Chapter 7

Labour market impacts of post-accession migration from Poland

by

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The period following Poland's accession to the European Union saw significant changes in the migration patterns of the country's population. There was an unprecedented increase in scale: in just three years the number of Polish citizens staying temporarily abroad rose from 1 million to over 2.3 million, or 6.6% of the total population. Migration dynamics changed as well, including choice of destination and migrants' skills. Theoretically, such a massive supply shock should lead to severe adjustments on the sending labour market. Available empirical evidence, however, indicates that there were no significant effects in either the short term (employment/unemployment) or the medium term (wages). This chapter argues that the labour market situation in Poland was only moderately affected by the recent outflow. Nevertheless, serious long-term impacts may be in store, particularly in terms of demographic structures and regional allocation of labour on the domestic market.

Introduction

Poland is a country with a tradition of outward mobility that began over a century ago. However, while its previous waves of migration elsewhere were indeed massive, Poland's accession into the European Union can still be seen as a turning point. Already in the early post-accession years there was a spectacular increase in scale and dynamics of the international mobility of Poles; the only possible comparison in the region would be the migration of Romanian citizens. In 2007 the stock of Polish citizens staying temporarily abroad was estimated at around 2.3 million or 6.6% of the total population – sufficient to raise the question of socioeconomic impacts of mobility.

The issue most frequently discussed is the effect of post-accession migration on the Polish labour market. The main message of this chapter is that the contemporary labour market situation in Poland was only moderately affected by the outflow of Polish citizens. Developments instead suggest that labour market performance and the underlying dynamics are determined mainly by business cycle-related factors. Nonetheless, the recent migration of Poles may have serious long-term impacts, particularly if we consider demographics and the local/regional distribution of labour.

The chapter is structured as follows. Section 7.1 provides a general statistical picture of the post-accession outflow from Poland, with an emphasis on selected structural features. Section 7.2 looks at expected labour market impacts of migration for the short, medium and long terms. Section 7.3 concludes.

7.1. Post-accession migration from Poland: scale and structural features

It is commonly acknowledged that assessing the scale and structure of international mobility is an extremely difficult task. This is especially so if the analysis focuses on migration under the free mobility regime introduced in 2004.[1] With Poland, as with other Central and Eastern European countries, the main problem with official data is that a significant number of persons who have become emigrants and have *de facto* ceased to live in Poland continue to be counted as permanent residents in the population register. Consequently, official population estimates are seriously biased as they do not take into account this large group of *de facto* migrants who are still included in the registers. Register data are therefore rarely used in migration studies.[2]

In order to overcome the difficulties of assessing temporary migration, Polish researchers as well as the Polish Central Statistical Office (CSO) use all other available data to estimate the scale, dynamics and structure of Polish migration. Table 7.1 summarises estimates provided by the CSO, commonly described as the most reliable source of data on recent Polish migration.[3]

Table 7.1's data documents the spectacular development of migration in the early post-accession period. Between 2004 and the end of 2007, the number of temporary Polish migrants increased by almost 1.5 million and reached, as stated in the Introduction, 2.3 million (6.6% of the total population). Post-accession migrants were mainly choosing other EU countries: the share of those staying in the EU24 equalled 80%, compared to 57% in 2002. However, there was an important shift in destinations within the European Union. Germany – the primary target country in the pre-accession period – lost its top position and hosted less than 25% of Polish migrants in 2008.

Table 7.1. Polish citizens staying abroad for longer than two months (three months from 2007 onwards)

	2002 (May) – Census	2004*	2005*	2006*	2007*	2008*	2009*	2010*
				In thousands				
Total including:	**786**	**1 000**	**1 450**	**1 950**	**2 270**	**2 210**	**1 870**	**1 990**
EU27	451	750	1 170	1 550	1 860	1 820	1 570	1 615
Austria	11	15	25	34	39	40	38	32
Belgium	14	13	21	28	31	33	34	45
Denmark	.	.	.	.	17	19	20	19
France	21	30	30	49	55	56	47	55
Germany	294	385	430	450	490	490	415	455
Ireland	2	15	76	120	200	180	140	125
Italy	39	59	70	85	87	88	85	92
Netherlands	10	23	43	55	98	108	84	108
Norway	.	.	.	.	36	38	45	46
Spain	14	26	37	44	80	83	84	50
Sweden	6	11	17	25	27	29	31	37
United Kingdom	24	150	340	580	690	650	555	560
				*Percentage change in relation to the previous year***				
Total	**.**	**.**	**45.0**	**34.5**	**16.4**	**-2.6**	**-15.4**	**6.2**
EU27	.	.	56.0	32.5	20	-2.2	-13.7	2.9
Austria	.	.	66.7	36.0	14.7	2.6	-5.0	-15.8
Belgium	.	.	61.5	33.3	10.7	6.5	3.0	32.4
Denmark	-	-	-	-	-	11.8	5.3	-5.0
France	.	.	0.0	63.3	12.2	1.8	-16.1	17.0
Germany	.	.	11.7	4.7	8.9	0.0	-15.3	9.6
Ireland	.	.	406.7	57.9	66.7	-10.0	-22.2	-10.7
Italy	.	.	18.6	21.4	2.4	1.1	-3.4	8.2
Netherlands	.	.	87.0	27.9	78.2	10.2	-22.2	28.6
Norway	.	.	.	.	.	5.6	18.4	2.2
Spain	.	.	42.3	18.9	81.8	3.8	1.2	-40.5
Sweden	.	.	54.5	47.1	8.0	7.4	6.9	19.4
United Kingdom	.	.	126.7	70.6	19.0	-5.8	-14.6	0.9

Note:

* As for the end of a given year. ** 2002-04 changes not reported due to lack of full data comparability.

Source: CSO – Central Statistical Office (2011), "Informacja o rozmiarach i kierunkach emigracji z Polski w latach 2004-2010" (Information on the scale and directions of emigration from Poland in 2004-2010), Warsaw.

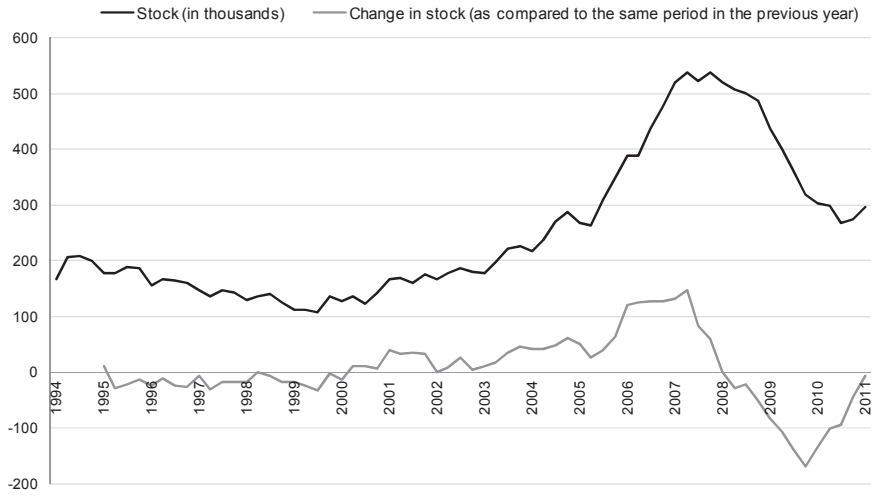
On the other hand, both English-speaking countries experienced a spectacular inflow from Poland: the stock of migrants staying in the United Kingdom rose from 24 000 in 2002 to almost 700 000 in 2008; in the case of Ireland the increase was even higher – from 2 000 to 200 000. Available evidence suggests that these shifts among the top destination countries are not necessarily a consequence of Polish mobility between EU member states. Thus the "diversion effect" related to selective opening of the EU labour markets and introduction of transitional arrangements – a factor argued by Brücker *et al.* (2009) – is highly questionable. The high ranking of the United Kingdom seems rather to be an outcome of recent outflow; there are still a great number of people choosing Germany as a destination.[4] Moreover, recent migration from Poland should not be understood in terms of concentration (*i.e.* in English-speaking countries), but rather as "spilling over" (Kaczmarczyk and Okólski, 2008).

The estimates for 2008-10 are to be interpreted with caution, mainly because the basis for all calculations was Census data obtained in 2002. Thus, figures for the second half of the period under analysis can be seriously biased. On the other hand, the most recent estimate (for the end of 2010) uses the first outcomes of the 2011 Census already. That makes the figures highly reliable but also casts doubt on any kind of trend analysis. According to the data presented, since 2008 there has been a gradual decrease in the scale of migration that can be attributed to the economic downturn in the majority of migrants' destinations. A slight decline in the number of persons staying abroad was already observed in 2008 (2.6%). However, in 2009 the decline amounted to over 15% and the stock of temporary migrants was estimated at 1.87 million (around 5% of the total population of Poland). The largest scale of decline was noted in the case of Ireland, the Netherlands (in 2009) and Spain (in 2010) – *i.e.* in countries most seriously hit by the economic crisis.

However, the most recent estimate suggests an increase in the scale of migration (around 120 000, *i.e.* a 6.2% increase over the previous year, mostly in non-European countries). This outcome poses serious methodological challenges. First, the data provided do not include detailed information on non-EU destinations and it remains unclear why Polish migrants are targeting non-European countries. Second, other Polish data (Figure 7.1) and data from the main destination countries do not document a new wave of migration from Poland. Rather, in a few cases (the United Kingdom and the Netherlands) the stock of Polish migrants remains relatively stable. This may suggest that problem lies in underestimation of previous stocks.[5]

Figure 7.1. Stock of Polish temporary migrants and change in stock as compared to the same period one year before, all destinations, 1994-2011

Quarterly data



Source: Author's calculation based on data from the Polish Labour Force Survey.

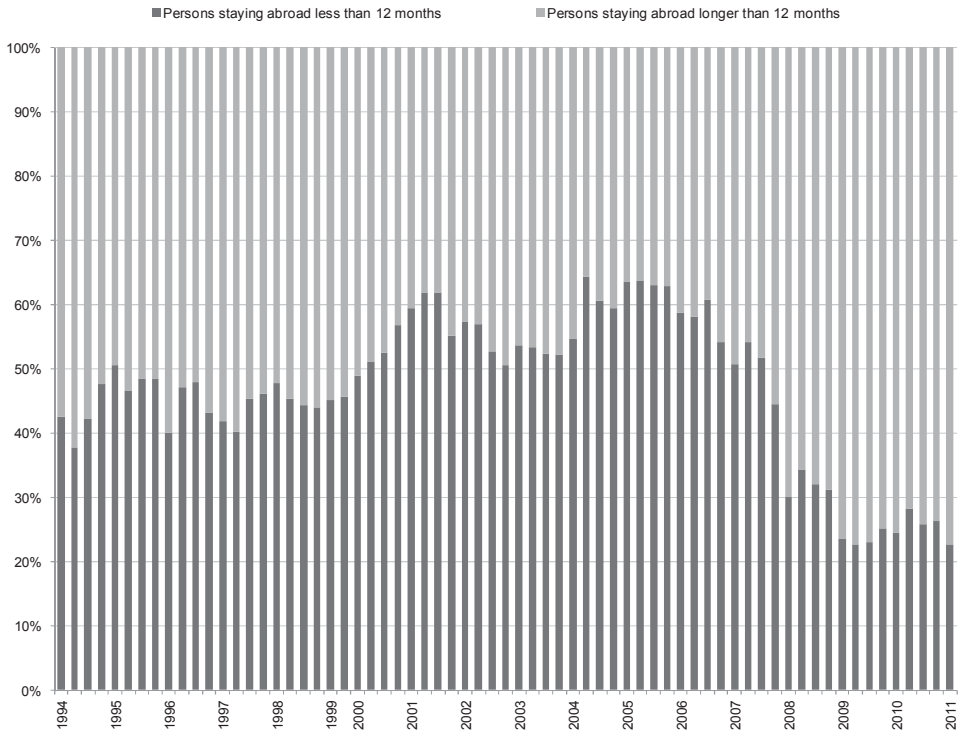
Generally, the available data reveal that seven years after the EU enlargement, the number of Polish citizens staying abroad temporarily remains relatively high (particularly as compared to other countries of the region), but there is no further increase. That may suggest that Polish migration entered a new "mature" phase. The same holds for

structural features of migration. In the context of labour market impacts, it is important to note the following:

- One specific feature of recent migration from Poland is the predominance of labour mobility. According to data from the Polish Labour Force Survey and other sources (*i.e.* dedicated surveys), the overwhelming majority of Polish migrants (over 90%) take up employment while staying abroad. Evidence is still lacking regarding the behaviour of Polish labour migrants on the labour market of receiving countries struggling with the economic downturn (*i.e.* change in status, reunification of families, welfare tourism).
- In the transition period, Polish migration was dominated by temporary or circular mobility (back and forth migration movements). This shift (not observed in previous decades) can be linked to both changes in migration policy (*e.g.* the introduction of visa-free regimes) and changes in cost/benefit ratios. The pattern, however, started to change in 2007 and this tendency strengthened in the years following (Figure 7.2). Available data suggest that population of Polish migrants staying abroad becomes more and more diversified with an increasing share of settlement migrants (particularly in the United Kingdom).

Figure 7.2. Short- and long-term migrants from Poland according to the Polish Labour Force Survey, 1994-2011

Quarterly data in percentage



Source: Author's calculation based on data from the Polish Labour Force Survey.

- Post-accession migrants are much younger than previous cohorts. According to data from the labour force survey, the median age of all post-accession migrants was 28 (while during the pre-accession period it was 30). Additionally, significant differences were identified regarding destination countries – the median age of those choosing the United Kingdom or Ireland was 6-7 years lower than in the case of those staying in Germany (Kaczmarczyk *et al*., 2011).
- In the brain-drain debate, the skill structure of migrants is of the utmost importance. As shown by the data from the labour force survey, recent Polish migrants are relatively well-educated: almost 20% have a university degree (as compared to 15% in the pre-accession period) – see Table 7.2. The most numerous group constitute migrants with vocational education but there is a clear overrepresentation of persons with tertiary education (Brücker, 2009) (see also Figure 7.6).
- Traditionally, Polish migrants came from many different geographical areas of the country, with the most numerous flows observed from regions with the longest tradition of international migration and strongest migrant networks (voivodships Opolskie, Małopolskie and Podlaskie). This situation changed after 2004. Recent Polish migration is definitely less broadly sourced than before [see MSI (Migration Selectivity Indices) for particular regions in Table 7.3]. The regions sending the most migrants in the post-accession phase are for the most part economically underdeveloped areas with relatively large shares of natural resources and agriculture (Kaczmarczyk *et al*., 2009; Kaczmarczyk and Okólski, 2008).

Table 7.2. The education structure of Polish pre- and post-accession migrants, by gender

Percentage

Level of education	Pre-accession			Post-accession		
	Total	Men	Women	Total	Men	Women
University degree*	14.7	12.0	18.3	19.8	15.6	27.0
Secondary	14.0	7.1	23.1	14.2	8.8	23.8
Secondary vocational	26.1	26.0	26.3	28.1	29.8	25.1
Vocational	34.8	45.4	20.9	30.9	39.2	16.2
Primary school	9.9	9.3	10.9	7.0	6.6	7.8
Unfinished primary school	0.4	0.2	0.5	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

1. Including bachelor's, master's and Ph.D. degrees.

Source: Fihel, A. and P. Kaczmarczyk (2009), "Migration: A Threat or a Chance? Recent Migration of Poles and Its Impact on the Polish Labour Market", in K. Burrell (ed.), *Polish Migration to the UK in the "New" European Union: After 2004*, Ashgate, London.

Table 7.3 presents selectivity ratios with regard to particular characteristics of pre- and post-accession migrants from Poland.

Table 7.3. Structural features of the pre- and post-accession migration

Migration Selectivity Indices (MSI)

Variable	Category	MSI in the pre-accession period	MSI in the post-accession period
Region of origin	Opolskie	1.63	0.22
	Podkarpackie	1.69	1.48
	Podlaskie	1.61	0.87
Educational attainment	Tertiary	0.02	0.42
	Vocational	0.34	0.30
Age	Mobile (20-40)	0.97	1.21
Gender	Male	0.20	0.35
Type of settlement	Cities over 100 000	-0.30	-0.22
	Cities under 100 000	0.09	0.20
	Rural areas	0.15	0.08

Note: Migration Selectivity Indices (MSI) are calculated on the basis of the LFS data and compare fractions of the number of persons with given characteristics in the migrant population and total sending population. Selectivity of outflow takes place if the index assumes a non-zero value for any category (value) of a given variable. Positive values of MSI mean that migrants falling into a specific category (variable) of a given variable are relatively more numerous than people in the general population with the same characteristic; negative values mean the opposite. The higher the positive value or lower the negative value of MSI, the stronger the selectivity – MSI equal to 1 indicates twice as high a share of migrants with a given characteristic compared to the sending population (Kaczmarczyk *et al.*, 2009).

Source: Author's calculation based on Anacka, M. and M. Okólski (2010), "Direct Demographic Consequences of Post-accession Migration for Poland", in R. Black, G. Engbersen, M. Okolski and C. Pantiru (eds.), *A Continent Moving West? EU Enlargement and Labour Migration within the EU*, Amsterdam University Press, Amsterdam; and on Mioduszewska, M. (2008), "Najnowsze migracje z Polski w świetle danych Badania Aktywności Ekonomicznej Ludności" (Recent migration from Poland according to the Polish LFS data), CMR Working Paper No. 36/94.

7.2. Labour market impacts

The links between the labour market and migration are among the most important issues in the migration and development debate, engaging both theoretical and empirically oriented economists. However, the focus of most of the studies available has been on the well-developed receiving countries. Numerous theoretical approaches and empirical studies have dealt with the position and performance of immigrants on receiving labour markets and looked at their impacts on the labour-importing markets (Borjas *et al.*, 1997; Borjas, 2003; Card, 1990 and 2001; Friedberg and Hunt, 1995; Kahanec and Zimmermann, 2008; Zimmermann, 1998). Studies assessing impacts of migration on sending countries' labour markets are far more limited in number, and especially lacking in the case of the Central and Eastern European countries. The following sections attempt to assess multiple impacts of recent migration on the Polish labour market.

According to migration theory, a massive outflow of the labour force should result in sets of effects linked to particular time frames (Borjas, 2004; IOM, 2005; Kaczmarczyk *et al.*, 2009, Janicka and Kowalska, 2010):

- In the short term the main effects are related to change in the supply of labour, and thus refer in particular to changes in employment, unemployment and (eventually) in the number of those who are out of the labour force.

- In the medium term adjustments to market equilibrium may take place and these may result *inter alia* in pressure on wages. Structural features of the outflow, such as brain drain, play a role.
- In the long term another set of adjustments is possible, including changes in the structure of the economy (capital/labour ratio, demand-side modifications), in the occupational and social mobility of indigenous workers, and in immigration of foreign labour.

The remaining part of this section addresses these predicted effects in the context of post-accession Poland. The main methodological problem lies in distinguishing impacts specifically resulting from the international mobility of Polish citizens.

Table 7.4. Selected macroeconomic indicators for Poland, 2001-11

Measure	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Real GDP growth	1.2	1.4	3.9	5.3	3.6	6.2	6.8	5.1	1.6	3.9	4.3
GDP per capita in purchasing power standards (PPS) (EU27 = 100)	48	48	49	51	51	52	54	56	61	62	..
Employment rate (15-64)	53.4	51.5	51.2	51.7	52.8	54.5	57	59.2	59.3	59.3	..
Unemployment rate (LFS)	18.5	19.7	19.3	18	16.7	12.2	8.5	6.7	8.2	9.6	9.6

..: Data not available.

Source: Author's calculation based on Eurostat data.

Table 7.4 shows that the post-accession years can be divided into two periods. The first (2004-08) was marked by high growth rates; a closing of the income gap as compared to the rest of the European Union; and gradual improvement of the labour market situation (the major achievement being a spectacular decline in unemployment). In the second (2009-11), the labour market suffered the impacts of the global economic crisis. Even if Poland managed to survive the first phase of the crisis in relatively good economic shape (very high GDP growth rates as compared to most EU member states), the registered unemployment rate still eventually rose to almost 10%. The main aim of the next sections is to question the role of migration in the labour market developments.

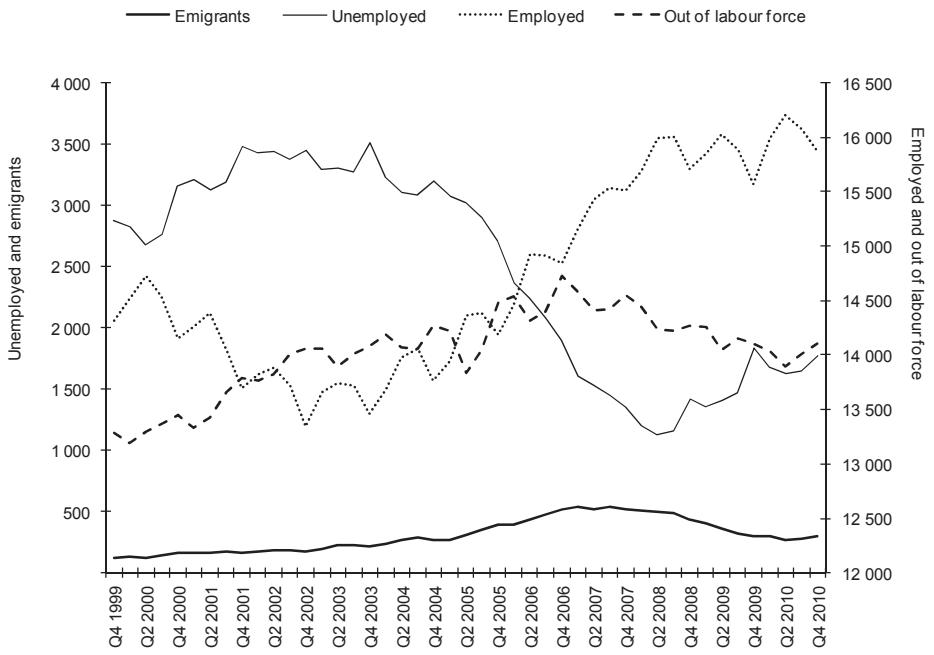
Short-term impacts

As with other transition economies, one of the most important economic issues facing Poland was a serious oversupply of labour. As a result, during most of the pre-accession period the unemployment rate was very high, reaching nearly 20%. In addition, the Polish labour market used to be described in terms of low participation and employment rates, structural mismatches and a large share of long-term unemployment (Kaczmarczyk *et al.*, 2009).

The situation was already beginning to improve prior to EU enlargement as the Polish economy grew (annual GDP growth in 2003 and 2004 was respectively 3.9% and 5.3%). In 2004 the number of unemployed gradually began to decrease: from 3.2 million in early 2004 to 1.2 million in late 2008 according to LFS data. (The unemployment rate decreased from 19.1% to 7.1%.) As shown in Figure 7.3 this change was accompanied by a significant increase in the scale of migration: the stock of migrants (according to the LFS data) rose from 218 000 to around 500 000.

Figure 7.3. Migration and the labour force in Poland, 2000-11

Quarterly data

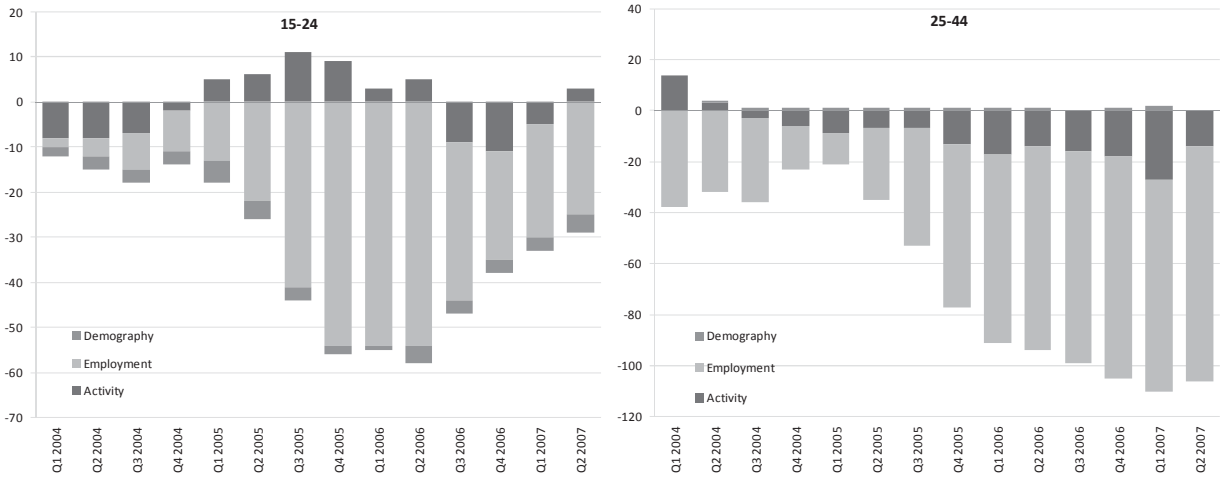


Source: Author's own calculation based on data from the Polish Labour Force Survey.

Cursory analysis could suggest that the decline in unemployment might be an outcome of spectacular post-accession migration. In fact, the Pearson correlation coefficient for the period from the second quarter of 2004 to the fourth quarter of 2007 equals -0.82, which indicates an almost perfectly negative linear relationship between the two time series.[6] This observation alone cannot serve as a proof of the causality between migration and unemployment (or an "unemployment export" hypothesis). First of all, the fall of unemployment observed since 2004 was also strongly correlated with the rise in employment (Pearson correlation coefficient = -0.97): employment rates increased from 44% to 50.1% between the second quarter of 2004 and the second quarter of 2008. Secondly, the general trends in the labour market continued even once emigration rates had stabilised, *i.e.* in 2007 and 2008. This indicates that post-accession emigration could not have been the primary cause of the changes in the labour market; these resulted mainly from structural and business cycle changes in the whole economy. Thirdly, the LFS data show that the stock of migrants rose by approximately 300 000 whereas unemployment fell by 2 million. That suggests that even if emigration would have a direct impact on the level of unemployment, only a small proportion of changes in the latter variable could be attributed to the former (see also Kaczmarczyk *et al.*, 2009).

The Polish labour market situation was topic of an analysis presented by Bukowski *et al.* (2008), who investigated the impact of three factors on unemployment: demographic structure, changes in economic activity, and changes in employment. As clearly shown in Figure 7.4 changes in the level of unemployment of people in a mobile age should be attributed primarily to a rise (or decline) in the level of employment.

Figure 7.4. Impact of demographic factors, changes in economic activity and employment on unemployment, 2004-07[1]



1. The sign is positive for components that increase the level of unemployment and negative otherwise.

Source: Bukowski, M., G. Koloch and P. Lewandowski (2008), "Labour Market Macrostructure in NMS8 – Shocks and Institutions", in M. Bukowski (ed.), *Employment in Poland 2007 – Safety on the Flexible Labour Market*, MPiPS, Warsaw.

In the pre-accession period the increase in unemployment was primarily a consequence of the number of (*i.e.* lack of) job places available. Other effects exerted moderate influence and acted in the opposite direction: the inflow of new cohorts of workers was more or less compensated by decreasing participation rates (particularly in the case of older age groups). Figure 7.4 reveals that in the post-accession period the most important factor influencing unemployment (in a negative way) remains employment. The effects of both remaining factors were marginal; however, an impact of changes in economic activity was noted that could be attributed to migration. That is to say, the decrease in participation rates observed in 2005 and 2006 that led – together with the sound process of job creation – to the significant decline in unemployment was to some extent brought on by the outflow abroad. A good number of migrants, even if still registered as permanent citizens of Poland, do not show up in Polish statistics either as unemployed or as economically active, and therefore impact the unemployment rate. This tendency is especially evident in the case of persons in the younger age brackets. Over the years 2003-06 the number of unemployed persons in the age group 15-24 decreased by over 260 000. Of this number, more than 110 000 can be accounted for by changes in employment, and the rest mainly to changes in participation patterns. The latter factor can be linked with two processes: a growing tendency to obtain tertiary education, and massive post-accession outflow (Kaczmarczyk *et al.*, 2009).

The outcomes of Bukowski *et al.* (2008) are supported by a study carried out by Lo Turco and Parteka (2008), who analysed the link between labour markets in the new member states and trade with EU partners. Their findings show that in the case of tradable sectors, domestic employment was positively affected by employment in trade-partner states. That would mean that the correlation between labour emigration from Poland and a decline in unemployment there are both a result of the same factor – the business cycle in an enlarged European Union. When demand for labour declined in the European Union towards the end of 2008 due to cyclical factors and the financial crisis, both emigration and employment in Poland were affected.

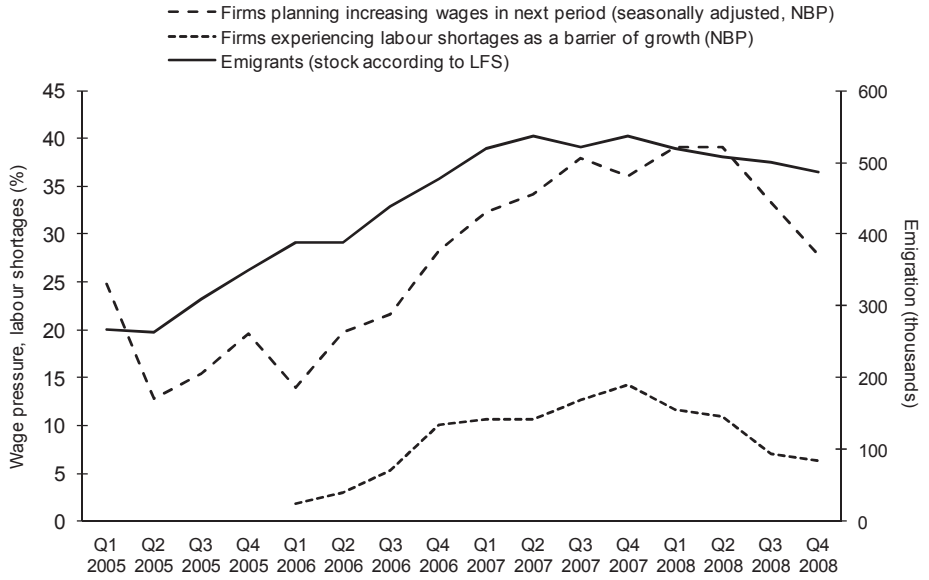
The impact of migration on the labour market was addressed by Budnik (2007). She applied the steady-state solution in order to compare migration scenario *versus* counterfactual scenarios and to evaluate the effect on the Polish labour market. Outcomes of her study – referring to the phase of most numerous outflows – revealed that even if post-accession migration from Poland was really massive, it had only a moderate impact on the estimated steady-state shares of people with different labour market statuses. For the period 2004-05 the bias in unemployment rate due to migration (difference between unemployment rates estimated for migration and non-migration scenarios) was negligible, estimated around a 0.4 percentage point. However, the study clearly stressed that migration can have far more severe effects in particular regional and local labour markets. Budnik (2007) also analysed gross flows on the Polish labour market (flows between labour market states) in consecutive quarters over the period 2000-06. The novelty of her approach lay in the introduction of migration as a new labour market state (similar to employment, unemployment and non-participation). The study showed that mobility on the Polish labour market is generally very low: in all cases the probability of changing status was lower than 5% (in case of employed and non-active, lower than 3%). Analysis of transition probabilities revealed, however, that they were higher in the post-accession period than in the first half of the 2000s. This referred also to migration: transition probability from a home labour market to a foreign labour market was around 0.1% in the pre-accession period and 0.3% post-accession. At the same time, transition probability from unemployment to migration equalled 0.5% as compared to 0.1% in the case of transition from employment to migration; that may support, at least to some extent, the export of unemployment hypothesis. In the case of returnees (or persons with migration experience), their chances on the domestic labour market were better than the chances for those non-active, but worse than for those unemployed (Kaczmarczyk and Okólski, 2008).

A last issue, *i.e.* the question of labour market performance of returnees, is one of the most critical components of the overall assessment of migration impacts. According to a study completed by the National Bank of Poland (Gumuła *et al.,* 2011) around 7% of Polish companies did employ persons with migration experience, but the total share of returnees among those who newly accessed the labour market was smaller than 2% (1.2% in late 2010). Additionally, there is no sound evidence on the transition from migration towards self-employment in Poland. Evidence from other countries suggests that this is the main channel enabling the return of migrants on the domestic labour market. This hypothesis seems especially valid in the Polish case, especially when considering the structural characteristics of migrating persons and conditions on local and regional labour markets in Poland. Unfortunately, there is no in-depth analysis on this issue available so far.

Medium-term impacts

The most important labour market equilibrium adjustment due to a massive outflow (and so decline in supply) of the labour force should theoretically be wage pressure. Most of empirical evidence available confirms the theory (Mishra, 2007; Hanson, 2005; Aydemir and Borjas, 2006). The transition period in Poland saw a dramatically difficult situation on the labour market, one marked by severe unemployment. Thus vacancy rates were extremely low for most of that period. Then from 2005 until late 2007 the vacancy rate and (particularly) the share of firms reporting problems finding employees increased rapidly. The number of companies experiencing labour shortages as a barrier to growth varied from practically none prior to 2005 to 14.2% in the third quarter of 2007, and then fell again to around 6% in 2008. The sectors most seriously hit included construction (with 35% of firms reporting hiring difficulties) and manufacturing (over 15%) (Figure 7.5).

Figure 7.5. Labour shortages, wage pressure (seasonally adjusted) and emigration, 2005-08



NBP: National Bank of Poland.

Source: Kaczmarczyk, P., M. Mioduszewska and A. Zylicz (2009), "Impact of the Post-Accession Migration on the Polish Labor Market", in M. Kahanec and K. Zimmermann (eds.), *EU Labor Markets After Post-Enlargement Migration*, Springer Verlag, Bonn.

Importantly, throughout 2007, labour shortages were declared the most important barrier to growth (NBP, 2008). However, as the business cycle phase changed in 2008, when the Polish economy started slowing down, labour shortages ceased posing a serious problem for most firms. This suggests, again, that labour shortages observed in the post-accession phase were primarily an outcome of a favourable economic situation and not necessarily outward migration.

Labour shortages are one of the most important factors responsible for wage pressure. This was proved by National Bank of Poland data (NBP, 2008) showing that in the post-accession period the fraction of companies planning to increase wages was higher among firms facing labour shortages than among those not reporting the problem. These plans, however, did not initially translate into high increases in actual wage levels on the aggregate level between 2004 and 2006: real wages rose at a moderate rate (2-4% annually). Additionally, reports on the impact of outflow on planned wage changes was very unstable over time. As shown by Gumuła *et al.* (2011) in the most critical phase of post-accession migration (mid-2007), almost 30% of those employed reported that international mobility of Poles was an important factor behind pressure on wages. Over the next years – along with a decrease in scale of migration but also clearly visible signs of economic downturn – this share declined to 1% in 2008 and 2009, and to 0% in 2010 (Janicka and Kowalska, 2010; Gumuła *et al.,* 2011).

Budnik (2008) attempted to address this issue by directly measuring the impact of migration on wage levels (search-and-matching model). A comparison of the actual migration scenario and a counterfactual scenario with migration rates fixed at the 2002 level revealed that the steady-state impact on the wage rate of an increase in worker outflow of around 4.5% (as observed between 2002 and 2006) was moderate and lower

than 1% (in 2006). Similar results were provided by the analysis completed by Kowalska (2011), who estimated the elasticity of wages in Poland with respect to emigration (based on data from the Polish LFS). The aggregate and individual data analyses revealed that 10% of the labour supply shock caused between a 2% and 4% increase in wages (on average, depending on assumptions). Interestingly, the elasticity of wages with respect to international mobility was higher for men than for women, and higher for employees under 30 than for older ones. This observation points again to selectivity issues, such as discussed in Section 7.1.

The impact of large-scale emigration on the supply of labour may be both quantitative and qualitative. Qualitative effects include changes in the composition of the labour force due to the selectivity of migration; this leads to the longstanding and heated debate on the mobility of highly skilled persons and its positive and negative effects (Grubel and Scott, 1966; Bhagwati and Hamada, 1974; Stark *et al.*, 1997; Dumont and Lemaître, 2005).

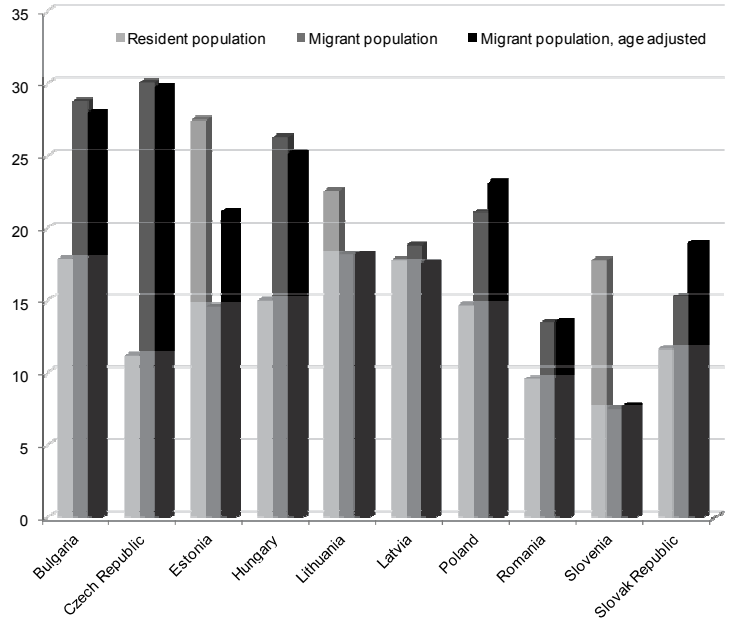
Labour market impacts stemming from the mobility of highly skilled workers can be short term as well as long term. According to Beine *et al.* (2001), a distinction can be made between the static (or *ex post*) effects of outflow – which can be termed a brain-drain effect – and the dynamic (*ex ante*) brain-gain effects related to a possible increase in the investment in education induced by the prospect of migration. Fihel *et al.* (2009) referred to the model proposed by Beine *et al.* (2001) to assess the impacts of post-accession migration from Poland.

Figure 7.6 indicates an overrepresentation in most new member states of well-educated persons. In the case of Poland there was a clear pattern of positive selection of persons who completed tertiary education. The term "brain drain" is thus appropriate; however, the exact impact of this phenomenon remains an open question. With regard to the short- and medium-term effects of the outflow, it is extremely difficult to assess the impact of post-accession migration on the skill mismatches in specific sectors and regions in Poland. The statistical data available suggest that the labour shortages observed in the post-accession period relate mostly to qualified workers but not necessarily those who might be described as highly skilled. In fact, the main sectors suffering shortages of labour included construction and manufacturing (Kaczmarczyk *et al.*, 2009). It is hardly possible that these posts could be filled by well-educated migrants choosing EU labour markets (even if they were ready to take these kinds of jobs while staying abroad). Additionally, due to the general situation of the Polish labour market (oversupply of labour), post-accession migration should be assessed in terms of "brain overflow"[7] rather than "brain drain".

In methodological terms, analysis of the "brain effect" is even more challenging. The structure of educational attainment of Poland is still changing, but the empirical evidence available shows that this process is caused by a set of non-migratory factors (*e.g.* social change, growing interest in obtaining higher education, structural change within the system and introduction of the new educational model following the Bologna process. It is impossible to extract any post-accession brain effects. What is of far greater importance is the performance of Polish migrants abroad. One of the key assumptions of the model proposed by Beine *et al.* (2001) is that the rate of return to education should be higher abroad than in the country of origin (which is supposed to induce more people to invest in their education in order to engage in gainful international migration). However, recent studies (Drinkwater *et al.*, 2006; Fihel *et al.,* 2009) suggest that Polish migrants abroad are employed in positions far below their skills (severe over-education). Moreover, as shown by Olszewska (2011), the rate of return to education in the case of Polish well-

educated migrants choosing the United Kingdom as their destination was lower abroad than on the domestic labour market. This signifies that the outflow of skilled workers from Poland has the characteristics of a "brain waste", which undermines the theoretical rationale for increased human capital formation.

Figure 7.6. Share of persons with tertiary education in migrant and resident populations in the new member states



Source: Fihel, A., P. Kaczmarczyk, N. Wolfeil and A. Żylicz (2009), "Brain Drain, Brain Gain and Brain Waste", in H. Brücker (ed.), *Labour Mobility within the EU in the Context of Enlargement and the Functioning of the Transitional Arrangements*, IAB, Nuremberg.

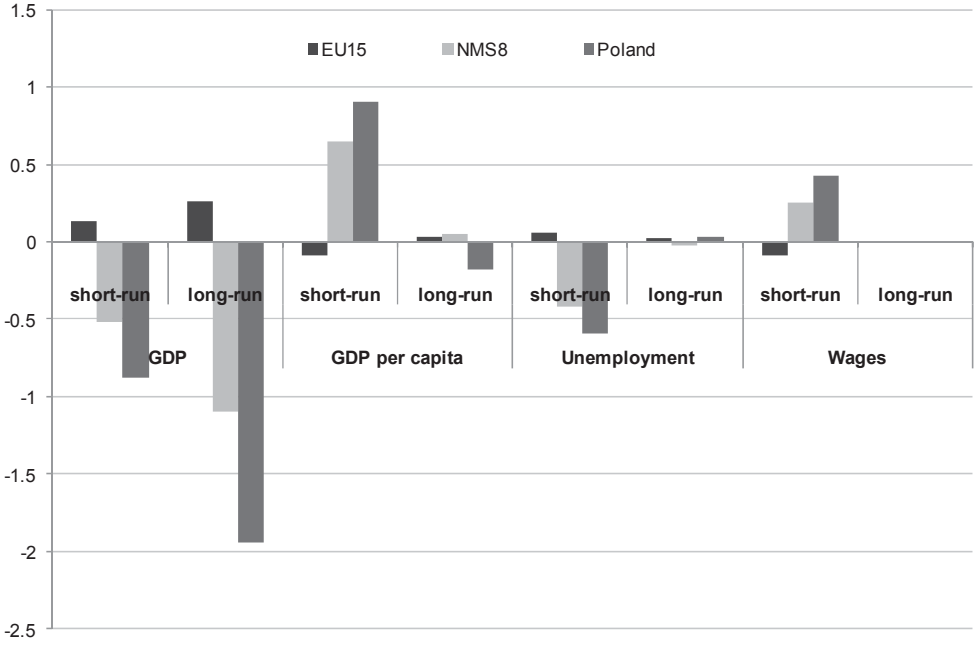
Generally, post-accession migration from Poland is characterised by a selective mobility of the well-educated – *i.e.,* by a brain drain. However, the positive selection of well-educated emigrants is mostly due to demographic developments arising from changes in the age structure of the sending population and changes with regard to educational attainment. These issues will be taken up in the next section.

Long-term impacts

Neoclassical economic theory suggests that in the long run, migration is neutral to labour market, *i.e.* changes in the supply of workers should be internalised by means of structural changes on the labour market and adjustment in the capital/labour ratio. This thesis is explored by Brücker *et al.* (2009), who looked at macroeconomic impacts of post-accession migration from the new member states (Figure 7.7).

Figure 7.7. Macroeconomic impacts of post-accession migration from new member states (NMS), sending and receiving countries

Percentages, as compared to the counterfactual scenario assuming migration at the pre-accession level



Source: Author's calculation based on Brücker, H. (ed.) (2009), *Labour Mobility within the EU in the Context of Enlargement and the Functioning of the Transitional Arrangements,* IAB, Nuremberg.

Brücker *et al.* (2009) argued that 1) post-accession migration brought major benefits for the receiving countries (particularly the United Kingdom) and reduced the growth potential in sending areas; 2) impacts on wages and unemployment were moderate and rather positive in short/medium term; and 3) most of labour market effects were negligible in the long run. This kind of approach does not take into account those effects related to demographic aspects of migration or possible structural changes on the domestic labour market. In the case of post-accession migration of Poles, these effects may be more significant than short- and medium-term adjustment in wages and employment/unemployment.

The importance of the demographic dimension of recent migration from Poland should be recognised, in terms of both numbers and structural features. According to available estimates (Okólski and Mioduszewska, 2008; Grabowska-Lusinska and Żylicz, 2008) the number of migrants staying temporarily abroad increased by over 1 million between 1 May 2004 and early 2007 (*i.e.* in the most important phase of post-accession outflow). After considering settlement mobility the total net loss of population in this period was around 1.1 million (*i.e.* 2.8% of the total population). In the case of working-age persons this loss was significantly higher, amounting to 4% of the total population at that age (slightly over 1 million migrants) (Kaczmarczyk and Okólski, 2008). This number suggests that we should not expect significant impacts of migration at the country level. However, more in-depth analysis reveals severe challenges with respect to certain groups and, particularly, the spatial dimension.

First, the demographic loss was more significant in the case of males than females (4.4% *vs*. 2.2%). Second, the highest outflows were of persons aged 25-29 (9.3%) and 20-24 (8.8%) as compared to an overall 3.3% of the total population. Third, net losses were similar for persons who completed tertiary, post-secondary or secondary and vocational education (in all cases around 4%). Significant differences were noted, however, when analysing education and gender jointly – for males the largest loses were of persons with completed secondary and vocational education (5.8% and 5.4%, respectively), while for females the largest loss was noted among those with tertiary education (3.3%). Fourth, even if urban and rural areas displayed similar patterns, major differences were noted when it came to the most mobile age groups. For those 25-29 years old – the age group most strongly affected by the population outflow – the loss in the rural population was as high as 9.5%; in the case of medium-sized and small towns it amounted to 10%, and for large towns it came to 8.2%. Last but not least, the demographic impacts of migration were significantly different when considering region of origin. For the total population the loss varied from 1.8% (Mazowieckie voivodship and particularly the Warsaw area) to over 7% (Podkarpackie voivodship, marked by the highest propensity to migrate in the post-accession period). These differences were even more striking when we account for type of settlement and age group: in the case of younger age brackets and rural areas in the south-eastern part of Poland, losses were commonly close to 25-30%[8] (Kaczmarczyk and Okólski, 2008).

The data presented above are highly relevant if we attempt to understand the origins of the recent migration of Poles. Available evidence (including correlation between migration rates and such variables as level of economic development, structure of the local economy, activity patterns of inhabitants, etc.) suggests that migration was more intensive in regions with a relatively higher share of the population living in rural areas and in those with younger populations (particularly in the post-accession period). In fact, one of the most important post-accession migrant groups comprised young, well-educated persons departing from relatively backward regions with weak labour markets and (at least remnants of) a semi-subsistence economy. Such people can easily be termed economically "redundant"; their outflow should be described in terms of overflow rather than drainage (Kaczmarczyk and Okólski, 2008).

This observation is highly relevant when we look at the long-term impacts of recent migration. As pointed out by Layard *et al.* (1992) one of the preconditions for development in post-war Europe was massive outflow of surplus labour. This kind of phenomenon happened *inter alia* in the case of Italy and Spain, creating a stimulus for improvement in the efficiency of their labour markets. Because of political conditions, *i.e.* policies prohibiting massive migration, this kind of process never happened in Poland.[9] As a consequence, during the transition period the Polish labour market was characterised by an enormous surplus of labour. Furthermore, structural and spatial distribution of the labour force did not match labour market needs: relatively large shares of the population were "trapped" in rural areas in subsistence sectors. Accession to the European Union and post-accession mass migration facilitated – for the very first time in contemporary history – the outflow of the "economically redundant" population originating from economically backward regions. Kaczmarczyk and Okólski (2008) argue that even if post-accession flows have only had a moderate impact on sending economies in the short run (including unemployment, economic activity and wages), this kind of labour market "pre-emption" or "crowding out effect" can significantly improve development potential in the long term. Recent migration can bring about significant changes in the labour market structure and institutional setup. While countering the

oversupply of labour, it makes all reforms of the labour market easier (or even generally feasible). In this context return migration – so welcomed by many policy makers in Poland and other new member states – may seriously limit that development potential (at least if it happens "too early", *i.e.* before completion of labour market reforms).

The economic downturn of the late 2000s created great uncertainty and thus changed the momentum of new migration from Poland. Analysis of migration data shows that post-accession migration has entered a new, more mature phase. Its most distinct feature is the visible division of migrants' strategies: whereas a relatively large group of post-accession migrants have already returned to their countries of origin, others have taken serious steps to settle abroad. Additionally, post-accession flows have influenced the situation on domestic labour markets and in a few cases seriously strengthened the demand for foreign workers (Kaczmarczyk *et al.*, 2009). The process was amplified by demographic changes (extremely low birth rates, an ageing population). As suggested by economic theory, one of the effects of the outflow may be an adjustment in the demand for labour in the longer term, so that labour supply gaps could be filled with a foreign labour force. This phenomenon was analysed by Grabowska-Lusińska and Żylicz (2008), who looked at the demand for foreign labour in the context of intensive labour shortages as experienced by Polish companies in 2006-07. Their findings did not support the thesis that Poland has already begun to transform itself into a net immigration country: the share of companies employing foreign workers was marginal (less than 1% of all registered firms), and potential demand (declared willingness to employ foreign workers) was only slightly higher (3.3%). So far, the majority of companies employing foreigners were turning to recruitment abroad because of specific labour shortages – *i.e.* the main cause was the fact that immigrants held specific qualifications not available in the Polish labour market (around 40%). However, declarations concerning future plans clearly suggest that Polish employers are aware of potential labour shortages in the future and are ready to engage in active recruitment abroad, with foreigners expected to fill the gaps in the indigenous labour force. Thus, in the long term one of the effects of post-accession migration and related demographic and labour market changes might be an increase in the scale of immigration and a rising participation of foreigners in the Polish labour market (Kaczmarczyk *et al.*, 2009). This tendency was already evident in 2008. Particularly important is the inflow of seasonal workers from neighbouring post-Soviet countries (mainly from Ukraine), who may be admitted via a so-called simplified procedure. The number of visas issued on the basis of employers' declarations of intention to employ foreigners within this legal framework increased from 22 000 in 2007 to almost 190 000 in 2009. Most of the seasonal workers found employment in agriculture, construction and household services – what are typically labelled "immigrant" sectors (Kaczmarczyk *et al.*, 2009).

7.3. Conclusions

The EU enlargement completed in May 2004 opened a new chapter in the contemporary history of Poland and its migration. The "new" migration proved spectacular in both scale and dynamics (particularly until 2007). It was also significantly different from previous waves as regards structural features of the outflow. Migration from Poland became domain of young and relatively well-educated persons coming mostly from relatively backward regions of the country. Much recent mobility from Poland can be explained in terms of labour market imperfections or mismatches that create serious challenges, particularly for those attempting to start their professional

careers. Experience of the post-2004 period revealed that the structural composition of migration and selectivity of the outflow to large extent determine migration's impacts.

The analysis presented above attempted to show that the short- and medium-term impacts of migration (*i.e.* those referring to immediate labour market adjustments with respect to employment/unemployment and level of wages) were not very pronounced. In fact, the overall effect of the relatively massive supply shock on the macro scale was moderate if not negligible. This was due *inter alia* to general economic conditions but also to structural features of the labour force (including its demographic composition). The same refers to the selective outflow of highly skilled Poles, which is to be interpreted in terms of brain overflow rather than drainage.

The main aim of the previous section was to emphasise the importance of long-term impacts of migration. This appears particularly challenging because the issues under analysis refer to relatively new, dynamic and still ongoing process. Nevertheless, based on preliminary findings and observations, it was possible to stress the potential of post-accession migration as a factor for changing the structural and institutional setting of the labour market, as well as leading to the gradual transformation of Poland into a net immigration area.

Notes

1. It is important to note that the full opening of the EU labour market was completed only in 2011, when Austria and Germany relaxed transitory arrangements regarding access to their labour markets. In fact, in May 2004 only three countries – Ireland, Sweden and the United Kingdom – opened their labour markets to newcomers from the EU10 countries – but even in these cases, transitory arrangements were introduced regarding access to social benefits.

2. For this reason, Polish migration statistics use a category of "temporary migrants", comprising permanent residents of Poland who have stayed in a foreign country for longer than three months. The estimate is based on census data, registers, LFS data and immigration data from destination countries (Kaczmarczyk and Okólski, 2008).

3. The outcomes of the 2002 National Census have been used as the basis for presenting the estimates in Table 7.1. The estimates following were obtained using register data, LFS data and data from destination countries.

4. Note that the number of temporary Polish migrants in Germany as indicated by the CSO estimate (see Table 7.1) increased from 385 000 in 2004 to 490 000 in 2008.

5. In fact, Poland's CSO announced a re-estimation of the data for 2007-09. The outcome should be available in the first half of 2012.

6. For the whole period under analysis (2000-11), the correlation between unemployment and migration is strongly negative (-0.77), as it is with the lagged migration time series (-0.71). Interestingly, these relationships became far less stable during the crisis (Q1 2008-Q1 2011): the correlation remained strongly negative (-0.87), but the relation between lagged migration and unemployment became strongly and almost linearly positive (0.98). Additionally, in the past few quarters there was no statistical correlation between unemployment and employment (previously there had been an almost linear negative correlation).

7. A brain overflow occurs when there is an (intentional or unintentional) oversupply of educated professionals in the sending country, whose abilities cannot be matched to job offers. In such a case, migration of the highly skilled occurs at low or zero opportunity costs, and reduces the labour market supply-demand inequality in the sending country.

8. Due to relatively small samples, data are not representative for this level of disaggregation and thus should be interpreted with caution.

9. Migration in the communist period was relatively limited in terms of numbers and involved only a small portion of the population, *i.e.* inhabitants of regions with relatively well-developed migrant networks or links to particular destination countries (the case with so-called ethnic Germans) (Kaczmarczyk, 2005).

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