migration costs and commuting costs matter, workers will only have an incentive to commute or migrate if the wage differential compensates for commuting costs.

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 lower shares of foreigners in the workforce. 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.

Summarising the above-mentioned considerations, one could conclude that the potential for cross-border migration is above average in border regions – for immigration as well as for emigration. Labour market integration between border regions might also be promoted by cross-border commuting which depends on distance by nature. Literature on commuting is compared to empirical and theoretical research on migration rather sparse. However, determinants of labour migration can be transferred to commuting if one considers cross-border commuting not as an interregional labour market decision.<sup>13</sup> Such an approach is in early stages of labour market integration, like in the German-Polish border region, very reasonable. Hence, the number of potential in-commuters in border regions will be the higher the better the opportunities for finding a job and the higher wage rates are. Furthermore, empirical studies prove population density to be an important determinant for commuting. Taking together arguments from migration theory and empirical studies, densely populated border regions offering good labour market opportunities are attractive destinations for labour from abroad while rural areas cannot be considered as preferred regions of commuters. Hence, labour market effects of in-commuting might only be pronounced in some of the East-German regions located along the Polish border.

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<sup>12</sup> See Schwartz (1973).

<sup>13</sup> See Alecke/Untiedt (2003), p. 1.

### *3.2.2 Migration Incentives in the German-Polish border region*

Migration theories imply that interregional migration and also commuting can to a large extent be explained by economic factors, i.e. interregional disparities in unemployment and wage rates.

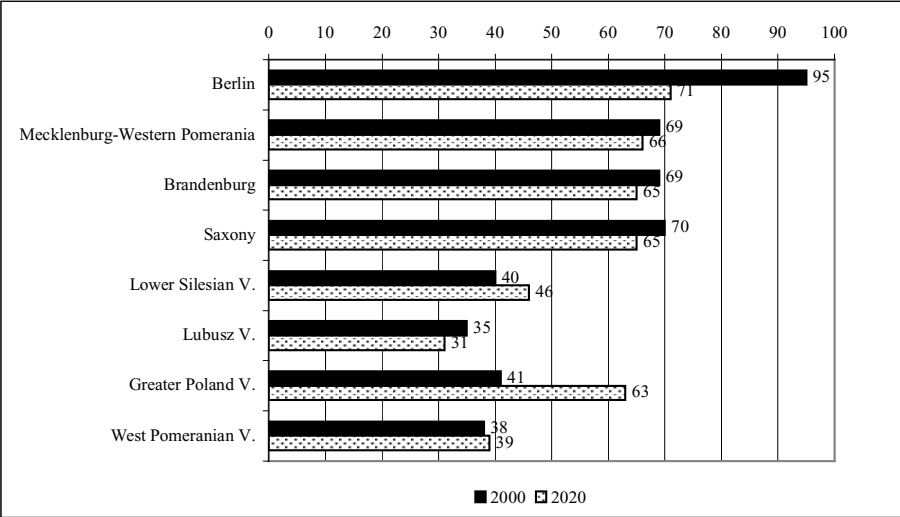
Regarding unemployment rates, East German border regions appear on average to be less attractive destinations for in-commuters and migrants from Poland compared to other parts of Germany. This holds especially for rural areas facing serious economic problems. Differently, wage disparities among German and Polish regions seem to constitute an important migration incentive for Polish workers. However, in the course of Poland's integration in the EU, the importance of income disparities as an migration incentive will most probably lose importance. Current developments with regard to GDP per capita measured in Purchasing Power Parity already indicate the narrowing of per capita income between Germany and Poland. It will be decisive for the amount of migration and commuting from Poland how fast Polish per capita income will converge towards the German income level.

In order to illustrate possible scenarios regarding future income disparities between border-Bundesländer and -Voivodships, we made two calculations on the development of regional per capita income. In **Scenario 1** it is assumed that currently low growth rates of GDP per capita in East Germany will increase and reach the average level of Western European Regions in the year 2010. For the Polish Regions it is assumed that the high economic growth observed in the second half of the 1990s will continue until the year 2010. Afterwards growth rates are assumed to be half as high as at the end of the 1990s. This scenario implies the following average annual growth rates: Lower Silesian V. (5.7 %), Lubusz V. (4.3 %), West Pomeranian V. (5.1 %), Greater Poland V. (7.0 %), Berlin (3.4 %), Saxony (4.6 %), Brandenburg (4.6 %) and Mecklenburg-Western Pomerania (4.7 %). **Scenario 2** bases on the assumption that future growth rates correspond to average growth rates over the years 1995 to 2000. On average, GDP per capita measured in PPP grew at a rate of 3.6 % in East German regions during that period of time while average growth rate was 5 % for the EU and 7.6 % in Voivodships bordering Germany. Thereby regional growth rates distinctly differed: Lower Silesian V. (7.3 %), Lubusz V. (5.6 %), West Pomeranian V. (6.6 %), Greater Poland V. (9.0 %), Berlin (1.9 %), Saxony (4.2 %), Brandenburg (4.2 %) and Mecklenburg-Western Pomerania (4.4 %).

Figures 4 and 5 summarise the results of the growth scenarios. In scenario 1, significant income gaps between German and Polish regions will continue to exist with exception for Greater Poland V. But on average, the income gap between German and Polish regions narrows. Under the relevant assumptions the – compared to EU-15 average – relatively low income level will still exist within the border area. Therefore this scenario suggests that German border regions will most probably attract migrants from Poland, due to income gaps

but also due to spatial proximity between Poland and Germany. However, income gaps will still constitute an incentive for commuting from Poland to Germany as well.

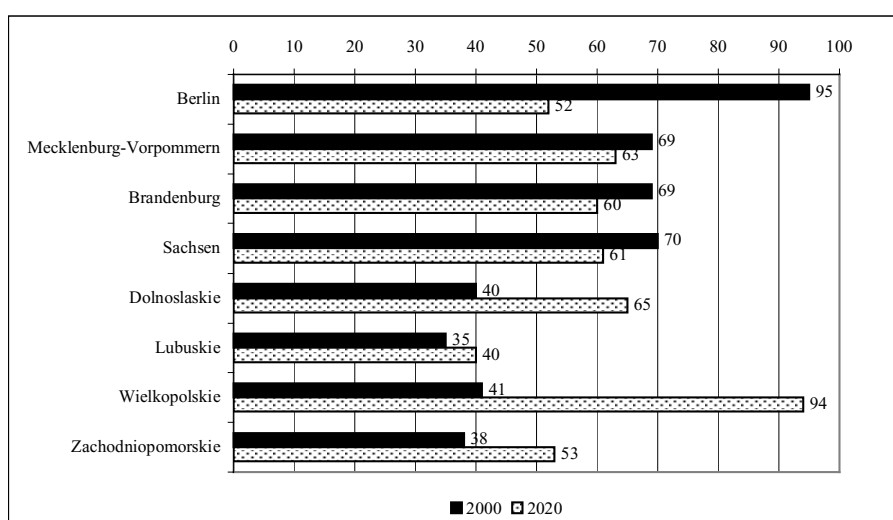
**Figure 4: GDP per Capita, PPP, 2000 and 2020, EU-15=100, Scenario 1**



Source: EUROSTAT; own calculations.

Based on Scenario 2 one arrives at different conclusions. In this scenario migration and commuting incentives strongly lose importance within the border area. Instead, Greater Poland V. would become the region with the highest per capita income in the border region. It should be mentioned that this scenario indeed appears to be relatively unrealistic.

**Figure 5: GDP per Capita, PPP, 2020, EU-15=100, Scenario 2**



Source: EUROSTAT; own calculations.

Within this scenario, two of the Polish border-Voivodships would not have lower per capita incomes than the German border-Bundesländer. Furthermore, Polish regions would improve their relative income position in relation to the EU average. Altogether this scenario regarding income development seems not to very plausible. On the one hand it can be expected that economic development will – at least in some parts of East Germany – stabilise.<sup>14</sup> On the other hand the growth process of Poland from 1995 to 2000 will most probably slow down.

To sum up, assessing future relevance of migration between Germany and Poland is a difficult issue since the development of migration incentives is unknown itself. For coping with this methodological problems, estimations of migration potential have to consider different development scenarios. Altogether, most probably future development of income disparities among Polish and German border regions will range between Scenario 1 and 2 implying decreasing incentives for migration and commuting from Poland to Germany. Also forecasts regarding the development of population of employable age suggest that pressure on East German labour markets from Poland will be comparatively low – due to strongly decreasing population of employable age in Polish border-Voivodships. Furthermore, population of employable age will also decrease in East Germany. However, we cannot judge on how demographic trends will impact labour market conditions in East Germany. Whether the reduction of labour supply will support decreasing unemployment in East Germany depends also on future labour demand which we did not analyse here. Finally, it depends on the development of migration and commuting costs – going back e.g. to cultural differences, language barriers and infrastructure capacities – how cross-border migration and commuting will develop in the German-Polish border region.

<sup>14</sup> For a recent overview on estimations of migration potential see Bruder (2003).

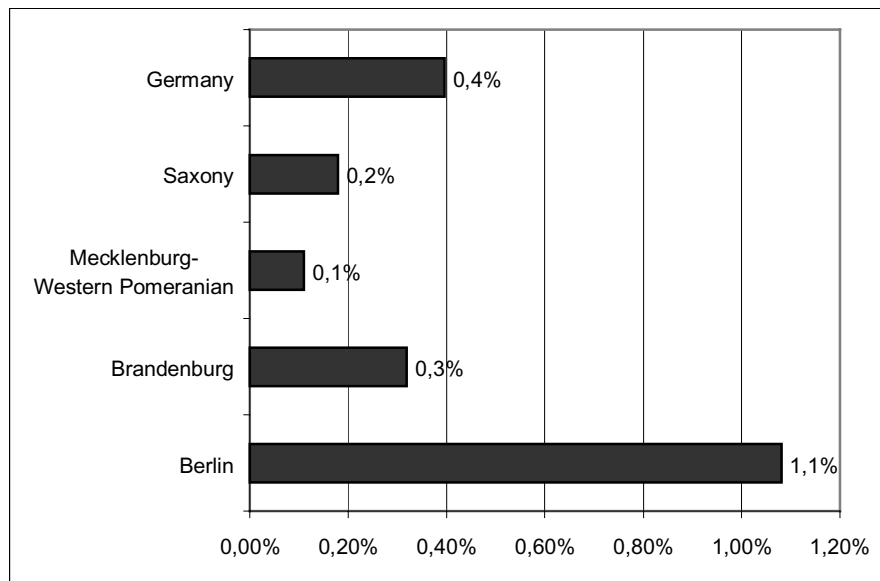


### **3.3. Migration and Commuting Potential**

Several studies provide estimations for migration potential from accession countries towards EU-15 taking into account especially economic migration motives, i.e. income disparities. But according to our knowledge, estimations of the spatial distribution of Polish immigrants in Germany do not exist. However, this is an important aspect regarding labour market issues of German regions bordering Poland. Therefore we derived estimates for regional immigration potential based on forecasts for migration among Germany and Poland on the national level. For assessing migration potential directed towards German regions proximate to Poland we assumed that the spatial pattern of immigration from Poland to Germany observed in the past will remain in future. Migration potential is calculated for Bundesländer and Voivodships since corresponding data is not available for lower regional levels.

Within Europe, migration between Poland and Germany constitute the most important flow of binational migration – measured in absolute numbers – during the 1990s. From the year 1991 up to the year 2001 about one million people migrated from Poland to Germany and about 850.000 migrated from Germany towards Poland. Altogether, 12 % of total emigration from Germany went to Poland and 10 % of total immigration to Germany originated from Poland. During that period of time, 14 % of all Polish migrants chose border-Bundesländer as their destination, whereby Berlin attracted 7 % of all immigrants from Poland while 4 % migrated to Saxony, 2 % to Brandenburg and 1 % to Mecklenburg-Western Pomeranian. The regional distribution of emigrants from Poland in Germany is reflected by the share of the Polish population in the Bundesländer. More than 1 % of Berlin's total population is Polish which is significantly above the German average (see Figure 6) while the population share of Polish inhabitants is relatively low in the rest of the border-Bundesländer. Relatively strong migration from Poland towards Berlin can on the one hand be explained by Berlin being Germany's largest agglomeration offering a large labour market and on the other hand by network migration from Poland. Altogether, labour market impact of free labour mobility between Germany and Poland will be felt *ceteris paribus* the more strongly in receiving regions the higher immigration and incommuting from Poland is.

**Figure 6: Share of Polish Population, Border-Bundesländer, Germany, 2002**



Source: German Statistical Office.

Not only the regional destination of Polish migrants but also their regional provenance is relevant for the development of labour market conditions in the German-Polish border region. Commuting pressure towards East Germany will be the lower the smaller the population of working age in Polish regions neighbouring Germany is. Therefore, emigration from Polish Voivodships to other regions than the border-Bundesländer reduces *ceteris paribus* the pressure on labour markets in East Germany's border regions. During the 1990s 6 % of the Polish emigrants came from Lower Silesian V., 2 % from Lubusz V. as well as from West Pomeranian V. and 1 % from Greater Poland V.

Generally, estimated migration potentials caused by EU enlargement distinctly differ among studies depending on assumptions, i.e. regarding the rate of convergence among EU-15 and accession countries. Nevertheless, it is a common result of migration forecasts that they predict net migration from Poland to Germany until the year 2020. However, estimated migration potential in the course of enlargement distinctly differs among studies depending on the particular assumptions, especially regarding the rate of convergence among EU-15 and accession countries. For our study we rely on the models chosen by the German Institute for Economic Research (DIW 2000) and Flaig (2001). Both studies assume free movement of labour among Germany and Poland right from the beginning of Poland's EU accession – an assumption which is not in accordance with the present. But the assumption regarding free movement of labour does not significantly alter the results regarding migration potential. The result of DIW (2000) imply that the liberalisation of labour movement some years after Poland's EU accession change the estimated migration potential only at the margin.

In the above mentioned studies, per capita income disparities among Germany and Poland are considered as the driving force for migration from Poland to Germany. DIW (2000) assumes that income disparities among Germany and Poland decrease at an annual rate of 2 %. Flaig (2001) considers two scenarios. In one scenario he assumes that income disparities among Germany and Poland will remain constant. And in a second scenario he assumes that Poland's annual per capita growth rate will exceed Germany's at 2 %.

**Table 4: Assumptions on Development of Income Disparities between Germany and Poland**

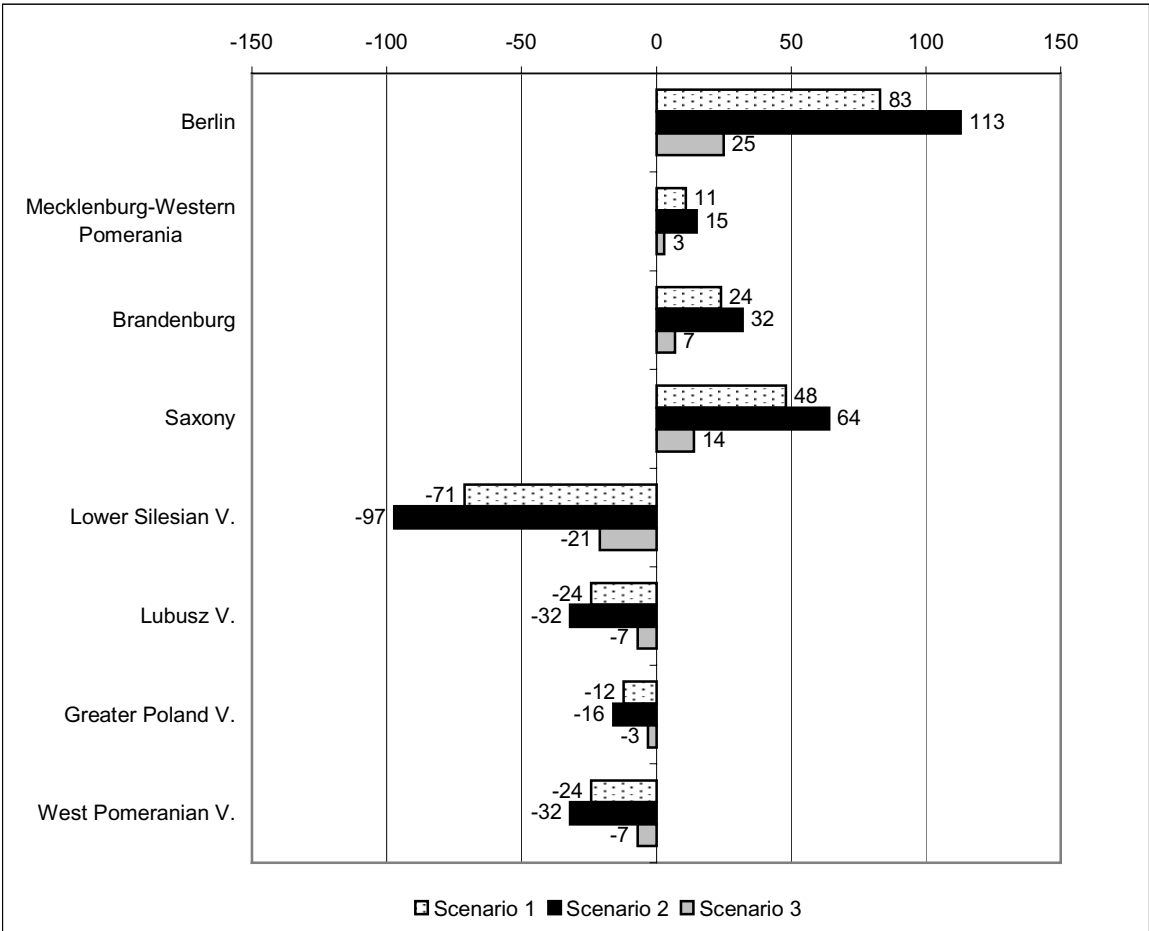
	<b>Development of income disparities</b>	<b>Migration potential from Poland to Germany until 2020</b>
<b>Scenario 1 (Flaig 2001)</b>	Annual growth rate of GDP per capita in Poland 2 % higher than in Germany	1,305,000
<b>Scenario 2 (Flaig 2001)</b>	Constant income disparities between Germany and Poland	1,729,000
<b>Scenario 3 (DIW 2000)</b>	Decreasing income disparities among Germany and Poland by 2 % per year	403,000

Based on the studies summarised in Table 4, we derived three scenarios for migration potential affecting the German-Polish border region. Thereby, the estimations for total migration between Germany and Poland are broken down to the regional level. The assumptions concerning regional destination and provenance of migrants are the same in all of the scenarios and correspond to the migration patterns observed during the 1990s. Figure 7 summarises the results of our calculations.

According to Scenario 1, migration from Poland to Germany will amount to 1.305.000 people until 2020. Estimations based on Scenario 2 forecast a migration potential of 1.729.000 people. And Scenario 3 implies migration from Germany to Poland of 403.000 people. Total emigration from Poland to the German part of the border region ranges from 49.000 people (Scenario 3) to 224.000 people (Scenario 2). The results imply that 39.000 people (Scenario 3) respectively 177.000 people (Scenario 2) come from regions in the Polish part of the border region. The impact of immigration from Poland on regional labour supply distinctly differs among the border-Bundesländer. Estimated immigration potential from Poland to Mecklenburg-Western Pomeranian and Brandenburg is comparatively low while for Brandenburg and especially Berlin significantly higher migration inflows from Poland are the outcome of our calculations. Furthermore, it is estimated that emigration figures strongly differ between the border-Voivodships. While the reduction of labour supply due to migration losses will be comparatively low in Greater Poland V., e.g. Lower Silesian V. Other regions are expected to face distinctly higher population losses due to migration towards Germany. Altogether, the estimated migration figures imply that migration between Germany and Poland will not be the dominant determinant of labour market developments in the considered

period of time. Broken down to an annual level, additional labour supply caused by immigration from Poland can be assessed to be small in relation to current size of the labour force in the border-Bundesländer.

**Figure 7: Migration Potential, German-Polish border region, 2003-2020, in 1000s**

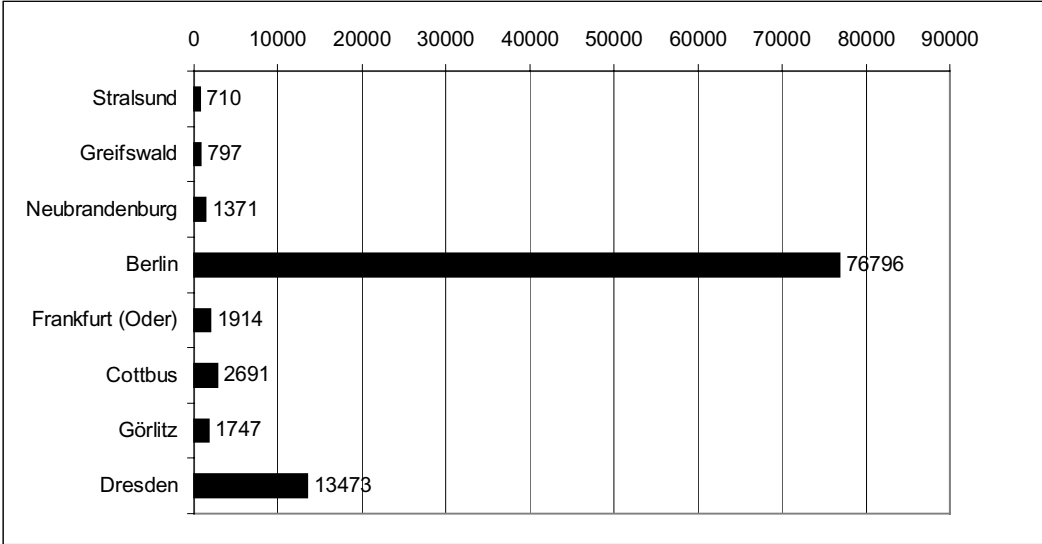


Source: Own calculations, based on DIW (2000) and Flaig (2001).

In the literature it is argued, that cross-border commuting will be more important than immigration for the development of labour supply in the German part of the border area since commuting is expected to increase due to Poland’s EU accession. Most probably, the relevance of commuting for regional labour supply will strongly differ among regions in the border region. Gravity models imply that densely populated German regions offering a relatively large labour market will attract relatively more commuters from Poland than rural areas. Labour market impact of commuters from Poland will be comparatively small in less densely populated German regions neighbouring Poland. To sum up, for German cities located close to the border neighbouring densely populated Polish regions in-commuting will be comparatively high. Instead, labour market impact of commuters from Poland can be expected to be low in rural and less densely populated regions in East Germany.

Based on a gravity model, Alecke/Untiedt (2001) estimate that commuting will increase labour supply in cities located in the German border region by 2 to 4 %. Applied to the population forecasts of the German Federal Office for Building and Regional Planning (2003)<sup>15</sup> one can calculate the commuting potential directed towards German cities located in the border region for the year 2020 (see Figure 8). According to the calculations, in-commuting will be more intense in the Southern part of the border region (e.g. Dresden and Görlitz), where regions are relatively densely populated, than in the northern part (e.g. Stralsund and Greifswald). However, most probably Berlin’s labour market will be most strongly affected by commuters from Poland due to being a highly agglomerated region offering a large labour market with many employment opportunities.

**Figure 8: Commuter Potential<sup>a</sup> for German Cities in the Border Region, 2020, absolute**



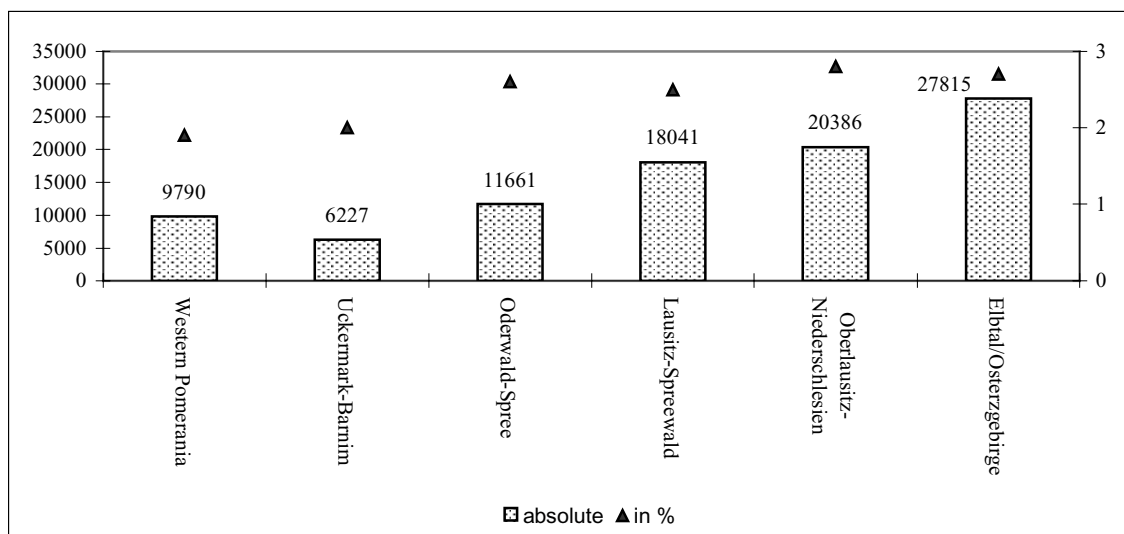
Source: Own calculations, based on Alecke/Untiedt (2001) and BBR (2003).

<sup>a</sup> Including in-commuters from Czech Republic.

Also calculations for the German Raumordnungsregion near to the border imply different relevance of in-commuting from Poland for regional labour markets between the northern (e.g. Western Pomerania, Uckermark-Barnim) and southern part (Oberlausitz-Niederschlesien, Elbtal/Osterzgebirge) of East Germany (see Figure 9).

<sup>15</sup> BBR (2003).

**Figure 9: Commuter Potential direct towards Raumordnungsregionen close to the German-Polish border, 2020, absolute and in % of Population**



Source: Own calculations HWWA, based on Alecke/Untiedt (2001).

The estimations presented in Figure 8 and 9 can, for several reasons, be considered as constituting the upper limit for migration potential. This is due to the fact, that the calculations base on migration coefficients corresponding to commuting between regions in East and West Germany. Most probably, the propensity to commute between Polish and German regions will be lower due to existing language and cultural barriers as well as due to deficits in cross-border infrastructure. Furthermore, the calculations base on the assumptions that per capita income of German regions will continue to be seven times as high as in neighbouring Polish regions. Currently, average income and wages disparities among Germany and Poland are already much lower assumed by Alecke/Untiedt (2001). E.g., average annual wage in manufacturing was only 4 times as high in Brandenburg than in Lubusz V.<sup>16</sup> If wage disparities between East-Germany and neighbouring will continue to decrease in the course of convergence commuter potential will be lower than implied by Figures 8 and Figures 9. Also relatively high unemployment in the larger part of East Germany stands against high commuter pressure towards East Germany from Poland.<sup>17</sup>

According to the above mentioned models, total emigration from Poland to the German part of the border region ranges from a total of 49,000 to 224,000 people within the considered period of time. These figures correspond to a share of 0.7 respectively 3.2 % of the population of employable age in border-Bundesländer in the year 2020. Furthermore, estimations based on gravity models imply that in-commuting to German cities in the border region might increase labour supply in these regions by a rate of 2 % to 4 %. These figures can be considered as the upper limit for migration and commuting potential due to the above mentioned factors reducing migration potential. Furthermore, these results also suggest that

<sup>16</sup> See Dascher (2003).

<sup>17</sup> See Hönekopp (2002).

the impact of commuting might be more important for labour markets in the German-Polish border region than the impact of migration from Poland.

#### **4 Conclusions**

We analysed the question, whether it is reasonable to expect a huge increase of labour supply in East Germany's border regions after Poland's EU accession. Future development of labour supply in German regions close to Poland depends on the overall demographic development, the regional migration balance and commuter inflows. However, regional economic development can be considered to be decisive for attracting migrants and commuters since driving forces behind labour mobility are the income level and labour market opportunities. The level and development of migration and commuting costs will importantly influence the development of cross-border labour market relations between Germany and Poland.

Concerning the impact of demographic trends on labour supply, population forecasts imply that the number of persons in employable age will significantly decline in the border region during the next years. With a reduction of -14 %, the decrease of labour supply will be more pronounced in the Polish than in the German part of the border until 2020. Altogether, it can be assumed that demographic developments tend to reduce the migration potential from Poland to Germany. The same conclusion holds with respect to probable development of income disparities between Polish and German regions. How migration incentives that base on wage disparities will develop, depends on the speed of income convergence in the German-Polish border region.

To sum up, it is very probable that the EU accession of Poland will influence labour supply in Germany's regions bordering Poland. Regarding the quantitative impact of migration and commuting several scenarios exists. Which of these will become a reality decisively depends on the rate of income convergence between German and Polish border regions. However, most scenarios imply modest migration figures. Altogether, it can be expected that labour supply in the German-Polish border region will decline significantly until 2020 due to natural demographic factors. Nevertheless, within specific regions labour supply will increase in the course of this development. Most probably, especially highly agglomerated regions, like Berlin, offering a wide variety of employment opportunities will attract migrants.

## References

*Alecke, B./ Untiedt, G. (2001):*

Migration aus den Beitrittsländern Polen und Tschechien in die Europäische Union. Potential und regionale Verteilung, in: Riedel, J./ Untiedt, G. (eds.), EU-Osterweiterung und deutsche Grenzregionen, ifo dresden studien, 28/II, pp. 317-384, Dresden.

*Alecke, B.; Untiedt, G. (2003):*

Pendlerpotential in den Grenzregionen an der EU-Außengrenze, Beitrag zur International Summerschool Economics of EU Enlargement, University of Hohenheim.

*Bruder, J. (2003):*

East-West Migration in Europe, 2003–2015, Working Paper, 40, Wirtschafts- und Sozialwissenschaftliche Fakultät, Universität Rostock.

*BBR (Bundesamt für Bauwesen und Raumordnung) (2003):*

Raumordnungsprognose INKAR PRO 1999-2020.

*Bundesministerium des Innern (2004):*

Frei und sicher leben: deutsche Innenpolitik in Europa, Berlin.

*Bundesministerium für Wirtschaft und Arbeit, Referat IIA 7 (2004)*

Informationen über die Anwendung des EU-Beitrittsvertrages bei der Beschäftigung von Staatsangehörigen der Beitrittsstaaten, Bonn, (<http://www.bmwa.bund.de/Redaktion/Inhalte/Downloads/eu-beitrittsvertrag-beschaeftigung-frage-antwort,property=pdf.pdf>)

*Dascher, K. (2003):*

The Cross-Border Region Frankfurt (Oder) – Słubice: An Economics Perspective, mimeo.

*DIW (Deutsches Institut für Wirtschaftsforschung) (2000):*

EU-Osterweiterung: Keine massive Zuwanderung zu erwarten, DIW Wochenbericht, 21, pp. 315-326.

*European Foundation for the Improvement of Living and Working Conditions (2004a):*

Migration trends in an enlarged Europe, Luxembourg  
(<http://www.eurofound.eu.int/publications/files/EF03109EN.pdf>).

*European Foundation for the Improvement of Living and Working Conditions (2004b):*

Perceptions of living conditions in an enlarged Europe, Luxembourg  
(<http://www.eurofound.ie/publications/files/EF03113EN.pdf>).

*Fischer, P.A./Straubhaar, T. (1994):*

Ökonomische Integration und Migration in einem Gemeinsamen Markt. Bern: Haupt.

*Flaig, G. (2001):*

Die Abschätzung der Migrationspotentiale der osteuropäischen EU-Beitrittsländer, in: Wilkens, H. (ed.), Migration in Europa; Berlin, pp. 55-76.



*Harris, J.R./Todaro, M.P. (1970):*

Migration, Unemployment and Development: A Two-Sector Analysis, in: AER, Vol. 40, pp. 126-142.

*Hönekopp, E. (2002):*

EU-Osterweiterung – welche Arbeitsmigration und wie viele Grenzpendler?, in: Neuss, B./ Jurczek, P./ Hilz, W. (eds.): Europäische Integrationsbestrebungen auf politischer und regionaler Ebene – Tschechien und Polen. Beiträge zu einem politik- und regionalwissenschaftlichen Symposium an der TU Chemnitz, EZFF Occasional Papers, 26, Tübingen, pp. 24-37 (<http://www.uni-tuebingen.de/ezff/ocp26.html>).

*Janssen, M. (2000):*

Borders and Labour-market integration: Where is the differences between Interregional and Cross-border Mobility?. In: Velde, M. van der/Houtum, H. van (eds.) (2000), pp. 47-68.

*Massey, D. S./Arrango, J./Hugo, G./Kouaouci, A./Pellegrino, A./Taylor, J. E. (1993)*

Theories of International Migration: a Review and Appraisal, in: Population and Development Review, Vol. 19, pp. 431-466.

*Molho, I. (1986):*

Theories of Migration – a Review, in: Scottish Journal of Political Economy, Vol. 33, pp. 396-419.

*Niebuhr, A./Stiller, S. (2004):*

Integration Effects in Border Regions – A Survey of Economic Theory and Empirical Studies, in: Review of Regional Research, Vol. 24, pp. 3-21.

*Ravenstein, E.G. (1885/1889):*

Die Gesetze der Wanderung I und II, in: Szell, G. (ed.), Regionale Mobilität: elf Aufsätze, München, 1972.

*Schwartz, A. (1973):*

Interpreting the Effect of Distance on Migration, in: Journal of Political Economy, Vol. 81, pp. 1153-1169.

*Sjaastad, L.A. (1962):*

The Costs and Returns of Human Migration, in: Journal of Political Economy, Vol. 70, pp. 80-93.

*Straubhaar, T. (2000):*

Internationale Migration – Gehen oder Bleiben: Wieso gehen Wenige und bleiben die Meisten? HWWA Discussion Paper 111, Hamburg.

*Tassinopoulos, A. (1999):*

Migration of Labour in the European Union, in: Gijssels, P. de/Janssen, M./Wenzel, H.-J./Woltering M. (eds.) (1999), pp. 207-215..