Costs and Benefits of Labour Mobility between the EU and the Eastern Partnership Partner Countries

Country report: Germany

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GERMANY COUNTRY STUDY

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List of Acronyms

EaP – Eastern Partnership

ETF – European Training Foundation

EU – European Union

EU15 – The 15 member countries in the European Union prior to the accession of ten candidate countries on 1 May 2004 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom)

EU8 – The 8 member countries that joined the European Union on 1 January 2004 (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia)

EU2 – The 2 member countries that joined the European Union on 1 January 2007 (Bulgaria and Romania)

MINT – Mathematik, Informatik, Naturwissenschaften, Technik (Mathematics, computer science, science and technology)

ISCED – International Standard Classification of Education

ISCO – International Standard Classification of Occupations

OECD – Organisation for Economic Co-operation and Development

Summary

This study provides an overview of the situation of migrants from Eastern Partnership (EaP) countries in Germany, with this chapter particularly focusing on the labour market integration of EaP migrants, their access to social assistance and social services, and the impact of these flows on the German labour market. We then provide an informed view of the scope for future increased mobility between Germany and EaP countries, in the light of the skills needs and demographic trends expected in the next 10 to 20 years. Based on the results, the following conclusions can be drawn.

More than half of EaP migrants come to Germany for work and study purposes. Family reunification is important for Ukrainians and Moldovans. Work and family purposes are the two main residence grounds for migrants from Moldova and Ukraine, while the other nationalities hold residence permits for reasons of study and work in most cases.

Ukraine has always been the main sending country. In the last twenty years, around 60 per cent of EaP migrants have come from Ukraine, with the other countries having relatively evenly distributed shares.

The relative importance of flows and stocks of EaP migrants is rather limited, and Germany seems to have lost attractiveness for EaP migrants. Until 2004, the numbers of EaP net migration followed the flows from the new member states. However, the flows of EaP nationals to Germany have since had a different pattern compared with flows from the other EU member states, with EaP migration having steadily dropped. As a group, immigrants from EaP countries represented around 4.5 per cent of the foreign population in Germany in 2010.

EaP migration has gone through a feminisation process. Migration from EaP countries has progressively become a female phenomenon since the 1990s, with a notable increase in the share of female migrants when the crisis hit in 2008. While 42 per cent of the net migration from EaP countries was represented by female migrants in 1992, by 2006 this percentage had more than doubled. Moreover, this pattern has been extremely homogeneous across the six EaP countries.

Migration from EaP countries is characterised by short stays in Germany, despite the length of permanence having increased since the mid-2000s. The length of stay of EaP nationals is shorter than that of other migrants, with an average 5 years stay in 2004 and 9 years stay in 2010. The increase in the length of permanence is a trend common to all foreigners except nationals from Romania and Bulgaria, yet the increase has definitely been sizeable for EaP countries, with an average length in 2010 almost double the 2004 levels.

EaP migrants are on average younger and, especially migrants from Ukraine, considerably more educated than natives and EU nationals. In terms of age distribution, Ukrainian migrants are on average similar to natives, although the rest of the EaP migrants are much younger. EaP nationals maintain an educational advantage compared with German and other EU nationals, with this pattern driven by Ukrainian migration, as they are twice as likely as natives and other EU nationals to hold a tertiary degree.

EaP migrants are more likely to be employed in low-skilled occupations than natives and all other migrants. Ukrainian and other EaP migrants have the highest percentage of employment in low-skilled jobs, with an average of 24 per cent among migrant groups in all studies. Nonetheless, the differences in sectoral distribution are less remarkable than in other countries.

EaP nationals maintain a definite disadvantage in terms of employment probabilities and unemployment rates, both on average and compared with similar German and EU nationals. Despite their higher educational attainment, the labour market situation of EaP nationals is rather discouraging. For example, their unemployment rates are *on average* 45 per cent to 77 per cent higher than the respective rates for EU and other migrant groups. Such dissimilarities remain when we control for the differences in demographic and socio-economic profiles between the various nationalities: a representative male EaP migrant aged 15-65 remains 43 per cent less likely to be employed than a *similar* native.

Compared with similar natives and EU movers, male EaP nationals have self-employment rates in line with those of other groups. The only differences arise in the comparison with EU8 migrants: EaP migrants are on average 16 per cent less likely to be engaged in self-employment.

EaP migrants earn less than natives and EU15 movers; however, they have similar earnings outcomes to EU8 and EU2 movers, once observable demographic and socio-economic differences across groups are considered. On average, Ukrainians earn less than natives and EU15 migrants. However, the gap between Ukrainians, EU8, EU2 and other migrants closes once the observed characteristics are taken into account – while the difference between EaP, natives and EU15 migrant earnings remains sizeable and even widens. Such a conclusion also holds qualitatively when the other EaP countries are introduced in the analysis.

EaP migrants are more likely to receive some form of welfare assistance, however this difference is purely driven by access to unemployment benefits. The welfare gap between natives and EaP migrants is driven by access to long-term receipt of unemployment benefits, with EaP migrants 27 per cent more likely than a *similar* native to receive this kind of welfare. Compared with other non-EU migrant groups, this figure drops to 14 per cent, yet remains sizeable. This is unsurprising given their higher probability of being unemployed. Despite this fact, it

should be noted that comprehensive research on the overall impact of migration on the public budget has shown migrants in Germany to be net contributors to the welfare state.

Female EaP migrants have similar outcomes to EaP males. Overall, male and female EaP migrants are rather similar, although women might be even more disadvantaged than men in terms of employment probabilities (in comparison with natives and EU15) and overqualification (again, compared with natives and EU15). Despite EaP women still being more likely than other groups to receive some form of welfare, welfare participation is less likely than in the male population.

EaP migrants' labour market outcomes slowly improve over time. Despite EaP migrants suffering from lower employment probabilities and earning potentials in the German labour market, time spent in Germany helps these migrants to catch up. However, assimilation is rather slow: after 20 years the migrants still maintain an earnings and employment disadvantage compared with natives.

EaP migrants are overqualified for their jobs, with over-qualification explaining half of the employment gap. Overall, EaP migrants are much more likely than any other group to be overqualified. Results are particularly strong for Ukrainian migrants, who are 20 to 30 per cent more likely to be overqualified than everybody else, and differences in their characteristics do not explain such discrepancy. The other EaP nationals are more similar to EU8 and EU2 nationals, maintaining an overqualification disadvantage with natives (7 per cent) and EU15 migrants (11 per cent). Non-employment rates are also considerably higher for Ukrainians migrant with high levels of education, up to three times as much as natives and EU15 migrants, and almost twice those of other nationalities.

EaP workers do not seem to put competitive pressure on the native-born workers in the same occupations and localities where they live. While definite conclusions cannot be drawn due to data limitations, there does not seem to be a strong pattern between natives' earnings and EaP migrant presence.

Germany is expected to face an increase in demand for skilled labour in the next 10 to 20 years. There is substantial debate in Germany regarding the extent to which short-run skills mismatches occur. However, the trends discussed above are expected to produce an increase in demand for skilled labour in the next 10 to 20 years, and a decrease in demand for unskilled workers (Bosch, 2011; Brenke, 2010).

EaP migrants might bring the necessary skills. Conditional on relevant variables, EaP migrants do not dramatically differ from natives, EU8, EU2 and other migrants present in Germany. However, the most interesting differences come from graduate in engineering. In particular, female EaP migrants seem to have degrees that might be of interest in the German labour market. Furthermore, Ukrainian

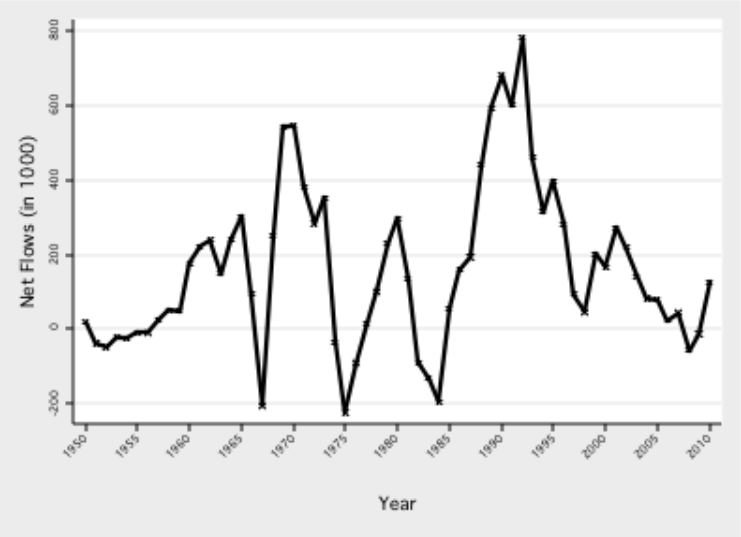
potential migrants are more concentrated in the engineering and services fields, with almost 60 per cent having a degree in these areas.

Benefits of EaP migration could be enhanced and costs reduced, if policies ensuring the integration of migrants into the labour market could be established. The potential benefits related to EaP migration crucially depend on whether the overqualification of these migrants derives from poor recognition of their skills in the German labour market, their lack of German-specific human capital, or the lower quality of their degrees obtained. Policies that improve the selection of migrants to match labour market needs and facilitate the conversion of foreign credentials into German equivalents might not only benefit the German labour market but also improve the migrant conditions and assimilation patterns in Germany.

Introduction

Immigration to Germany began after World War II.[1] First, German refugees and expellees from Eastern Europe and then guest workers from Southern Europe entered Germany under unrestrictive immigration policies. At the time, unconstrained migration was primarily demand-driven and helped the post-war reconstruction as well as smoothed the transition of all German states to full modernisation and industrialisation. Figure 1 shows the net flows of migrants to Germany from 1950 to 2011. The first migration waves correspond to the peaks in flows in the 1950s and late 1960s, when recruitment treaties were signed with Italy (1955), Spain and Greece (1960), Turkey (1961), Portugal (1964) and Yugoslavia (1968).

Figure 1: Net Flows of Migrants to Germany, 1950-2011, in 1000



Source: Federal Office of Administration, Central Register of Foreigners, 2012.

With the oil crisis of the 1970s, German migration experienced a slowdown, induced not only by the severe economic conditions but also by more restrictive immigration policies. The introduction of migration controls – such as the immigration ban of 1973 – set the context for the "closed door" approach maintained until today (Brenke and Zimmermann, 2007). With the exception of the arrival of asylum seekers and ethnic Germans that boosted the last migration wave after the fall of the Iron Curtain in the 1990s, Germany has kept a relatively strict immigration policy, also in the context of the more recent European migration. In fact, Germany did not immediately open up its labour market following EU enlargement, unlike other EU member states. Nonetheless, Germany has experienced an increase in migration flows from the new member states after the enlargement of 2004. Brenke et al. (2010) find that the immigrants from accession states who arrived in Germany after

[1] For a review of the German migration history, see Zimmermann (1995) and Bauer et al. (2005).

enlargement are younger and less educated compared with the previous immigrant groups. These immigrants also earn while in work than the previous waves. In comparison with other EU member states, however, these populations still represent a small percentage of the total immigrant stock in Germany.

As explained further below, arrivals from Eastern Partnership (EaP) countries have followed a similar trend: apart from a peak of Ukrainian migration in the early 2000s, flows have been small and the presence of EaP migrants is fairly limited in the German context.

While a number of studies have extensively analysed the scale and effects of EU migration after enlargement (for an overview, see Kahanec and Zimmermann, 2010), there is still little known about the presence of migrants from EaP countries in Germany, as well as their effect on the economy and welfare system. This chapter fills this gap. We study their profiles, labour market outcomes and integration in the German labour market. The aim is to understand how these immigrants fare in Germany, and whether such migration could or should be fostered.

Section 1 introduces the legal framework under which EaP migrants can enter Germany. Section 2 focuses on the total flows and stocks of these migrants, while Section 3 investigates the average characteristics of this population. Section 4 studies the labour market outcomes of comparably similar migrants, natives and other EU migrants, and whether these migrants introduce labour market pressures on native workers. We then turn to consider whether such migration would be beneficial in the future. Section 5 presents evidence of skills needs in Germany and Section 6 analyses whether migration from EaP countries could match these needs. Conclusions follow.

1. The Legal Framework

Germany cooperates with several third countries through Contract Worker Agreements and Guest Worker Agreements, but currently such agreements are not in place with any of the EaP countries. Nevertheless, in the past few years, EU member states have signed mobility partnerships with Moldova (2008), Georgia (2009) and Armenia (2011), with Germany participating in these agreements. These agreements foster intergovernmental cooperation. The European Commission acts as a coordinator in the negotiations between countries, but participation of the EU member states into these agreements is completely voluntary. Despite not being legally binding, such partnerships surely represent an increasing intention towards a well-managed movement of people and open dialogues with these countries. The current policies that Germany applies to EaP migration are in line with the effort of the European Commission to foster cooperation with the EaP countries. However, no

action has been taken at present, and it is not clear if, how and when these informal agreements will indeed foster mobility between Germany and its EaP counterparts.

Within the current legal framework, EaP nationals are required to hold a visa when entering Germany. Under the Immigration Act of 2005, such a visa permits the holder to reside in Germany for its duration, and is converted into a residence or settlement permit once the holder arrives in the country. The Act establishes six main reasons for issuing temporary residence permits: education or training, gainful employment, international law, humanitarian, political or family reasons (Federal Foreign Office, 2009). A permanent settlement is issued once the foreigner has been in possession of a temporary residence permit for five years and if they meet the additional requirements (secure income, no criminal record, adequate command of the German language, etc.).

A residence permit for the purpose of education is issued to individuals who will attend a state or state-organised higher education institution or comparable training establishment. This permit can be extended up to a year after graduation for the purpose of seeking employment. A residence permit may also be issued to individuals seeking participation in language courses, without further attending a higher education institution.

EaP nationals wishing to work in Germany as economic migrants require a residence title for the purpose of gaining employment. The Immigration Act facilitates the acquisition of residence for highly qualified and self-employed persons with an initial investment of € 250,000 and the ability to create at least five new jobs. However, the requirements for meeting these residence types are high. The temporary residence permits can only be issued once a concrete job offer has been made. The individual's qualifications and skills and the needs of the German business and local labour market conditions are all crucial elements in guaranteeing issue of the permit.

The Act also grants refugee status in cases of non-state persecution and gender-specific persecution.

Family reunification is granted under the following specifications. The foreigner must have a settlement or residence permit and sufficient living space for the family members; the spouse must be 18 years or older and, in principle, master a basic knowledge of German; children must be 16 years old or younger, although those aged 16 to 18 may be granted a residence permit "in cases of hardship or if their prospects of integration are good" (Federal Foreign Office, 2009).

The latest publication of the Federal Office for Migration and Refugees (2010) reports the distribution of permits granted to EaP nationals in 2010. Table 1 shows that EaP nationals enter Germany primarily for study, work or family reasons. In particular, working and family purposes are the two main residence grounds for migrants from Moldova and Ukraine, while the other nationalities have residence permits for study and work reasons in most cases. Of the individuals with a working permit, the vast

majority were categorised as unskilled workers (Federal Office for Migration and Refugees, 2010).

Considering that education and work reasons represent a sizeable share of the residence permits granted to EaP migrants, it is natural to ask whether foreign professional qualifications can be easily transferred to the German workplace, or alternatively whether migrants incur large human capital losses and "brain waste" when arriving in Germany. This becomes particularly important if migrants practise regulated professions, i.e. those that can only be performed under state approval. However, thinking of the heterogeneity in training characteristics and quality across countries, the recognition of foreign qualifications could also be an important step for non-regulated professions where a formal examination of migrants' qualifications could help the employer to assess the skill level of the foreigner.

Table 1: Distribution of Residence Permits Types for EaP Nationals, in %

Nationality	Study	Language course/School attendance	Other Education	Work reasons	Humanitarian reasons	Family Reasons	Others
Ukraine	18%	2%	5%	31%	5%	37%	2%
Georgia	22%	4%	3%	46%	5%	18%	1%
Belarus	23%	2%	3%	22%	4%	45%	2%
Azerbaijan	42%	3%	12%	5%	11%	27%	0%
Armenia	24%	1%	4%	23%	7%	36%	4%
Moldova	19%	4%	6%	26%	4%	39%	2%

Source: Federal Office of Administration, Central Register of Foreigners, 2012.

Only the recent Recognition Act of 1 April 2012 has instituted a standardised procedure to recognise all qualifications acquired abroad. The applicants must decide which German qualifications they want their qualification to be compared to and should consult the specific office of competence. It should be noted that there is not a central body responsible for all enquiries; hence, the specifics will vary in each state. The recently created portal "Recognition in Germany", developed by the Federal Institute for Vocational Education and Training, on behalf of the Federal Ministry of Education and Research, has the mission of helping individuals to find the appropriate body responsible for this process.[2] Foreigners will bear the costs of the recognition fees, which will be set by the office responsible. Finally, nationality, possession of a residence permit and even a current presence in Germany are not considered in the recognition process.

To summarise, the current framework of EaP migration does not contain particular facilitations for fostering access to Germany for these countries. EaP nationals are subject to the visa restrictions of the Immigration Act of 2005. Their qualifications can be recognised independent of their residence status under the Recognition Act of 2012.

[2] See www.anerkennung-in-deutschland.de.

The latest recommendations from the European Commissions were made on 16 September 2011 for negotiating directives aimed to ease "readmission and visa facilitation agreements with Armenia (IP/11/1053)[3] and Azerbaijan (IP/11/1052)[4], as well as first assessment reports in the context of the visa dialogues with Moldova and Ukraine" (European Commission Press release, IP/11/1257). It is still an open question whether the current legislation will therefore increase the freedom of mobility and ease human capital transfers between Germany and the EaP nations.

2. Migration Flows and Stocks of EaP Migrants in Germany

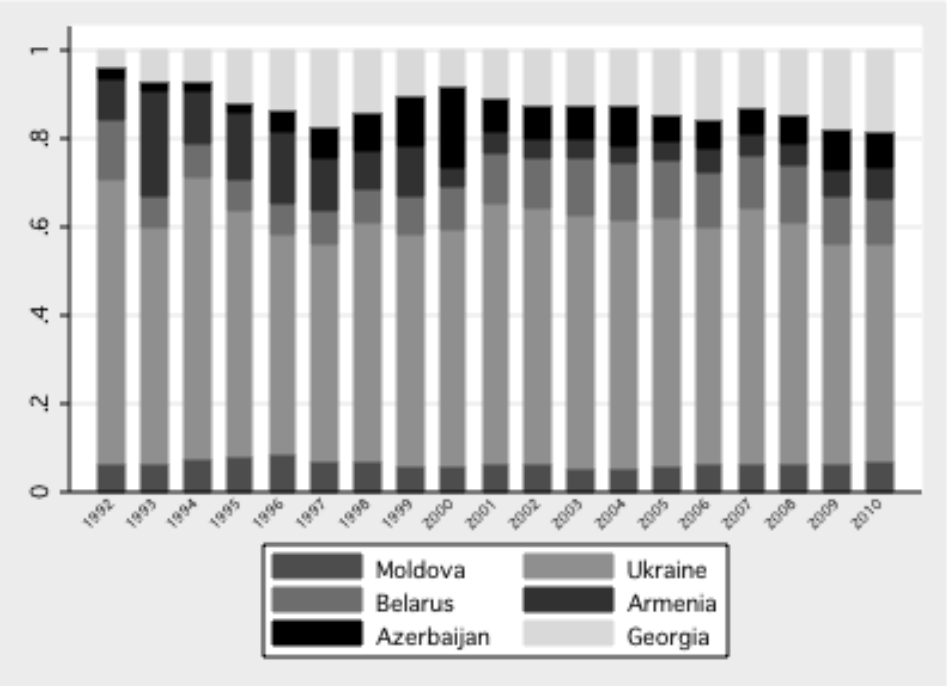
This section presents the trends in net migration flows and stocks of EaP migrants since the early 1990s. The analysis also descriptively shows these figures by gender and by migration characteristics, such as length of stay. These numbers are based on data collected from the Federal Office of Administration, Central Register of Foreigners (2012).

We start by considering the composition of flows from EaP countries to Germany. In the last 20 years the average net migration of EaP nationals has amounted to 12,237 per year, from a low of 358 EaP nationals in 2008 to a high of 22,876 in 2001. Ukraine has consistently been the major sending region since the 1990s.

Figure 2 shows that on average, about 60 per cent of EaP migrants come from Ukraine, with the other countries having relatively evenly distributed shares. Armenia, Azerbaijan and Moldova represent on average between 6 and 8 per cent of the total inflows, while Belarus has sent an average of 10 per cent of the total EaP migrants. Complementary analysis not reported here shows that since the 1990s, the outflow of EaP nationals has been characterised by an average of 46 per cent Ukrainian migrants leaving Germany, 17 per cent Georgians, 12-13 per cent Armenians and Belarusians and 6-7 per cent individuals from Armenia and Moldova.

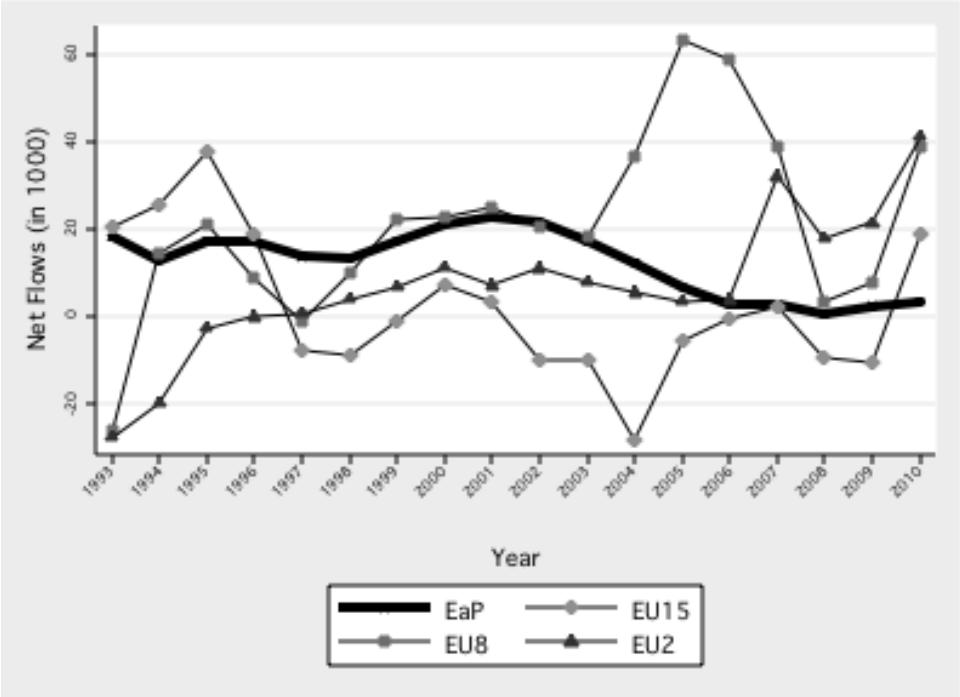
[3] Retrieved from http://europa.eu
[4] Retrieved from http://europa.eu

Figure 2: Distribution of Inflows by EaP Countries, over Time, as a fraction of Total EaP Migration



Source: Own calculations based on Federal Office of Administration, Central Register of Foreigners, 2012.

Figure 3: Net Flows of EaP and EU Member States Groups, 1992-2010, in 1000



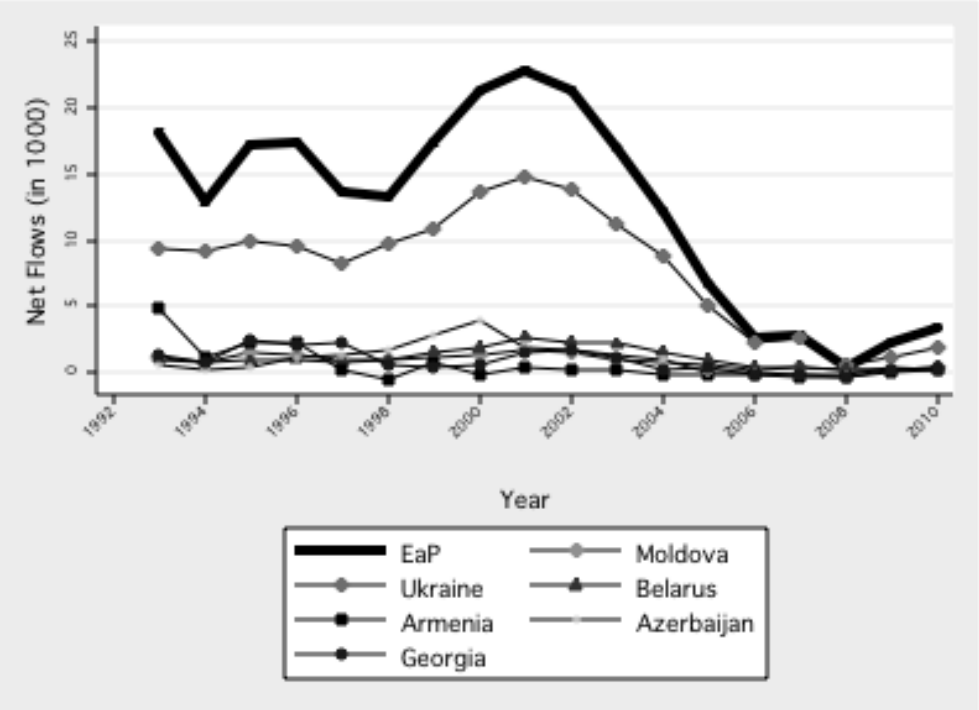
Source: Own calculations based on Federal Office of Administration, Central Register of Foreigners, 2012.

Therefore, there is no complete retantion of the incoming migrants, and, unsurprisingly, the main sending regions are also the regions recalling their migrants.

How do these flows compare with other flows from major EU member states? Until 2004, the EaP net migration followed in numbers the flows from EU8, although with smoother swings and an average inflow of 20,000 individuals per year. After 2004 the flows of EaP nationals to Germany have followed a different pattern compared with the flows from the other EU member states. Hence, for the last 20 years the net flow of EaP nationals can be characterised by two phases: a relatively steady increase until the early 2000s, followed by a steady drop in the mid-2000s. These patterns can be observed in Figure 3.

The figure represents the net flow (in thousands) for EaP nationals and nationals from the EU15, EU8 and EU2. Flows are overall characterised by high volatility, with large swings occurring in correspondence with EU enlargements and economic turmoil. The flows from EaP countries peaked in the early 2000s and dramatically dropped since 2003, from a net flow of 22,876 individuals to only 358 individuals in 2008.

Figure 4: Distribution of Net Flows by EaP Countries, over Time, in 1000



Source: Own calculations based on Federal Office of Administration, Central Register of Foreigners, 2012.

Figure 4 further breaks down the net flows of EaP migrants into the contribution of each EaP country. The sizeable drop highlighted before is driven by a decline in flows from all countries. In particular, net flows of individuals from Armenia, Azerbaijan and Georgia have become negative. Analyses not reported here highlight that the

drop in net flows from these three countries is driven by a large reduction in inflows. Overall reasons for the German loss in attractiveness as a possible destination country are given in the paragraphs below. A further specific reason of net flows reduction for Armenia, Azerbaijan and Georgia compared to other EaP countries could be the very high growth rates of these economies since the mid-2000s.

The decline in flows has caused a reduction in the presence of nationals from EaP countries in Germany since the early 2000s (Table 2), especially with respect to EU migration.

Table 2 shows that the importance of the stock of EaP nationals over the total of EU nationals dropped by one and a half percentage points in a year (2005) and, by 2010, the stocks had reverted to the 2003 level. This fact is driven by the sharp decline in EaP flows and the incresase in EU flows in the early 2000s. On the other hand, EaP migrants seem to have been a fairly stable percentage of the non-EU migration (about 4.5 per cent).

Table 2: Stocks of Migrants from EaP Countries, 2003-2010, in 1000

	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Ukraine	% EaP/EU	% EaP/non-EU
2003	11.38	15.23	16.34	13.97	13.26	126	7.96	4.03
2004	10.54	15.95	17.29	13.63	12.94	128.11	8.98	4.4
2005	10.36	15.71	18.04	14.07	13.03	130.67	10.16	4.23
2006	10.07	15.22	18.15	14	12.72	128.95	8.71	4.46
2007	9.73	14.59	18.27	13.63	12.37	126.96	8.4	4.43
2008	9.58	14.34	18.38	13.3	12.21	126.23	8.24	4.44
2009	10	14.21	18.65	13.51	12.15	125.62	8.22	4.48
2010	10.34	14.04	18.7	13.47	11.97	124.29	7.91	4.47

Source: Own calculations based on Federal Office of Administration, Central Register of Foreigners, 2012.

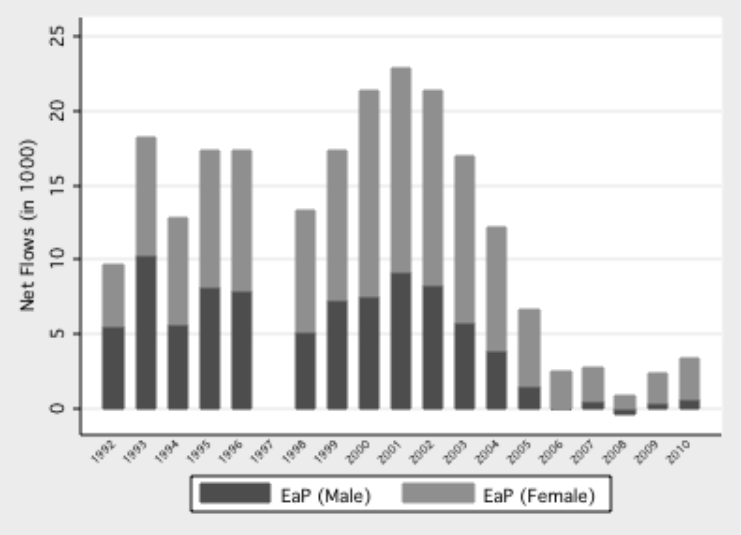
While the arrival of EaP migrants has declined since the mid-2000s, the relatively stable stock of these nationals seems to indicate that the outmigration of previous waves of EaP citizens in Germany is rather low. It therefore seems that Germany has lost its attractivenness for new EaP migrants. We could then speculate that the EU-enlargement of 2004 might have changed the preferred destinations of EaP nationals, leaving unchanged the incentives to remain in Germany of the migrants who had already settled in this country. It is possible that with the 2004 EU enlargement to EaP neighbouring states such as Latvia, Lithuania, Poland and Slovakia, and the expectation of the accession of Bulgaria and Romania in 2007, might have either delayed the outmigration from EaP countries or simply re-directed it to the new member states. This argument is made in Iglicka (2005), who suggests that immigration from the East has complemented the outflow of Polish nationals to the West (Ireland and the United Kingdom, in particular), after the accession of Poland to the European Union. For instance, in 2004 Poland had its largest inflow of

immigrants in the last 40 years, primarily coming from Belarus, the Russian Federation and Ukraine. Kaczmarczyk and Okólski (2008) further argue that emigration due to the EU enlargement has created labour shortages in the accession countries; hence, the demand for labour migration has risen. Ukrainian migration is now also facilitated in Poland with "local border traffic agreements".

Table 2 also suggests that the importance of EaP nationals as a migrant group in Germany is rather low. Hence, when analysing the impact of this migration on Germany as well as the level of assimilation of migrants, it should be kept in mind that EaP nationals are a very small group compared with the total number of migrants in Germany.

The register data allows the further break down of flows by gender and length of stay. This is of interest to understand whether migration from EaP countries is primarily a male or female phenomenon, or a one-time versus a repeated occurrence. These patterns will have important consequences in the labour market impact and the labour market assimilation of these migrants. Men and women are in fact renowned for having different labour force participation behaviour as well as different sectors of occupations. A better idea of the composition of these flows will therefore give some indication of where to expect the larger effects of this migration on the German economy. The length of stay in the country will in turn affect assimilation patterns, as well as impacting the labour market, welfare participation and other aspects of migrant assimilation.

Figure 5: Net Flows of EaP Nationals by Gender, 1992-2010, in 1000



Source: Own calculations based on Federal Office of Administration, Central Register of Foreigners, 2012.

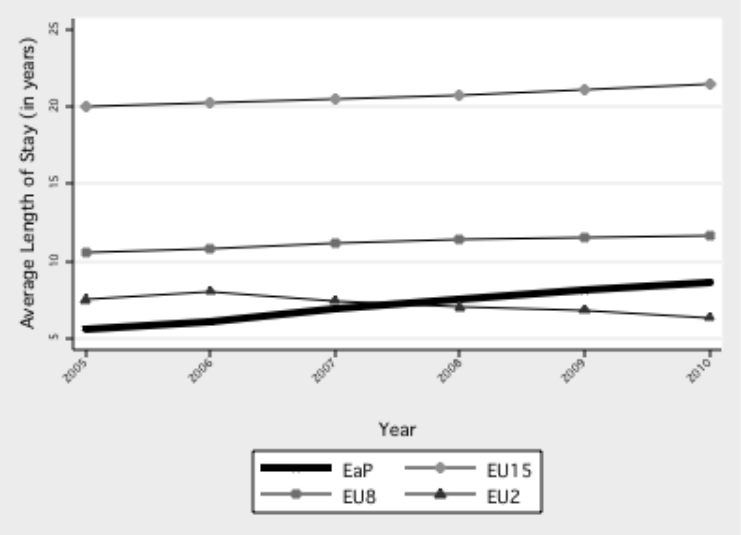
Figure 5 shows the composition of the net flow of EaP nationals to Germany by gender. Both male and female migration has fallen (see Figure 4). Since the 1990s, however, migration from EaP countries has progressively become a female phenomenon, with an interesting increase in the share of female migrants when the

crisis hit in 2008. For example, 42 per cent of the net migration from EaP countries in 1992 was represented by female migrants, and this percentage has more than doubled since 2006. This pattern has been extremely homogeneous across the six EaP countries.

Figure 6 reports the length of stay for the EaP countries and other source regions since 2004. The length of stay of EaP nationals is shorter than other migrants, with an average of 5 years in 2004 and 9 years in 2010. The increase in the length of stay is a trend common to all foreigners except EU2 nationals, but the increase has definitely been sizeable for EaP countries, with an average length in 2010 that is almost double the 2004 levels.

To summarise, the flows from EaP countries to Germany have significantly decreased in recent years, with no particular shifts in the main sending regions: Ukraine has always occupied top position. The relative importance of flows and stocks of EaP nationals is quite limited in the German economy, with EaP migrants reaching at most 4.5 per cent of the total stock of non-EU foreigners. Migration from these countries appears to mostly be a female phenomenon, with relative short stays compared to EU8 and EU15 migrants but increasing duration.

Figure 6: Length of Stay by Nationality, 2004 – 2010, in years



Source: Own calculations based on Federal Office of Administration, Central Register of Foreigners, 2012.

These changes and swings seem to suggest the strong importance of push and pull factors in determining migration to Germany, and probably an intention to only settle temporarily in this country.

3. A Descriptive Analysis of EaP Migrants Profiles

The data in the official registers represents the most accurate information on immigrant flows and stocks. However, it does not provide enough information to study immigrants' socio-economic characteristics beyond the few attributes reported in the previous section. For this reason, the following analysis is based on German Microcensus data. The Microcensus is a 1 per cent sample survey of the population in Germany which integrates the European Labour Force Survey, has a compulsory response and provides information on demographic, socio-economic, labour market and educational characteristics of the population. This chapter uses the 2008 wave of the Microcensus scientific use file, which is a 70 per cent sub-sample of the full Microcensus.

Unlike the register data, the identification of EaP nationals in the Microcensus can be challenging. In fact, some nationalities are grouped to avoid individual identification due to data sensibility concerns. Hence throughout the analysis, the following definitions and groups had to be adopted:

- **Natives:** German born with German nationality at birth.
- **Ukrainians:** foreign-born who migrated from Ukraine and with Ukrainian nationality. This is the only group of the EaP countries that is fully identified in the Census data.
- **Other EaP nationals:** foreign-born who migrated from and are nationals of Eastern Europe[5] and the Middle East.[6]
- **EU15, EU8 and EU2:** as comparison to other immigrant groups, we also report the statistics for foreign-born non-German nationals who migrated from the EU15,[7] EU8 and EU2 member states.
- **Other immigrants:** foreign-born, non-German nationals who migrated from all other countries. Note that 40 per cent of these migrants have Turkish nationality and a total of about 60 per cent of them come from non-EU member states that used to have guest worker agreements in place with Germany. Therefore, this group can be interpreted as representing the migrant groups that have traditionally settled in Germany.

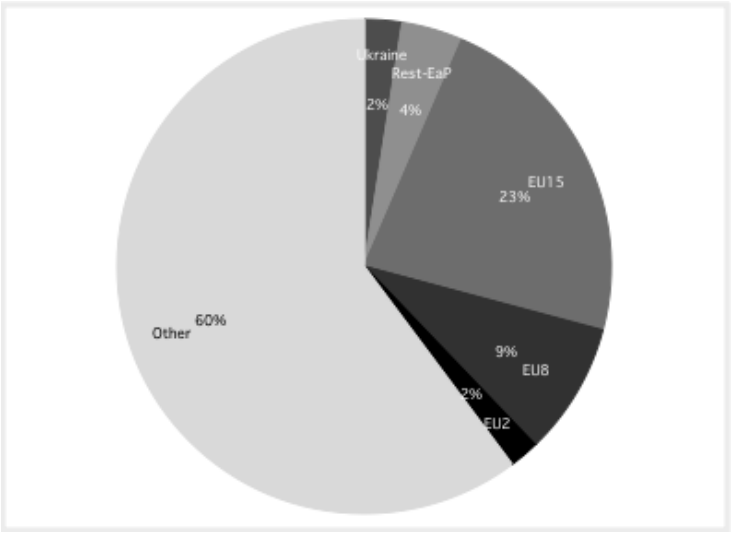
The inclusion of non-EaP countries in the current definition is not ideal. However, the fact that Ukraine can be completely identified is reassuring, given that it is the

[5] The exact definition is "Sonstiges Osteuropa" (other Eastern Europe). The Statistical Office assured us that Belarus and Moldova would be categorised in this group. All the other major countries in Eastern Europe have separate categories. The inclusion of individuals from other nationalities besides Belarus and Moldova is unlikely.
[6] Iran, Iraq and Kazakhstan are excluded from this group. Besides Armenia, Azerbaijan and Georgia, the group also includes individuals from other Middle East countries such as, Israel, Jordan, the Lebanese Republic and the Syrian Arab Republic.
[7] German nationals are obviously excluded from this group.

main sending country, as shown in the previous section. In particular, the register data shows that the stock of Ukrainians living in Germany in 2008 was 65 per cent of the total of EaP nationals. The results produced below for the other EaP nationals should be treated more carefully. For this reason, we will often focus on Ukrainian migrants in the discussion of the findings.

Figure 7 reports the distribution of the immigrant groups in the sample. This fairly closely resembles the distribution of the stocks obtained from the register data (Table 2), with the exception – as expected – of the "Rest-EaP" category.

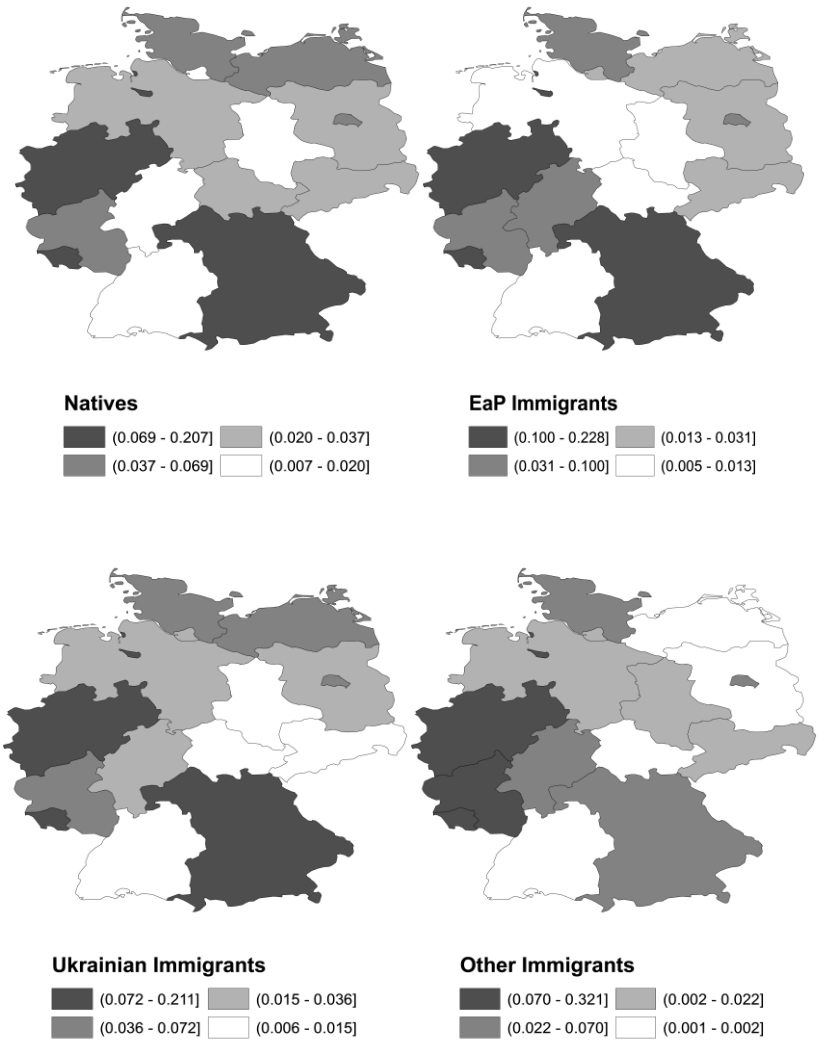
Figure 7: Distribution of Migrants by Nationality in Germany



Source: Own calculations based on the Germany Microcensus 2008 (FDZ, 2008).

Ukrainians represent 2 per cent of the total of migrants, while the rest-EaP nationals are 4 per cent of the total. EU15 migrants are about 23 per cent of the immigrant population, while EU8 and EU2 nationals are 9 per cent and 2 per cent respectively. Given the limitations outlined and the fact that Ukrainians should be around 65 per cent of the total EaP nationals, we would expect such percentages to drop to about 1 per cent if the non-EaP countries could be excluded from the definition adopted.

Figure 8: Geographical Distribution of Natives and Migrants



Source: Own calculations from the German Microcensus, 2008 (FDZ, 2008).

Figure 8 shows the geographical distribution of EaP migrants within Germany and compares it with that of natives and other immigrants. Native Germans tend to cluster in the southern and western states, while other migrants are more concentrated in the traditional states that attracted guest workers (for instance, Baden-Württemberg, Bavaria and Hessen). This can be seen as an indication of the strong attachment of past migrant waves to their network. On the contrary, Ukrainian migrants have a geographical distribution that closely resembles that of natives, while overall EaP nationals seem to settle predominantly in Bavaria and North Rhine-Westfalia.

3.1 Demographic and Socio-Economic Characteristics

Table 3 below reports the demographic and socio-economic characteristics by nationality as described in the previous section. The table shows the main characteristics that will be explored in greater details throughout the rest of the chapter, and enables a preliminary descriptive view of the EaP population traits in Germany.

Two different comparisons can be conducted. First, how do EaP nationals compare with German natives, and second, how do EaP nationals compare with the other immigrant groups?

Table 3: Characteristics by Nationality

	Natives	Ukraine	Rest-EaP	EU15	EU8	EU2	Other
Age (in years)	43.24	44.09	35.44	47.35	37.53	34.98	41.17
	(23.03)	(19.88)	(16.15)	(16.13)	(14.8)	(13.8)	(15.7)
Fraction Female	0.52	0.61	0.48	0.45	0.65	0.63	0.52
	(0.50)	(0.49)	(0.50)	(0.50)	(0.48)	(0.48)	(0.50)
Fraction Married	0.46	0.63	0.61	0.63	0.59	0.55	0.70
	(0.50)	(0.48)	(0.49)	(0.48)	(0.49)	(0.50)	(0.46)
N. Children	1.87	1.03	1.80	1.22	1.59	1.03	1.68
	(9.80)	(5.76)	(2.00)	(6.00)	(8.56)	(6.48)	(6.23)
Fraction with Primary Education	0.19	0.20	0.48	0.42	0.20	0.21	0.53
	(0.39)	(0.40)	(0.50)	(0.49)	(0.4)	(0.41)	(0.5)
Fraction with Secondary Education	0.49	0.31	0.28	0.35	0.50	0.46	0.30
	(0.50)	(0.46)	(0.45)	(0.48)	(0.50)	(0.50)	(0.46)
Fraction with Tertiary Education	0.18	0.44	0.15	0.19	0.23	0.28	0.12
	(0.38)	(0.50)	(0.35)	(0.39)	(0.42)	(0.45)	(0.33)
Fraction Currently Studying	0.18	0.20	0.23	0.07	0.15	0.23	0.12
	(0.39)	(0.40)	(0.42)	(0.26)	(0.35)	(0.42)	(0.33)
Fraction Migrated after 2000	-	0.64	0.47	0.21	0.55	0.71	0.32
	-	(0.48)	(0.50)	(0.41)	(0.50)	(0.45)	(0.47)

Source: Own calculations based on the German Microcensus 2008 (FDZ, 2008).

Notes: Standard deviations in parenthesis.

In terms of age distribution, Ukrainian migrants are on average similar to natives, although the rest of the EaP migrants are much younger. EaP nationals are more likely to be married, although with probabilities similar to other immigrant groups. While almost 61 per cent of Ukrainian migrants are female, this drops to only 48 per cent for the other EaP nationals. This might be driven by the potential inclusion of non-EaP countries into this group, as the register data shows high feminisation rates of EaP migration. EaP nationals are on average more educated than natives, with

Ukrainians in particular being twice as likely as natives and other EU nationals to have a tertiary degree. However, the other EaP nationals have worse educational outcomes: they are in fact much more concentrated into low levels of education. A slightly larger share of all EaP nationals is currently enrolled in school. This difference is, however, not significant. The comparison with other immigrant groups gives a similar picture. EaP nationals also maintain an educational advantage compared with other EU migrants, although this pattern is driven by Ukrainian migration.

3.2 Labour Market Outcomes

Despite their higher educational attainment compared with natives, the labour market situation of EaP nationals is rather discouraging. Table 4 reports detailed information on the labour force participation, employment status, types of employment and earnings by nationality. The share of inactive population is slightly higher for EaP migrants and in particular for Ukrainians. Within the active group the percentage of unemployed in the full population reaches 16 points, four times as large as the value for natives. The share of self-employed is also considerably lower, roughly 25 per cent less than natives. Table 4: Labour Market Characteristics by Nationality

	Natives	Ukraine	Rest-EaP	EU15	EU8	EU2	Other
Hourly Wage (in euros)	12.65	13.67	10.92	12.76	10.48	9.97	11.30
	(16.81)	(27.14)	(8.99)	(11.66)	(9.17)	(6.10)	(29.70)
Monthly Income (in euros)	1657.74	1140.14	1158.00	1731.19	1220.69	1177.08	1345.63
	(1402.78)	(1191.67)	(762.22)	(1424.78)	(974.47)	(710.50)	(1102.49)
Hours Worked/Week	35.78	29.29	30.23	36.48	32.49	31.89	33.41
	(12.68)	(15.31)	(14.11)	(13.47)	(14.49)	(13.22)	(13.46)
Fraction in Labor Force	0.51	0.47	0.51	0.65	0.67	0.73	0.57
	(0.50)	(0.50)	(0.50)	(0.48)	(0.47)	(0.44)	(0.50)
Fraction Employed	0.47	0.31	0.36	0.60	0.57	0.64	0.45
	(0.50)	(0.46)	(0.48)	(0.49)	(0.49)	(0.48)	(0.50)
Fraction Unemployed	0.04	0.16	0.15	0.06	0.09	0.09	0.11
	(0.19)	(0.37)	(0.36)	(0.23)	(0.29)	(0.29)	(0.32)
Fraction self-semployed	0.05	0.03	0.03	0.09	0.12	0.05	0.04
	(0.22)	(0.18)	(0.18)	(0.29)	(0.32)	(0.22)	(0.20)

Source: Own calculations based on the German Microcensus 2008 (FDZ, 2008).
*Notes: S*tandard deviations in parenthesis

The comparison with other immigrant groups presents a similar picture. The educational advantage does not translate into better labour market outcomes when we compare EaP nationals with other migrant groups: EaP nationals maintain a definite disadvantage in terms of average employment probabilities and unemployment rates. For example, their unemployment rates are 45 per cent to 77

per cent higher than the relative rates for EU and other migrant groups. These migrants do not seem to find self-employment as an occupational opportunity, at least not in the measure for which this is true for other nationalities.

Once migrants are employed, their total earnings are below the average for native-born workers and all other migrants, with the exception of EU2 migrants. The EaP nationals also work less than all other groups, with a six-hour difference to natives. The dataset does not report hourly wages directly, but we constructed this variable by dividing earnings and hours worked per week. In terms of hourly wages, it seems that Ukrainian migrants do slightly better than natives, although the same does not hold for the rest of EaP nationals. Division bias, however, might incur in the construction of this variable, and we will therefore report results for both wages and income in the rest of the discussion.

3.3 Sectors of Employment

Table 5 shows the share of employed nationals by the skill level of their occupation and the sectoral breakdown of the employed population by nationality.

Within employment, it is interesting to analyse which type of occupations EaP nationals hold. We categorised the occupations of employed individuals into low-skilled, medium-skilled and high-skilled occupations following the OECD (2007) classification. Using the International Standard Classification of Occupations at the one digit level (ISCO88), low-skilled occupations are elementary occupations (category 9), medium-skilled occupations are clerks, service workers, skilled agricultural and fishery workers, craft workers, plant and machine operators (category 4-8), and high-skilled occupations are legislators, technicians and professionals (category 1-3).

The share of migrants in low-skilled occupations is much higher than that of natives and the EU15. Ukrainian and rest-EaP migrants have the highest percentage of employment in low-skilled jobs, 24 per cent on average. The concentration in high-skilled occupations is, however, higher than the same share for other traditional sending regions for instance.

EaP migrants tend to be over-represented in the hotel and food services, although rest-EaP nationals drive this pattern more than Ukrainians. This sector is where traditionally immigrants are more likely to be employed (Eichhorst et al., 2011), and in fact most of the other nationalities are employed here. Ukrainians migrants are also about 10 per cent more likely than natives to be employed in the service sector, which includes domestic services. However, the overall share of EaP migrants employed in this sector comes fairly close to the figure for natives and also for EU8 migrants.

Table 5: Fraction of Individuals by Sectors and Skill Levels by Nationality

	Natives	Ukraine	Rest-EaP	EU15	EU8	EU2	Other
Low-skilled Occupations	0.07	0.25	0.22	0.13	0.20	0.20	0.23
	(0.25)	(0.44)	(0.41)	(0.33)	(0.40)	(0.40)	(0.42)
Medium-skilled Occupations	0.48	0.39	0.55	0.48	0.51	0.44	0.54
	(0.50)	(0.49)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)
High-skilled Occupations	0.44	0.31	0.22	0.38	0.26	0.34	0.21
	(0.50)	(0.46)	(0.41)	(0.49)	(0.44)	(0.47)	(0.41)
Agriculture, Forestry, Fishing	0.03	0.01	0.03	0.01	0.03	0.01	0.01
	(0.16)	(0.07)	(0.17)	(0.10)	(0.16)	(0.08)	(0.11)
Mining, Manufacturing	0.21	0.16	0.15	0.25	0.15	0.16	0.27
	(0.41)	(0.37)	(0.36)	(0.43)	(0.36)	(0.36)	(0.44)
Energy, Water Supply	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	(0.10)	(0.10)	(0.05)	(0.07)	(0.04)	0.00	(0.06)
Construction	0.07	0.03	0.11	0.06	0.13	0.06	0.07
	(0.25)	(0.18)	(0.32)	(0.23)	(0.33)	(0.24)	(0.26)
Trade, Hotel, Restaurant	0.17	0.17	0.31	0.26	0.22	0.27	0.25
	(0.37)	(0.38)	(0.46)	(0.44)	(0.42)	(0.45)	(0.44)
Communication, IT	0.05	0.07	0.07	0.06	0.05	0.05	0.06
	(0.23)	(0.25)	(0.26)	(0.23)	(0.21)	(0.21)	(0.24)
Banking, Insurance	0.04	0.02	0.01	0.02	0.01	0.01	0.01
	(0.19)	(0.15)	(0.12)	(0.14)	(0.11)	(0.08)	(0.10)
Real Estate	0.11	0.18	0.10	0.11	0.14	0.23	0.13
	(0.31)	(0.38)	(0.30)	(0.31)	(0.35)	(0.42)	(0.34)
Public Authorities	0.08	0.02	0.02	0.03	0.01	0.01	0.02
	(0.27)	(0.15)	(0.13)	(0.17)	(0.11)	(0.10)	(0.13)
Public, Private Services	0.25	0.33	0.18	0.21	0.26	0.21	0.17
	(0.43)	(0.47)	(0.38)	(0.40)	(0.44)	(0.41)	(0.37)

Source: Own calculations based on the German Microcensus 2008 (FDZ, 2008).
*Notes: S*tandard deviations in parenthesis

It seems that EaP migrants are primarily concentrated in hotel and food services and domestic services. However the German level of concentration is not as remarkable as in other countries. For instance, Eichhorst et al. (2011) report that in countries such as Italy and Spain, 60 to 70 per cent of the foreign-born population are employed in domestic services. The situation in Germany is not as noteworthy.

3.4 Welfare Use

At the European level, Zimmermann et al. (2012) show the absence of "welfare migration" and find that migrants have on average higher welfare participation rates if taken from raw data not adjusting for differences in individual characteristics.

Table 6 confirms this pattern. EaP migrants are two to three times more likely than natives to receive some kind of welfare.

When we break down the participation of these migrants into specific programmes, we can see that higher welfare access is largely driven by the percipience of long-term unemployment benefits (Unemployment Benefits II), and also social assistance and other forms of welfare. On the other hand, EaP migrants are five times less likely than natives to receive retirement benefits. The large probability of receiving unemployment benefits within the EaP population hints once again at their difficult transition into the labour market.

However, as in Zimmermann et al. (2012), it is necessary to compare EaP migrants to similar natives and other similar migrants. This will be done in the next section.

Table 6: Fraction of Individuals by Welfare Access, Welfare Type, and Nationality

	Natives	Ukraine	Rest EaP	EU15	EU8	EU2	Other
Receiving any kind of welfare	0.21	0.61	0.50	0.28	0.30	0.23	0.41
	(0.41)	(0.49)	(0.50)	(0.45)	(0.46)	(0.42)	(0.49)
Pension	0.26	0.04	0.04	0.20	0.07	0.04	0.12
	(0.44)	(0.20)	(0.19)	(0.40)	(0.25)	(0.20)	(0.33)
Housing benefits	0.01	0.05	0.02	0.01	0.01	0.02	0.01
	(0.07)	(0.23)	(0.14)	(0.09)	(0.08)	(0.13)	(0.11)
Social Assistance	0.01	0.19	0.05	0.02	0.02	0.01	0.03
	(0.10)	(0.39)	(0.22)	(0.13)	(0.12)	(0.10)	(0.17)
Unemployment Benefits	0.01	0.02	0.01	0.02	0.02	0.02	0.02
	(0.10)	(0.13)	(0.11)	(0.13)	(0.12)	(0.14)	(0.15)
Unemployment Benefits II	0.04	0.28	0.24	0.06	0.11	0.06	0.15
	(0.20)	(0.45)	(0.43)	(0.23)	(0.31)	(0.23)	(0.36)
Nursing care benefits	0.02	0.01	0.00	0.01	0.00	0.01	0.01
	(0.12)	(0.12)	(0.06)	(0.07)	(0.05)	(0.08)	(0.08)
Other	0.15	0.20	0.29	0.21	0.20	0.15	0.27
	(0.36)	(0.40)	(0.45)	(0.41)	(0.40)	(0.36)	(0.44)

Source: Own calculations based on the German Microcensus 2008 (FDZ, 2008).
*Notes: S*tandard deviations in parenthesis

3.5 Summary

To summarise, there are considerable differences in the average demographic, socio-economic and labour market characteristics of natives and EaP. Yet, it is not clear to what extent these gaps are driven by the large differences particularly in the gender composition, education structure, labour market participation rate or the specific experience in Germany of the EaP immigrants compared with natives and other immigrant groups. Hence, while this descriptive analysis seems to indicate that EaP immigrants experience a substantial disadvantage in the labour market, it is impossible at this stage to draw conclusion of the costs and benefits that such migration imposes on Germany. The following sections will offer a closer look at this topic.

4. Labour Market Outcomes of EaP Migrants: A Regression Analysis

Section 3 reported the average characteristics of the population, nonetheless the results of that section might be driven by the differences in the demographic and socio-economic composition of the various groups. Hence, in this section we proceed by taking into account such characteristics through the use of regression analysis. In other words, this section presents the labour market outcomes of EaP nationals and *comparable* natives, EU and other migrants.

We focus on the working-age population that is not in education or training, and examine employment rates, earnings and welfare use differences to understand whether such differences are partly explained by the compositional peculiarities of the EaP group and whether they fade with time spent in Germany. Focusing only on this population implies that we will have the sample sizes presented in Table 7. These numbers are fairly small and will limit us in part of the analysis.

Table 7: Number of Individuals in the Sample

	Estimation Sample	Estimation Sample – Employed Individuals Only
Natives	221,377	167,793
Ukraine	358	150
Rest-EaP	694	305
EU15	4,307	3,123
EU8	1,691	1,102
EU2	342	242
Others	6,772	3,863

*Source: O*wn calculations based on the German Microcensus 2008 (FDZ, 2008).

Given the small sample sizes, especially when the population is further broken into subgroups (female, recent arrivals, etc.), the reader should exercise caution in drawing definite conclusions about EaP nationals. In the remainder of the chapter, we emphasise those situations in which particular prudence is needed.

Throughout, we compare EaP migrants with natives, EU15, EU8, EU2 and other migrants. We use the following standard model for regression analysis, reporting the analysis for each comparison group:

$$Y_i = \beta_1 X_i + \beta_2 EaP_i + \beta_3 Female_i + \beta_4 (EaP_i * Female_i) + \beta_5 YSM_i + \beta_6 YSM_i^2 + \varepsilon_i \quad (1)$$

Here, i indexes the individual, Y indicates the outcome studied (employment, earnings, etc.), and X controls for observable differences between the groups (marital status, children, location in Germany, etc.). *EaP* is a dummy variable indicating if the individual is a EaP migrant; *Female* is a dummy variable indicating if the individual is a female and hence controls for different outcomes by gender; *(EaP*Female)* is an

interaction between the two terms and hence measures the additional gender difference within the EaP group. ε is a normally distributed error term.

In the next subsections we will analyse various outcomes. For example, we will look at whether an individual is employed, whether it is self-employed and how much she earns. In these cases, Y will be an indicator that takes value of one if the person is employed or if it is self-employed; it will be the log of annual earnings (or log of wages) when we wish to run an income analysis.

The parameters reported in the analysis below – and of particular interest – are β_2 when analysing differences between EaP men and other groups, and β_4 when we are interested in additional differences for female EaP migrants. β_2 measures the average difference in outcomes between EaP migrants and the other comparison groups, once other characteristics such as the marital status, number of children, location in Germany are held constant. β_4 measures the additional difference between EaP male and female migrants, holding fixed the mentioned traits. In this sense, unlike in Section 3, we are here better able to compare EaP migrants with *similar* natives and EU movers.

4.1 Employment, Type of Employment and Earnings of Male EaP Migrants

The previous descriptive analysis highlighted some patterns of dissimilarities of the EaP experience in Germany compared with that of other immigrant groups. The question is whether such discrepancies persist once we control for the differences in demographic and socio-economic profiles between the various nationalities. This section analyses the labour market outcomes of an EaP national similar to a native or other migrant individual, in terms of demographic traits, family structure and residence location. Due to the focus on labour market profiles, only individuals of prime age (15 to 65 years old), and not in education or military service, are retained in the analysis. Furthermore, when studying earnings outcomes and the type of employment, the analysis focuses on employed individuals (see Table 7 for the sample sizes). Table 8 reports the differences in the employment probabilities of male Ukrainians, other EaP nationals and all EaP migrants with respect to natives, EU migrants and other migrants.[8] The analysis reports here both the average characteristics for an EaP male (Average) and β_2 (Conditional) in Equation (1).

[8] Note that while the previous section focused on the population of EaP nationals as a whole, here we restrict attention to working-age individuals not in education. Hence, the differences in outcomes are even more marked.

Table 8: Unconditional and Conditional Outcomes Differences for Men by Nationality

Linear Regression Model on the Probability of Being Employed						
	Ukraine		Rest-EaP		EaP	
	Average	Conditional	Average	Conditional	Average	Conditional
Natives	-0.311 ***	-0.514 ***	-0.228 ***	-0.407 ***	-0.251 ***	-0.429 ***
EU15	-0.297 ***	-0.302 ***	-0.213 ***	-0.191 ***	-0.236 ***	-0.218 ***
EU8	-0.316 ***	-0.254 ***	-0.232 ***	-0.163 ***	-0.255 ***	-0.193 ***
EU2	-0.343 ***	-0.251 ***	-0.259 ***	-0.161 **	-0.282 ***	-0.187 ***
Other	-0.172 ***	-0.134 **	-0.088 **	-0.052 **	-0.111 ***	-0.074 **
Linear Regression Model on the Probability of Being Self-Employed						
	Ukraine		Rest-EaP		EaP	
	Average	Conditional	Average	Conditional	Average	Conditional
Natives	-0.040	-0.102	-0.033	-0.018	-0.035 *	-0.069
EU15	-0.065	-0.067	-0.058 **	-0.030	-0.060 **	-0.040 *
EU8	-0.200 ***	-0.195 ***	-0.193 ***	-0.140 ***	-0.195 ***	-0.160 ***
EU2	0.013	-0.022	0.020	0.001	0.019	-0.006
Other	-0.006	-0.039	0.001	0.002	-0.001	-0.007
Linear Regression Model on Log-Earnings						
	Ukraine		Rest-EaP		EaP	
	Average	Conditional	Average	Conditional	Average	Conditional
Natives	-0.454 ***	-0.568 ***	-0.409 ***	-0.316 ***	-0.420 ***	-0.324 ***
EU15	-0.414 ***	-0.319 ***	-0.369 ***	-0.158 ***	-0.380 ***	-0.202 ***
EU8	-0.252 ***	-0.093	-0.207 ***	-0.025	-0.218 ***	-0.049
EU2	-0.145	-0.079	-0.100	-0.031	-0.111	-0.052
Other	-0.232 ***	-0.111	-0.187 ***	-0.045	-0.198 ***	-0.062 *
Linear Regression Model on Log-Wages						
	Ukraine		Rest-EaP		EaP	
	Average	Conditional	Average	Conditional	Average	Conditional
Natives	-0.152 **	-0.535 ***	-0.22 ***	-0.309 ***	-0.42 ***	-0.324 ***
EU15	-0.126	-0.192 **	-0.194 ***	-0.134 ***	-0.380 ***	-0.202 ***
EU8	0.046	-0.026	-0.022	-0.042	-0.218 ***	-0.049
EU2	0.089	0.020	0.022	-0.024	-0.111	-0.052
Other	0.000	-0.014	-0.068	-0.026	-0.198 ***	-0.062 *

Source: Own calculations based on the German Microcensus 2008 (FDZ, 2008).

Notes: Differences in various labour market outcomes of Ukrainian, rest-EaP and EaP nationals versus natives, EU migrants and other immigrants. *** pvalue < 0.01; ** pvalue < 0.05; * pvalue < 0.1. The regression analysis is carried conditioning on the following variables. Age: dummy variables for age categories in five-year intervals; Education: dummy variables for secondary and tertiary education; Married: dummy variable for being married; State: dummy variables for state of residence. N. Children: Number of children in the family. Female: dummy variable for being a female; Years since migration: years since entrance in the country. In the Log-Earnings regressions, hours worked in reference week was also added. The table shows the estimates of β_2 in equation (1) in various linear regression models run separately for EaP and natives, EU15, EU8, EU2 and other migrants.

Across all the groups the dissimilarities in EaP nationals employment outcomes are marked, and do not disappear – they even worsen – after controlling for their characteristics. For example, looking at the last two column of the table, the reader can see that while on average EaP migrants seem "only" 25 per cent less likely than natives to be employed, once a representative male EaP migrant aged 15-65 is compared with a similar native (in terms of socio-demographic characteristics), such difference widens to 43 per cent (last two columns of Table 8). A similar conclusion holds when comparing EaP migrants with all other migrants groups, although the differences in employment probabilities are notably smaller. Moreover, the results hint at the fact that differences in demographic, socio-economic and family characteristics explain very little about the employment disadvantage that migrants face in the host country.

Interestingly, they also seem to explain very little about the differential between EaP nationals and other nationals. The smallest difference in terms of labour market participation is with respect to the rest of non-EU migrants in Germany: the gap here is "only" a 7.4 per cent probability difference.

Given that EaP migrants are less likely to be employed, the next question is – when they are – what type of work they do. Are they equally likely as natives and other immigrants to be engaged in wage labour or self-employment? The second panel of Table 8 answers this question. Male EaP nationals are just as likely as most other groups to be self-employed. The only differences arise in the comparison with EU8 migrants: EaP migrants are on average 16 per cent less likely to be engaged in self-employment.

Until now, we have discussed the employment probability and types of employment. But how do EaP nationals compare in terms of earnings potentials? The last panels of Table 8 report the log-earnings and log-wages differences for employed male workers neither in education nor military service in the various groups of analysis. The picture here is of significant interest: Ukrainians earn on average less than natives and EU15. The gap between Ukrainians, EU8, EU2 and other migrants closes once the observed characteristics are taken into account – while the difference between EaP, natives and EU15 migrant earnings is still sizeable and even widens. Such a conclusion also holds qualitatively when the other EaP countries are introduced in the analysis.

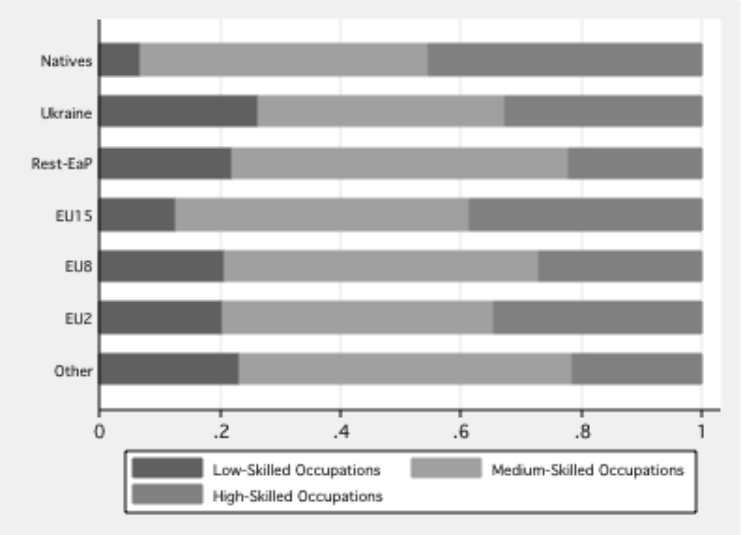
4.2 Occupations

Within employment, it is interesting to analyse which types of occupation EaP nationals have. As in the previous section, we categorised the occupations of employed individuals into low-skilled, medium-skilled and high-skilled occupations following the OECD (2007) classification and using the International Standard Classification of Occupations at the one digit level (ISCO88).

Figure 9 shows the share of employed individuals in prime age and not in school for all nationalities in each of these categories. Ukrainian and other EaP nationals are more likely than natives and other migrant groups to be engaged in low-skilled occupations. However, Ukrainians are also more likely than EU2 and EU8 migrants to be engaged in high-skilled occupations.

How dissimilar are these occupational distributions? We use the Duncan dissimilarity index to answer this question. Such an index measures the percentage change in the occupational distribution that would need to occur for two distributions to be the same. Our calculations show that 22 per cent of Ukrainians (23 per cent rest-EaP) would need to change job for their distribution to more closely resemble that of natives. On the other hand, only 1 per cent of Ukrainians would need to change occupation if we wanted to obtain a distribution similar to that of other migrants, while as much as 15 per cent would need to change to obtain the occupational distribution of EU15 nationals. Once again the largest differences with the other EaP nationals are observed with respect to EU15 migrants, while Ukrainian migrants are not exceptionally different from other non-EU nationals. Please note that compared to other studies, these numbers are only half the average reported: EaP nationals seem not to be doing "worse" than other migrants.

Figure 9: Occupational Distribution by Skill level and Nationality



Source: Own calculations based the German Microcensus 2008 (FDZ, 2008).

Finally, additional tests where run to detect occupational differences within each occupational level. In other words, we asked whether EaP migrants cluster in specific sectors within low, medium and high-skilled occupations. Interestingly, EaP migrants do not cluster in specific sectors. As mentioned previously, it seems that the occupational choices of EaP migrants in Germany are not different from those of natives or other migrant groups. On the contrary, the main differences arise in terms of the skill content of their job.

4.3 Welfare Access and Impact on Social Services

In the previous subsections, we found that once we control for relevant characteristics, EaP nationals appear to experience a disadvantage compared with natives and EU15 nationals. While they also seem to have labour market outcomes similar to those of other migrant groups in terms of types of employment, occupational distribution and earnings, they maintain a strong disadvantage in the employment probabilities, which is hard to explainonly by considering the demographic and socio-economic profiles.

In other words, and as highlighted in the previous section, once they access the labour market, the performance of EaP nationals is not different from other migrant groups. Accordingly, the problem seems to be the access to the labour market.

Given the consistently lower employment rates and earning opportunities of EaP migrants compared with native-born Germans, it is natural to question whether they are more likely to take up welfare than natives and other migrants groups. Section 3 highlighted that this was the case on average. The question we now ask is whether a representative male EaP migrant – similar to a native in terms of demographics, socio-economic and family characteristics – would maintain this advantage in accessing welfare.

Table 9: Conditional and Unconditional Differences in Welfare Access by Nationality

	Ukraine		Rest-EaP		EaP	
	Average	Conditional	Average	Conditional	Average	Conditional
Natives	0.268 ***	0.254 ***	0.236 ***	0.257 ***	0.244 ***	0.310 ***
EU15	0.204 ***	0.353 ***	0.171 ***	0.211 ***	0.179 ***	0.253 ***
EU8	0.279 ***	0.305 ***	0.247 ***	0.213 ***	0.255 ***	0.248 ***
EU2	0.328 ***	0.288 ***	0.296 ***	0.267 ***	0.304 ***	0.289 ***
Other	0.049	0.173 ***	0.017	0.060 ***	0.025	0.088 ***

Source: Own calculations based on the German Microcensus 2008 (FDZ, 2008).

Notes: Differences in various types of welfare use of EaP nationals versus natives, EU migrants and other immigrants. *** pvalue < 0.01; ** pvalue < 0.05; * pvalue < 0.1. The regression analysis is carried conditioning on the following variables. Age: dummy variables for age categories in five-year intervals; Education: dummy variables for secondary and tertiary education; Female: dummy variable for being female; Married: dummy variable for being married; State: dummy variables for state of residence. Linear regression model on the probability of receiving welfare benefits. The table shows the estimates of β_2 in equation (1) in linear regression models run separately for EaP and natives, EU15, EU8, EU2 and other migrants.

Table 9 answers this question, highlighting that EaP migrants are consistently more likely to receive some form of welfare than any other nationality, and that their characteristics actually explain very little of this behaviour. In fact, average difference in welfare take-up rates are very similar to take-up rates differences, once observable

characteristics are taken into account. For example, on average EaP migrants are 24.5 per cent more likely to receive some form of welfare. However, once we compare EaP migrants with similar natives such a percentage increases to 31 per cent (final two columns of Table 9).

Table 10: Conditional Differences in Types of Benefits Received, by Nationality

	Natives		EU15		EU8		EU2		Others	
Pension	0.024	*	-0.004		-0.007		0.004		-0.020	***
Housing benefits	0.013		0.021	***	0.016	*	-0.014		0.009	
Social Assistance	0.012		0.018	**	0.015	*	0.014	*	0.003	
Unemployment Benefits	0.006		0.002		0.008		-0.004		-0.012	
Unemployment Benefits II	0.313	***	0.287	***	0.241	***	0.279	***	0.130	***
Nursing care benefits	-0.006	*	0.005		0.001		0.003		0.001	
Other	0.087	**	0.048	**	0.073	***	0.099	***	-0.008	

Source: Own calculations based on the German Microcensus 2008 (FDZ, 2008).

Notes: Differences in various types of welfare use of EaP nationals versus natives, EU migrants and other immigrants. *** pvalue < 0.01; ** pvalue < 0.05; * pvalue < 0.1. All regressions control for the following variables. Age: dummy variables for age categories in five-year intervals; Education: dummy variables for secondary and tertiary education; Female: dummy variable for being female; Married: dummy variable for being married; State: dummy variables for state of residence; Hours: hours worked in reference week. Linear regression model on the probability of receiving welfare benefits, by type. The table shows the estimates of β_2 in equation (1) in linear regression models run separately for EaP and natives, EU15, EU8, EU2 and other migrants.

To understand the costs associated with this phenomenon, it is necessary to ascertain whether EaP migrants use all the social benefits available in Germany or whether there is a specific kind of welfare that drives the aforementioned result.

Table 10 reports the conditional probability of a male EaP migrant receiving pension payments, housing benefits, social assistance, unemployment benefits (I and II) and nursing care benefits for all the migrant groups. Compared with any other group, EaP migrants have similar access to receive pension payments, yet are more likely to receive housing benefits and social assistance.

The largest probability differences are found in terms of long-term receipt of unemployment benefits, with EaP migrants 27 per cent more likely to receive this kind of welfare than natives. Compared with other migrant groups, such a percentage drops to 14 per cent (others), which remains a sizeable difference. This is unsurprising given their higher probability of being unemployed.

To summarise, what is the overall evidence of the impact of EaP migration on welfare and social services? Our results suggests that while socio-economic characteristics explain most of the take-up rates in housing, nursing care, social assistance, and short-term unemployment benefits, such differences do not explain the higher probability of EaP migrants accessing long-term unemployment assistance. Data limitations prevent an analysis on the full impact of EaP migration on social services.

However, the literature provides little support for the fear of migrants representing a burden for the public budget in Germany. For example, Ulrich (1994), Loeffelholz and Kopp (1998), and Bonin (2002, 2006) find that migrants tend to be net contributors to the welfare state, despite their higher access to unemployment insurance. Moreover, a recent study by Wadsworth (2012) shows the access rate to health services to be the same among immigrants and natives. Hence, despite our results showing that EaP migrants are more likely to be on welfare than other migrants, existing evidence for Germany as a whole suggests that the impact of EaP migration on the welfare state should still be rather small.

4.4 Brain Waste: Does Overqualification Explain the Gaps?

The previous sections highlighted that most of the differences in the EaP migration experience derive from their lower employment rates, earnings (compared with natives), and as a consequences higher probabilities of receiving unemployment assistance.

One explanation for the poorer employment outcomes of EaP nationals is the fact that they may suffer from poor matches between their skills and the jobs available. For example, conditional on education quality, if their qualifications were not recognised in Germany, or if they lack German-specific human capital, the migrants could either be underemployed given their skills or could even find no suitable occupation and could therefore be more likely to be unemployed. The fact that the descriptive analysis highlighted high unemployment rates as well as high levels of education, and that the occupational distribution of EaP migrants is not dramatically unbalanced toward low-skilled occupations could hint to a problem of "brain waste" in this type of migration. There is wide empirical evidence that immigrants are more likely to be over-educated than their native counterparts (see Piracha and Vadean, 2012, for an overview of the literature about migrant educational mismatch). EaP migrants might suffer from such problem.

To gain a better understanding of this phenomenon, we once again use the taxonomy developed by the OECD (2007) to analyse job-skill matches. We use the ISCO-1 digit classification of occupations, as above, and the ISCED-1 digit classification of educational attainment. We then calculate the percentage of overqualified workers as a percentage of EaP nationals whose educational attainment is higher than requested for that particular occupation. Table 11 reports the overqualification probability by nationality groups, both as an average probability and controlling for observable characteristics such as the age, gender and the sectoral distribution of migrants.

Table 11: Linear Regression Model on the Probability of Being Overqualified by Nationality

	Ukraine		Rest-EaP		EaP	
	Average	Conditional	Average	Conditional	Average	Conditional
Natives	0.275 ***	0.285 ***	0.001	0.069 ***	0.070 ***	0.124 ***
EU15	0.316 ***	0.301 ***	0.043 **	0.080 ***	0.112 ***	0.144 ***
EU8	0.192 ***	0.187 ***	-0.082 **	0.033	-0.012	0.081 ***
EU2	0.169 **	0.179 ***	-0.105 **	-0.039	-0.035	0.045
Other	0.291 ***	0.210 ***	0.017	0.025	0.086 ***	0.073 ***

Source: Own calculations based on the German Microcensus 2008 (FDZ, 2008).

Notes: Differences in various types of welfare use of EaP nationals versus natives, EU migrants and other immigrants. *** pvalue < 0.01; ** pvalue < 0.05; * pvalue < 0.1. The regression analysis is carried conditioning on the following variables. Age: dummy variables for age categories in five-year intervals; Education: dummy variables for secondary and tertiary education; Female: dummy variable for being female; Industry: dummy variables for sector of employment; State: dummy variables for state of residence. Linear regression model on the probability of being overqualified. The table shows the estimates of β_2 in equation (1) in linear regression models run separately for EaP and natives, EU15, EU8, EU2 and other migrants.

Overall, EaP migrants are much more likely than any other group to be overqualified. Results are particularly strong for Ukrainian migrants, where they are 20 to 30 per cent more likely to be overqualified than everybody else, and differences in their characteristics do not explain such discrepancy. The other EaP nationals are more similar to EU8 and EU2 nationals, while they maintain an overqualification disadvantage with natives (7 per cent) and EU15 (11 per cent). Although the numbers for rest-EaP are only a third of those of Ukrainian nationals, it is not clear whether these patterns are driven by the inclusion of non-EaP countries in this category or by real differences in the migration experiences of these migrants. However, conditional on correct measurement of skill levels, the results indicate a strong overall mismatch of occupation and skills for the EaP group.

Considering the high non-employment rates in the EaP population, focusing only on the poor matches of employed individuals in the labour market might be misleading. We therefore examine the non-employed individuals, considering the non-employment rate by educational attainment. If a poor skills mismatch or recognition of qualifications were in place, we would expect a larger concentration of non-employed at the top of the educational distribution.

Table 12 compares the unemployment rates by educational level across nationality groups for the non-employed, 15 to 65 years old, and not in school.

Non-employment rates are considerably higher for Ukrainians migrant with high levels of education, up to three times as much as natives and EU15 migrants, and almost twice other nationalities. The large non-employment rates for the high-skilled workers in this subpopulation are striking, as they are twice the rates for low-skilled

workers.[9] Given that returns to education and employment probabilities are always positive and higher for highly educated workers, this phenomenon is peculiar and might indicate a strong problem of skill transferability and brain waste across countries.

Table 12: Percentage of Non-Employed Men by Education Level and Nationality

	Low Education	Medium Education	High Education
Natives	18.17	63.82	18.02
EaP	48.06	26.7	25.24
Ukraine	20.31	32.81	46.88
Rest-EaP	60.56	23.94	15.49
EU15	51.97	35.15	12.88
EU8	30.69	30.69	30.69
EU2	36.84	31.58	31.58
Others	60.47	30.21	9.32

*Source: O*wn calculations based on the German Microcensus 2008 (FDZ, 2008).

Overqualification and the non-recognition of skills appear to be an important obstacle for the integration of EaP migrants in the German labour market. Whether this is due to the poor transfer of skills across countries or poor recognition of foreign qualifications remains open to question.

4.5 EaP Women in the German Labour Market

There are additional analyses that could help to further our understanding of the pattern of EaP migration and assimilation in the German labour market. We could, in fact, inquire whether the labour market outcomes for female EaP migrants differ substantially from what is found above. This is particularly relevant, since the female subgroup of the population is rather sizeable, as shown in Section 2.

Complementary analyses were run for the female population. The main conclusions reached above also hold for women, and there is often no differential impact for this subgroup compared with the male migrants. Controlling for the relevant characteristics, women from EaP countries earn less than natives and EU15 migrants and are much less likely to be employed than all citizenships groups. As previously found, the self-employment outcomes are, however, in line with those of all other nationalities after controlling for observable compositional differences. Therefore, it

[9] The same conclusion does not hold for the rest of EaP nationals (although we cannot be sure here on the composition of this flow). For this group, the highest non-employment rates are experienced for low education groups.

is interesting to notice that female EaP nationals often do not exhibit different outcome patterns than male EaP nationals.

Table 13 reports the difference in those outcomes, for which a sizeable gap was found between male and female EaP migrants. The table compares a female EaP migrant with a male counterpart in relation to similar natives and EU groups. Table 13: Labour Market Outcomes for Female EaP Migrants compared with Males EaP Migrants, by Nationality

Linear Regression Models on the Probability of Being Employed						
	Ukraine		**Rest-EaP**		**EaP**	
	Average	**Conditional**	**Average**	**Conditional**	**Average**	**Conditional**
Natives	-0.018	-0.059	-0.181 ***	-0.177 ***	-0.127 ***	-0.142 ***
EU15	0.035	0.014	-0.127 ***	-0.119 **	-0.073 **	-0.078 **
EU8	0.120 **	0.118 **	-0.042	0.003	0.012	0.037
EU2	0.088	0.079	-0.075	-0.044	-0.021	-0.007
Other	0.138 **	0.094 *	-0.025	-0.021	0.029	0.015
Linear Regression Models on the Probability of Receiving Welfare Benefits						
	Ukraine		**Rest-EaP**		**EaP**	
	Average	**Conditional**	**Average**	**Conditional**	**Average**	**Conditional**
Natives	-0.068	-0.120 **	-0.072	-0.192 ***	-0.064	-0.147 ***
EU15	0.040	-0.009	0.036	-0.068 *	0.044	-0.034
EU8	-0.077	-0.083	-0.081	-0.139 ***	-0.072	-0.118 ***
EU2	-0.070	-0.116 *	-0.074	-0.169 ***	-0.065	-0.153 ***
Other	0.135 *	0.078	0.131 **	0.023	0.140 ***	0.058 *
Linear Regression Models on the Probability of Being Overqualified						
	Ukraine		**Rest-EaP**		**EaP**	
	Average	**Conditional**	**Average**	**Conditional**	**Average**	**Conditional**
Natives	0.089 *	0.047	0.138 ***	0.105 **	0.171 ***	0.122 ***
EU15	0.059	0.033	0.108 ***	0.084 *	0.141 ***	0.096 **
EU8	-0.038	-0.114	0.011	-0.036	0.044	-0.050
EU2	0.074	-0.048	0.123 *	0.084	0.156 **	0.056
Other	0.023	-0.026	0.072 *	0.036	0.105 ***	0.042

Source: Own calculations based on the German Microcensus 2008 (FDZ, 2008).

Notes: Differences in various labour market outcomes of Ukrainian, rest-EaP and EaP nationals versus natives, EU migrants and other immigrants. *** pvalue < 0.01; ** pvalue < 0.05; * pvalue < 0.1. The regression analysis is carried conditioning on the following variables. Age: dummy variables for age categories in five-year intervals; Education: dummy variables for secondary and tertiary education; Married: dummy variable for being married; State: dummy variables for state of residence. N. Children: Number of children in the family. Female: dummy variable for being a female; Years since migration: years since entrance in the country. In the Log-Earnings regressions, hours worked in reference week was also added. Linear regression model on the probability of being overqualified. The table shows the estimates of β_4 in equation (1) in linear regression models run separately for EaP and natives, EU15, EU8, EU2 and other migrants.

In other words, consider again: $Y_i = \beta_1 X_i + \beta_2 EaP_i + \beta_3 Female_i + \beta_4 (EaP_i * Female_i) + \beta_5 YSM_i + \beta_6 YSM_i^2 + \varepsilon_i$. Table 13 reports β_4. For example, Ukrainian

women are about 6 per cent less likely than Ukrainian men to be employed, although such a difference is not significant.

In terms of employment probabilities, female EaP migrants are even more disadvantaged than male EaP migrants, as shown in the first panel of the table. However, the rest-EaP nationals primarily drive the results. This disadvantage is also only significant in comparison with natives and EU15; while for all other groups, female EaP migrants follow the same pattern of male EaP migrants. Hence, if male EaP migrants had low employment probabilities, this would be even more pronounced for women.

The next panel of Table 13 reports the welfare participation of female EaP migrants. Interestingly, compared to men, female EaP nationals have lower participation rates. For example, while men are about 30 per cent more likely than natives to receive some form of welfare, female migrants are only 15 per cent more likely to be on welfare than natives. Thus, the welfare gap seems lower in the female subsample.

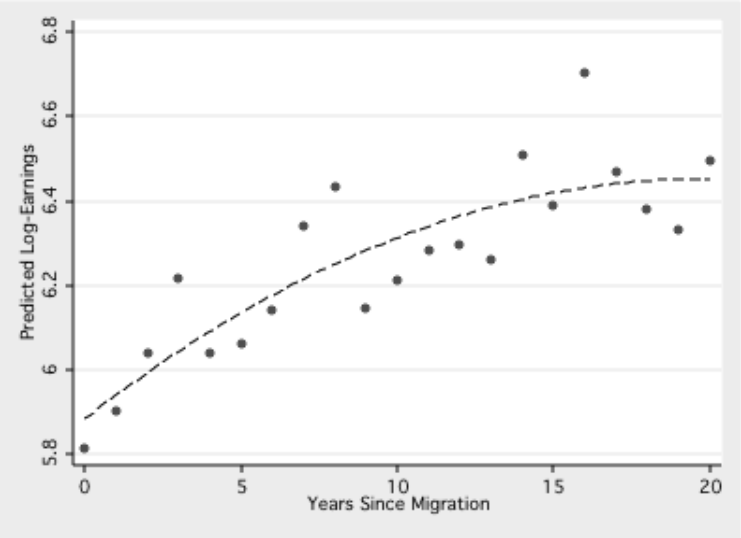
On the other hand, women are more likely than men to be overqualified. The last panel of the table shows that if men were 12.4 per cent more likely than natives to be overqualified, we need to add another 12.2 per cent to this probability for female migrants. This additional disadvantage is rather strong in comparison with natives and EU15. It should be noted, however, that all these results for the overall population are driven by the rest-EaP category. Ukrainian men and women have exactly the same outcomes.

Given the limitation of the definition of the rest-EaP group, we could conclude by saying that overall male and female EaP migrants are rather similar. Furthermore, women might be even more disadvantaged than men in terms of employment probabilities (in comparison with natives and EU15) and overqualification (again, compared with natives and EU15). Although EaP women are still more likely than other groups to receive some form of welfare, welfare participation is less likely than in the male population.

4.6 Assimilation

Despite the differences and similarities found in the previous section, there is a question of whether immigrants assimilate to the other groups with time spent in Germany. We focus here on the employment probabilities and earnings as a major source of concern for EaP nationals in Germany.

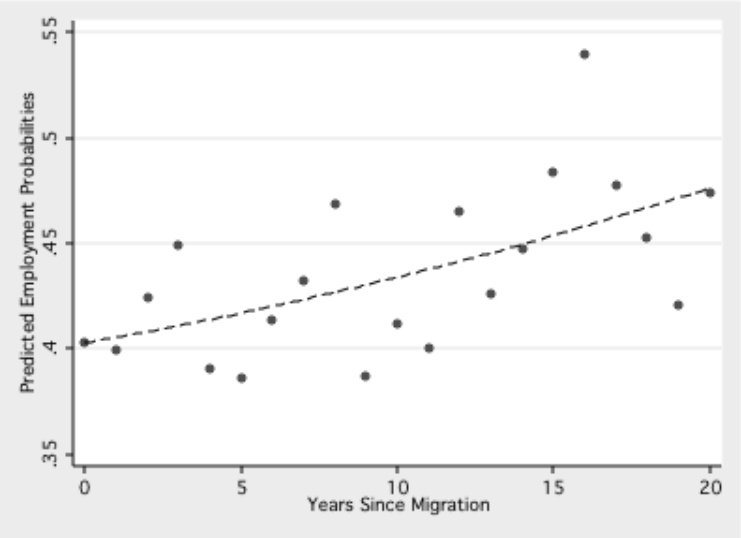
Figure 10: Earnings Assimilation of EaP Migrants



Source: Own calculations based the German Microcensus 2008 (FDZ, 2008).

Using the models estimated before, we predict earnings and employment probabilities for EaP migrants and plot them as a function of years since migration. Figure 10 shows the assimilation pattern of EaP migrants in terms of earnings, while Figure 11 shows assimilation in employment probabilities. The figures shows that as time spent in Germany increases, EaP earnings increase as well. Similarly, the employment probability also increases over time. However, this process seems rather slow and after 20 years there is still an earning gap between EaP nationals and native-born workers.

Figure 11: Employment Probability Assimilation of EaP Migrants



Source: Own calculations based the German Microcensus 2008 (FDZ, 2008).

There are a few caveats in interpreting these results, however. First, there might have been a change in the selection of migrants over time. EaP nationals who entered Germany in the 1990s might be quite different from the EaP nationals who Germany could attract nowadays. To control for this, we estimate the models based on immigrant arrivals in the last 10 years. Assimilation patterns are very similar to the ones presented above. Second, selective return migration might bias the picture above. Section 2 showed that the average length of stay has increased in the last few years. Hence, return migration might be less of a problem if we focus on recent arrivals. The assimilation pattern of recent arrivals is similar to the one showed above.

To summarise, EaP migrants suffer from lower employment probabilities and earning potentials in the German labour market. Whilst time in Germany helps these migrants to catch up, after 20 years the migrants still maintain a disadvantage compared with the natives.

4.7 Complementarities and Competition

The previous section highlighted that EaP nationals – and Ukrainian migrants in particular – experience a considerable disadvantage in terms of access to the labour market and the match between their skills and the occupations they are employed in. The occupational distribution between natives and EaP migrants is quite different, with a Duncan index of 22 per cent. Ukrainian migrants are much more likely to be employed in low-skilled occupations compared with the natives, but they are also much more likely to be overqualified for such occupations. As a result, it seems reasonable to wonder whether the influx of highly qualified workers into these occupations puts competitive pressure on the native-born workers.

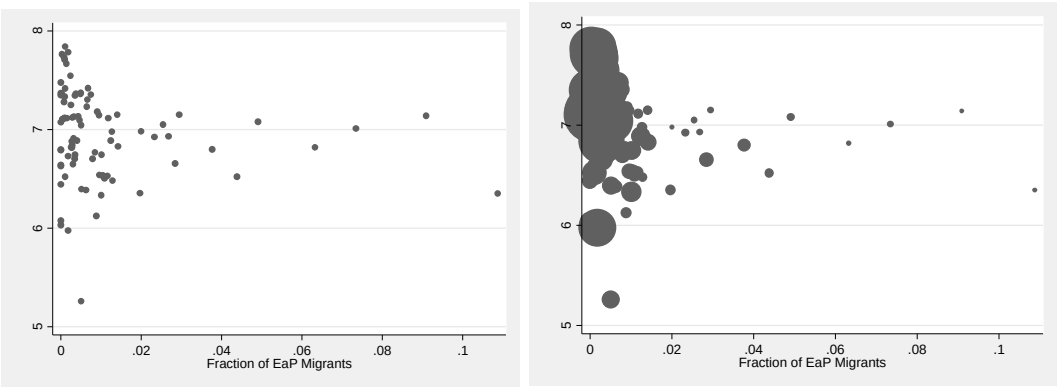
Regardless of the popular concern on the competitive pressure that migrants might exercise on the natives, it should be noted that, academic research has shown that such negative effects are overall relatively small (Ottaviano and Peri, 2012; Borjas, 2003; Card, 2001; DeNew and Zimmermann, 1994), if not inexistent (Ottaviano and Peri, 2012; Özden et al., 2011) In the case of EaP migration, the first section of the chapter argued that the flows of EaP nationals in Germany have been small, decreasing in recent years and that the total number of EaP migrants present in the country have represented at most 2 per cent of the total migrants. Hence, the "immigrant supply shock" represented by EaP migrants should be small.

The impact of these migrants will of course depend on the level of complementarity with the natives. While at the local level complementarities might be high, it is possible that the impact of these migrants on the employment opportunities of the natives will be larger for those natives who are more similar to EaP nationals. The definition of "similarity" has been based on the literature on skill groups, where skills

are defined both in terms of schooling and in terms of work experience. Given the poor match in the German labour market explained above, we identify here the level of their education and their occupation as relevant characteristics in determining immigrant-natives substitutability. In other words, we use the same clustering of Table 11 to investigate whether there is any correlation between the clustering of low, medium and highly educated EaP nationals in low, medium and high-skilled jobs and the earnings of the natives. We further cluster for the different age groups, to control for the fact that work experience within occupations and schooling groups might also determine the impact of such a flow.

Figure 12 represents the average log-earnings for each age-occupation-schooling level as a function of the share of EaP migrants in each cell. Throughout the discussion the reader should be very careful as the number of observations within each cell can be quite small. The second panel of the figure shows the cells weighted by the number of observations used to calculate the log-earnings of natives and fraction of migrants. It is apparent that most cells where the percentage of migrants is high also have a relatively small sample size and may therefore not be representative of the whole population.

Figure 12: Natives' Log-Earnings and EaP Migrants, by Skill Group



Source: Own calculations based the German Microcensus 2008 (FDZ, 2008).

While it is inappropriate to draw definite conclusions given the small sample size, there does not seem to be a strong pattern between earnings and migrant presence. The calculated correlation between these two variables is only -5 per cent.

This figure shows once again that EaP migrants are primarily present in low-skilled occupations, but are characterised by high levels of education. Additional figures that also control for geographical clustering within East and West Germany provide very similar conclusions. Overall, there is no strong tendency of correlation between EaP presence and native earnings.

4.8 Summary: EaP Characteristics

The previous sections showed that, conditioning on the composition of the different populations, EaP nationals have types of employment and earnings similar to EU8, EU2 and other migrants. However, they maintain a strong disadvantage in terms of employment probabilities with all groups and in earnings with respect to natives.

Part of the reason could be the poor skill-job match. EaP migrants are much more likely to be employed in low-skilled occupations compared to the natives, but they are also much more likely to be overqualified for such occupations. Furthermore, as much as 45 per cent of the non-employed EaP population aged 15-65 and not in school has a tertiary degree.

From the analysis above, it appears that the primary costs associated with EaP migration come from higher welfare access, especially in terms of access to unemployment benefits. On the other hand, female EaP migrants – more than other migrants – seem to benefit the host economy by being net contributors to the social security system. The literature has often found that the net effect of these forces is neutral, if not positive. In a pan-European study that considers trends in social assistance and access to social services, Zimmermann et al. (2012) find that migrants are more likely to be in receipt of unemployment support but, as above, less likely to receive pension payments. The overall conclusion of the study is that – *a priori* – there is no evidence that migration would impose a burden on the welfare system. It is possible that a similar conclusion would carry for Germany, especially given that EaP migration is primarily a female phenomenon and that female EaP migrants are up to 10 per cent less likely than natives to receive pension benefits.

As a final comment, EaP workers do not seem to put competitive pressure on the native-born workers in the same occupations and localities they live in.

5. Skills Needs in Germany

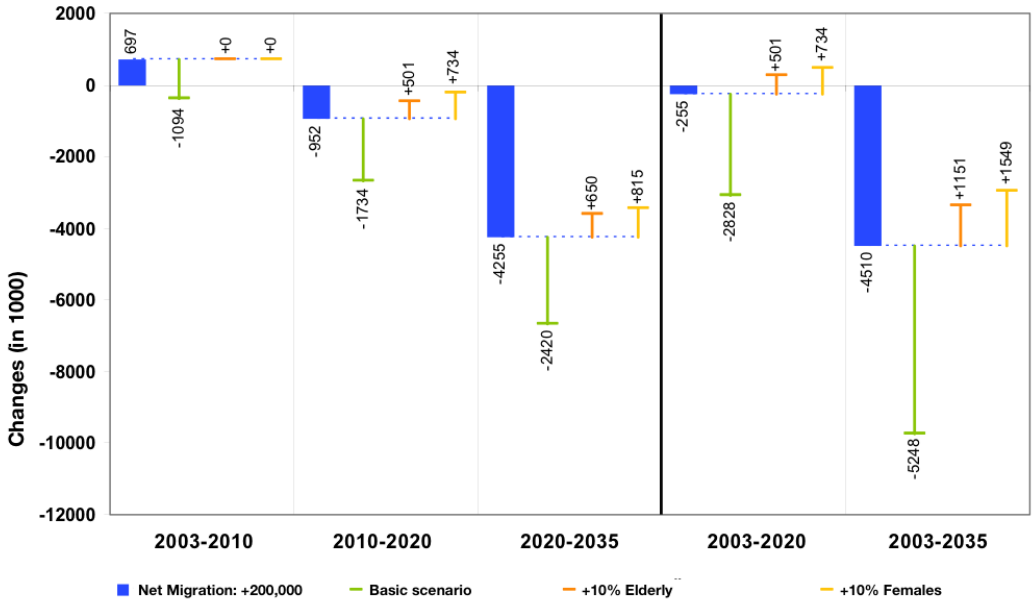
Europe as a whole is going through a period of important structural changes. Labour demand has been hampered by the recent economic crisis, and it is unclear how and when economic and productivity growth will resume. Furthermore, the demographic transformation driven by the decline in fertility rates and increase in life expectancy will provoke significant shifts in both labour demand and supply in the forthcoming years. Such shifts and structural adjustments will likely be followed by skill shortages or mismatches if not managed and appropriately prevented in advance. On the demand side, these demographic changes will likely increase the demand for products and services that target the elderly, at the same time decreasing the demand

for products and services that target the younger generations (Boswell at al. 2004). On the supply side, the demographic challenges, especially when associated to the the reduction of the retirement age in place in many European countries, will produce a decline in the population in employment. The decline in participation ratios will likely create major labour shortages (Boswell at al. 2004).

In Germany, there is substantial debate to what extent short-run skills mismatches occur. However, the trends discussed above are expected to produce an increase in demand for skilled labour in the next 10 to 20 years, and a decrease in demand for unskilled workers (Bosch, 2011; Brenke, 2010). For example, Dorffmeister (2010) surveys 830 German companies and shows that 90 per cent of firms expect skill shortages of graduates and individuals with vocational training by 2020. Similarly, according to Bosch (2011) and Koppel (2011), the shortage of skilled workers – and in particular engineers and health professionals – will be increasingly important. In their predictions for labour market developments, the Federal Institute for Vocational Education and Training and the Institute for Employment Research expects a decrease in the working population that will cause a shortage of about 1.8 million skilled workers by 2025. On the other hand, the demand and supply for workers without vocational qualifications will decline. In additional to engineering occupations, such shortages will become apparent in early stages in health care, legal, management and business administration, and in science occupations (Helmrich and Zika, 2010).

To limit such trends, both mobilisation of internal capacities and stimulation of external capacities have been proposed. On the first point, there has been an intention to stimulate the employment of women and the elderly. On the second point, higher migration has been seen as a solution. While no comprehensive policy has so far been enacted in Germany regarding skill shortages, there have been a number of studies that document the impact of these measures on the labour force. A report from the German Federal Employment Agency (2011) states that a mix of all these policies will be necessary in the future to prevent the dramatic changes and skill shortages highlighted above. Börsch-Supan and Wilke (2009) expect a strong considerable decline in the number of employed people after 2020 due to population reduction. Tackling such a decrease with one single measure will not prevent this negative trend. Using a non-structural model of labour supply, Fuchs and Söhlein (2007) and Fuchs and Dörfler (2005) argue that long-term higher immigration cannot stop the potential decline in the labour force by itself. Bonin et al. (2007) use non-structural models of labour demand and supply to predict how various mobilisation policies could affect the negative demographic trends that will be observed in the coming decade. Figure 13 shows the final conclusions reached by this study. The work hypothesises three different scenarios: a yearly net flow of 200,000 immigrants (in the figure: +200,000 Migrants); no changes to the current trends (in the figure: Basic Scenario); 10 per cent increase in elderly labour force participation (in the figure: +10 per cent Elderly); 10 per cent increase in female labour force participation (in the figure: +10 per cent Females).

Figure 13: Labour Force Participation Changes under Different Policy Scenarios



Source: Bonin et al. (2007), p.168.

As found in other studies, trends in labour force participations are dramatically negative if there are not any preventive measures in place. An increase in migration is a necessary step to balance the negative impact of the demographic decline, and the mobilisation of the internal capacity will further hamper such a drop.

To summarise, the trends addressed earlier in this section will likely produce major job shortages in skilled occupations and a dramatic decline in the employed population in the next decade. Migration can at the very least hamper this negative trend (Börsch-Supan and Wilke, 2009; Fuchs and Söhlein, 2007; Fuchs and Dörfler, 2005) if not substantially decrease it (Bonin et al., 2007).

6. Scope for Further EaP Migration

In Section 5, we discussed the short-term and long-term expected labour shortages and needs for Germany. Our literature review shows that increasing migration is an important element to cope with the structural changes that will come in the next decades. Given the central role of the migration strategy, the natural question to ask is whether EaP migration should be incentivised and whether EaP migrants could provide the skills that the German economy is expected to need.

This section analyses the potential benefits that could derive from EaP migration, given the type of skills that these migrants provide. It further discusses whether EaP migration can – and should – be stimulated.

6.1 Do EaP Migrants Have the Desired Skills?

As mentioned in Section 2, EaP migration has gone through a process of feminisation. Such a trend might indeed be desirable from the German perspective, as the secular increase in female participation rates, the higher fertility in the immigrant population and the occupational choices of female workers all might alleviate the demographic challenges faced by the German economy. Hence, from this particular standpoint, EaP migration seems auspicious – and more so than migration from other source regions.

However, the main question is whether EaP migration can provide the necessary skills that the German economy needs. We have seen in the previous sections that the occupational distribution of EaP migrants is somewhat bimodal, with a large share being employed in low-skilled and high-skilled occupations. Given the strong overqualification of the workers in low and medium-skilled occupations, Section 5 concluded that overqualification and non-recognition of skills seemed important obstacles to the integration of these migrants. Hence, a comparison of the occupations of natives and EaP nationals will suffer from these confounding factors. Therefore, instead of focusing on the current occupation of EaP nationals, we focus on whether they are more or less likely to have majored in those educational areas in which a shortage is expected in the next 10 years. Such analysis will in fact highlight whether the inflow of individuals is of the desirable skill level, and as a consequence whether policy makers should purely focus on policies that enhance the recognition of such skills and labour market integration, possibly through additional technical and language training. The centre of our analysis focuses on the highest reported education degree in engineering, health care, legal, management and business administration, maths, IT, and science. These are in fact the areas where a shortage is expected in the forthcoming years.

Table 14 focuses on the differences in the probability of holding a degree in the mentioned fields between male and female EaP migrants compared with natives, EU15, EU8, EU2 and other migrants in Germany. The column for males should be interpreted as the differential probability that a male EaP migrant has a degree in a specific field compared to other groups in Germany (β_2). The column for females indicates whether female EaP migrants have a different probability compared to male EaP migrants of graduating in a specific field (β_4).

Table 14: Probability of Holding a Degree in the Fields of Study by Gender and Nationality

Math, IT, Science and Technology (MINT) Degrees						
	Ukrainian		Rest-EaP		EaP	
	Male	Female	Male	Female	Male	Female
Natives	0.060 **	-0.049 *	0.003	0.003	0.019 *	-0.011
EU15	0.038	-0.051 *	-0.007	0.001	0.008	-0.015
EU8	0.039	-0.043	-0.006	0.011	0.008	-0.007
EU2	0.007	0.039	-0.019	-0.005	-0.011	-0.024
Other	0.047 *	-0.055 *	0.003	-0.004	0.015	-0.019
Engineering Degrees						
	Ukrainian		Rest-EaP		EaP	
	Male	Female	Male	Female	Male	Female
Natives	-0.084 **	0.213 ***	-0.152 ***	0.252 ***	-0.134 ***	0.245 ***
EU15	0.026	0.051	-0.024	0.090 ***	-0.009	0.080 ***
EU8	-0.179 ***	0.232 ***	-0.229 ***	0.277 ***	-0.214 ***	0.265 ***
EU2	-0.101 *	0.039	-0.134 ***	0.076	-0.120 ***	0.064
Other	0.027	-0.009	-0.037 *	0.039 *	-0.020	0.028
Health Related Degrees						
	Ukrainian		Rest-EaP		EaP	
	Male	Female	Male	Female	Male	Female
Natives	-0.010	-0.042 *	0.032 ***	-0.075 ***	0.020 ***	-0.067 ***
EU15	-0.017	0.026	0.013	-0.016	0.004	-0.002
EU8	-0.009	0.012	0.026 **	-0.023	0.015	-0.012
EU2	-0.005	0.030	0.007	-0.012	0.021	0.003
Other	-0.015	0.030	0.014 *	-0.010	0.006	0.002
Legal, Management, Business Degrees						
	Ukrainian		Rest-EaP		EaP	
	Male	Female	Male	Female	Male	Female
Natives	-0.032	-0.034	-0.009	-0.086 ***	-0.015	-0.068 ***
EU15	-0.026	0.013	-0.011	-0.048 ***	-0.016	-0.025
EU8	0.025	-0.028	0.032 **	-0.095 ***	0.032 **	-0.069 ***
EU2	0.060 **	-0.022	0.051 ***	-0.087 ***	0.056 ***	-0.059 **
Other	-0.027	0.037	-0.005	-0.033 **	-0.011	-0.008

Source: Own calculations based on the German Microcensus 2008 (FDZ, 2008).

Notes: Differences in various types of welfare use of EaP nationals versus natives, EU migrants and other immigrants. *** pvalue < 0.01; ** pvalue < 0.05; * pvalue < 0.1. The regression analysis is carried conditioning on the following variables. Age: dummy variables for age categories in five-year intervals; Education: dummy variables for secondary and tertiary education; Female: dummy variable for being female; Industry: dummy variables for sector of employment; State: dummy variables for state of residence. Linear regression model on the probability of holding a degree in the subjects above. The table shows the estimates of β_2 (Male column) and β_4 (Female column) in equation (1) in linear regression models run separately for EaP and natives, EU15, EU8, EU2 and other migrants.

For example, Ukrainian men are 6 per cent more likely than natives to have a degree in mathematics, computer science, science and technology (MINT), but for female EaP migrants this difference closes by about 5 per cent compared to male EaP migrants. In other words, female EaP migrants are 1 per cent more likely than male counterparts to graduate with a degree in MINT Conditioning on relevant variables, EaP migrants do not dramatically differ from natives, EU8, EU2 and other migrants present in Germany.

The most interesting differences come from graduates in engineering. While male EaP migrants are up to 13 per cent less likely than natives to graduate in this field, female EaP nationals are over 20 per cent more likely to hold an engineering degree than most other groups. On average, EaP nationals seem to be more likely to major in engineering than other groups in Germany, and this result is completely driven by female majoring choices. On the other hand, they do not appear to be as likely as natives to major neither in health-related degrees nor in legal, management and business administrative degrees.

6.2 Will Germany Attract EaP Migrants in the Future?

While current (female) Ukrainian migrants seem to have degrees of interest, it is first open to question whether these migrants will also find Germany to be an attractive destination in the future, and second, whether they will maintain their advantage in the scientific occupations. To try to tackle these issues, we obtained data from the European Training Foundation (ETF, 2007a, 2007b) who conducted extensive field surveys on Moldova and Ukraine. The surveys include answers of about 1,000 potential migrants in both countries and their potential destination. They also include the field of study of these migrants – although unfortunately, little information on the actual occupation is collected.

We first ask whether Moldova and Ukrainian migrants desire to reside in Germany. Table 15 shows the percentage of potential Moldovan and Ukrainian migrants by desired destination. As the previous statistics show, Germany is more likely to be a desired destination in the Ukrainian subgroup than in the Moldovan. About 12 per cent of potential Ukrainian migrants would choose Germany as a destination, versus less than 1 per cent of Moldovan migrants. This is in line with what was found in Section 2 on Ukraine being the primary sending region for Germany from the EaP countries. The numbers below seem to indicate that Germany will remain one of the top destinations for Ukrainian migrants.

Table 15: Percentage of Potential Migrants from Ukraine and Moldova by Potential Destination

Potential Destination Country	Ukraine	Moldova
Austria	-	0.10
Cyprus	-	0.10
Czech Republic	4.83	0.50
France	1.72	0.59
Germany	12.41	0.79
Greece	2.41	0.59
Ireland	-	0.79
Italy	10.34	10.10
Lithuania	-	0.10
Netherlands	-	0.20
Poland	3.45	0.20
Portugal	3.10	1.19
Spain	4.14	3.07
United Kingdom	7.93	2.48
Bulgaria	-	0.20
Romania	-	0.69
Turkey	1.72	0.59
Switzerland	-	0.20
Norway	-	0.10
Ukraine	-	0.89
Russian Federation	17.59	15.64
Israel	-	1.29
Canada	4.48	0.99
United States	9.66	1.98
Australia	-	0.30
Other	6.90	0.50
Do not plan to migrate	73.30	55.84
Missing	9.31	-

Source: ETF (2007a, 2007b).

6.2 Will Future EaP Migrants Have the Desired Skills?

We then ask whether the skills distribution of these potential migrants would match the shortage of skilled labour mentioned earlier in this section. Table 16 reports the percentage of potential migrants to Germany by a field study in Ukraine and Moldova.

As Table 16 shows, while the distribution of fields in the Moldovan group is quite homogenous – with a strong prevalence of service degrees - [10] Ukrainian potential migrants are more concentrated in both the engineering and services fields. Almost 60 per cent of the potential Ukrainian migrants have a degree in engineering, services or IT. Although these numbers are only a descriptive indication given the very small

[10] This field of education includes training in personal and domestic services, hotel, restaurant, catering, tourism, and other service categories (ISCED 8).

sample size, they seem to hint that the patterns observed in the Microcensus might also hold in the future.

Table 16: Percentage of Potential Migrants from Ukraine and Moldova, by Field of Study

	Ukraine	Moldova
Education	4.17	14.29
Humanities and Arts	4.17	14.29
Social Sciences, Business and Law	8.33	14.29
Engineering, Manufacturing or Construction	20.83	14.29
Services	25.00	28.57
Unknown	8.33	14.29
IT	12.50	-
Economics/Finance	12.50	-
Management	4.17	-

Source: ETF (2007a, 2007b).

7. (Current) Costs and (Potential) Benefits of EaP Migration

In the previous sections, we observed that EaP migration to Germany has sharply declined from a peak in the early 2000s. Of the migrants arriving in Germany every year, more than half are from Ukraine – representing the vast majority of the stock of EaP migrants. More than 50 per cent of EaP nationals enter Germany for training and working reasons. Hence, how they fare in the labour market seems a consequential question in understanding the potentials and pitfalls of this source of mobility.

We have shown that immigrants from the EaP countries are on average younger and more educated than natives and other immigrants. The higher educational attainment is completely driven by the outcomes of Ukrainian migrants, while the lower age is driven by the other EaP nationals. Despite these traits, EaP nationals have worse labour market outcomes than natives, both in terms of earnings and employment probability. Such a disadvantage is also maintained with respect to other EU movers and migrants from traditional sending regions such as Turkey or the former Yugoslavia.

All these results hold for both sexes, although women earn even less than male EaP migrants and are even more likely not to be in employment. Over time, EaP migrants do assimilate – however, such a process seems rather slow.

The worst labour outcomes might explain the higher propensity of these migrants – and in particular of male migrants – to take up welfare benefits, especially unemployment benefits. The welfare costs of EaP migration might be reduced if they were net contributors to the social security system. Nonetheless, EaP migrants are currently similar to natives in the probability of receiving retirement payments.

Overall, it seems that EaP migration is associated with welfare costs and difficulties integrating into the German market.

On the other hand, we have seen that Germany will have to deal with structural demographic changes in the next decade. Increasing migration flows is one of the needs of this economy. In particular, Germany will need qualified workers to fill the labour shortages in engineering-related occupations, health services and legal, business and management occupations.

To understand the potential benefits of EaP migration, we need to understand whether EaP migrants can supply these skills.

We have shown that male EaP migrants are currently more likely than natives to have a degree in mathematics and science, and female counterparts a degree in engineering. We have also argued that potential EaP migrants seem to have similar characteristics. However, these migrants do not appear to find a job that matches their skills. EaP migrants are much more likely to be overqualified than comparable natives. Moreover, skilled EaP migrants are much less likely than similarly educated natives to even find a job, as the higher non-employment rates for individuals with a tertiary degree further indicates. In general, even if EaP migrants possess skills that will be in short supply in the near future, there is a question of whether such skills are – and will be – recognised in the German labour market.

Table 17 below highlights our final point. It shows the percentage of individuals with a degree in maths, science or engineering who are overqualified for their occupation. 58 per cent of the male EaP migrants and 71 per cent of female counterparts with a MINT degree are overqualified for their job. For all the other groups, such figures are only 5 per cent (MINT) and 11 per cent (engineering). This difference, although purely descriptive and based on a small sample, is indicative of a problem.

Table 17: Overqualification in MINT and Engineering (in %), by Nationality

	EaP		All Other Groups	
	MINT	**Engineering**	**MINT**	**Engineering**
Male	58.33	26.47	5.24	14.35
Female	71.43	57.14	10.78	19.44

Source: Own calculations based on the German Microcensus 2008 (FDZ, 2008).

8. Recommendations

The potential benefits related to EaP migration crucially depend on whether the overqualification of these migrants is derived from poor recognition of their skills in the German labour market, their lack of German-specific human capital, or the lower quality of their degrees obtained. Unfortunately, it is very difficult to disentangle the various explanations from observed patterns, although a few overall policy recommendations can be drawn.

First, there is a need to properly **design German immigration policies** to improve the selection of immigrants matching the German labour market needs, consequently enhancing immigrant performance in the Germany labour market. Given the expected increase in demand for skilled labour in the next 10 to 20 years and decrease in demand for unskilled workers, such policies in Germany should be targeted at attracting high skilled workers. In this context, following the recommendations of the European Commissions to open visa dialogues with EaP countries could be beneficial for Germany, if visa facilitation agreements could be signed for highly qualified workers. The development of **temporary migration schemes** might represent another tool to guarantee the reduction of labour market imbalances over the economic cycle.

Second, **a better system of foreign qualification recognition is needed,** and will be consequential for a successful integration of (EaP) migrants in Germany. The Recognition Act of 1 April 2012 has rightly moved towards this direction, instituting a standardised procedure to recognise all qualifications acquired abroad. A well-established foreign-qualification recognition system might reduce the information asymmetries regarding qualification across countries, thus helping the labour market matching of current and potential EaP migrants to German firms. From the migrants' perspective, it could be instrumental for fostering their labour market integration through a reduction in their overqualification rate.

EaP female migration could be particularly incentivised. In fact, EaP female migrants are qualified in areas needed in Germany, and have lower welfare participation rates.

To summarise, it appears that EaP migration could be incentivised and that Germany would benefit from it, providing the establishment of other policies that ensure integration of migrants into the labour market, such as proper selection and the frictionless recognition of foreign qualifications. Such policies would not only increase the potential benefits for the German economy, but also for the migrants themselves. However, if the transition to the labour market is not facilitated or the quality of the degree differs dramatically between EaP and Germany, EaP migration will not satisfy the needs of the German economy.

Conclusions

In this chapter, we have comprehensively considered the EaP migration experience in Germany, in light of the recent intention to facilitate migration from these countries.

We have shown that EaP migrant integration provides some challenges: even after taking account of the demographic and socio-economic composition of this group, they face an economic disadvantage in terms of employment probability and earnings compared with all other groups. Nonetheless, the differences in terms of sectoral distribution are rather small, despite EaP migrants being more likely than natives to engage in low-skilled occupations. We have shown that these immigrants suffer from strong overqualification rates, and consequently the worse job matches could explain the labour market disadvantage of this group. Therefore, it seems that most of the current costs associated with EaP migration are derived from the poor labour market integration of this population and consequent higher rates of welfare access.

In the long run, Germany will experience labour shortages owing to population aging and declining fertility rates, with such shortages primarily facing skilled occupations. For instance, the Federal Institute for Vocational Education and Training and the Institute for Employment Research have predicted that up to 1.8 million skilled workers will be required by 2025. It will therefore become fundamental to attract these types of workers and reduce the migration of those individuals who would not be absorbed in the labour market.

It seems that the proper management of migration in Germany will have to go through two processes: first, the design of a comprehensive migration strategy; and second, the enhancement of credential transferability across countries through a system of foreign qualification recognition. While the former could create potential for mobility agreements and international cooperation between the EaP countries and Germany, the latter would help to smooth the transition of EaP migrants into the German labour market. In fact, our analysis has suggested that current and potential EaP migrants are more likely than their native counterparts to hold a specialisation in the fields for which shortages are expected, however they face poor skill-job matches in Germany even at high levels of educational attainment. Accordingly, seeking for a smoother transition into work seems central.

To conclude, in principle Germany could potentially benefit from EaP migration, if migrant transition to the labour market could be facilitated and unemployment rates reduced. Under such circumstances, the migrants themselves would also see their conditions improved.

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