Labor Mobility as an Adjustment Mechanism in the UK During the Great Recession

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1 Introduction

The United Kingdom (UK) provides a fascinating case study with which to examine international migration flows during and immediately after the Great Recession. This is because the UK experienced both a rapid growth in immigration, especially following European Union (EU) enlargement in 2004, and a particularly severe fall in output in the wake of the financial crisis of 2008. The UK was one of only three countries to essentially grant open access to migrant workers from the eight "Accession" countries (EU8) in 2004, and net migration to the UK increased by 66 % from 148,000 to 245,000 between December 2003 and December 2004, with at least two-thirds of this increase accounted for by migrants from the EU8. Furthermore, following a 15-year period of sustained economic growth of around

Material from the Quarterly Labour Force Survey is Crown Copyright and has been made available by the Office for National Statistics (ONS) through the Economic and Social Data Service. We are also grateful to comments and suggestions received on an earlier draft from an anonymous referee as well as from the editors of this volume. The views expressed in this study are those of the authors and we are also responsible for any remaining errors.

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M. Kahanec, K.F. Zimmermann (eds.), *Labor Migration, EU Enlargement, and the Great Recession*, DOI 10.1007/978-3-662-45320-9_7

3 % *per annum*, the UK economy was severely affected by the global financial crisis that began in 2007. Real GDP fell by over 6 % between early 2008 and mid-2009, with sectors such as banking particularly affected. However, the decline in employment over this period was more muted since employment fell by only 2 percentage points, with Gregg and Wadsworth (2010) suggesting that this discrepancy was due to factors such as the pro-active policy measures introduced by the UK government and modest wage settlements at the beginning of the recession.

While the UK has historically experienced net emigration, this reversed in the mid-1980s owing to policy changes, improvements in the opportunities for migrants in the UK and a reduction in emigration (Hatton 2005). Even after the very large waves of migration during the 2000–2010 period, the UK has net migration rates in international terms, expressed as a proportion of the population, below those of traditionally 'immigrant' countries such as Australia, Canada and the US, as well as Spain and Italy, yet higher than those of other Northern European countries such as France, Germany and Scandinavian countries. Within this context, this chapter will present a range of statistics associated with international migration in relation to the UK and attempt to draw linkages with the economic fluctuations that have been observed, as well as changes to migration policy.

Following a brief review of the UK's recent economic performance and the main changes to migration policy, this chapter will examine how migration flows to the UK have evolved over the past decade or so, primarily focusing on migrants from other parts of the EU. In addition to tracking changes in the volume of immigrants, the origin and composition of migration flows will also be analyzed. The stock of immigrants in the UK will subsequently be considered in relation to areas of origin, socio-economic and labor market characteristics. This is followed by a discussion of the impact of immigration on various aspects of the economy, particularly focusing on the labor market and public finances.

2 Recent Changes in the UK Economy and Migration Policy

This section provides an overview of recent developments in the UK economy and migration policy. Owing to the integrated nature of the global financial system, it will also briefly discuss recent changes in the international economy and comment on the situation that has emerged following the Great Recession. The continuing crisis within the Eurozone has also slowed/reversed any recent trend to recovery in many EU member states, which has also had an impact on the UK economy. Migration policy in the UK is also influenced by international (especially EU) regulations and directives; however, decisions that the UK government has taken with respect to the degree of openness of its borders, especially following recent EU enlargements, has had a major effect on migration flows.

The state of the UK economy is best considered within an international context, especially in comparison to the four other large EU economies (France, Germany,

Italy and Spain). The economic slowdown that followed the financial crisis of 2007 resulted in most nations experiencing a quite substantial fall in growth in the 5 quarters that followed the start of 2008. The UK experienced one of the most severe declines, with growth falling by over 6 percentage points between the first quarter of 2008 and the second quarter of 2009. The extent of the fall might be somewhat explained by the large increase in economic growth experienced between 2000 and 2007. During this time, the UK economy grew at almost the same rate as Spain, with both countries also experiencing a rapid increase in immigration over this period (Kangasniemi et al. 2012), and much faster than Germany, France and Italy. The UK has since seen growth fluctuate, with the slight recovery in 2009 and 2010 followed by a return to recession.

The change in employment in the UK generally remained positive until 2009, albeit at a relatively low level since the annual increase in employment was around 1 % for most of the 2000s. In contrast, Spain experienced very large changes in employment over this period, with an average growth rate of around 3.5 % *per annum* in the period prior to 2008. The UK unemployment rate also remained relatively constant at around 5 % until the middle of 2008, which was relatively low by European standards. However, since mid-2009, there has been some convergence towards the EU average, with the unemployment rate increasing from just over 5 % in the second quarter of 2008 to almost 8 % by the second quarter of 2009, and it has since hovered around 8 %. In terms of wage trends, whilst nominal wages in the UK appear to have climbed steadily over the past decade, slowing only in 2010–2011, real wages showed some growth in the early 2000s but were relatively flat between 2002 and 2009. Since 2009, there has been a decline in the median level of real weekly wages, with real earnings returning to around their 2000 level.[1]

The New Labour government of Tony Blair that came to power in 1997 ushered in a shift in UK immigration policy. The main thrust of this change was to recognize the contribution of economic migration to the economy and allow more migrants to enter the country through the work permit route, which was essentially a licensing system enabling employers to recruit workers from countries outside the EU. However, the most dramatic illustration of the change in policy regime was the decision to allow migrants from the new accession countries to enter the UK in May 2004. Amongst EU countries, only the UK, Ireland and Sweden allowed free movement of EU8 nationals across their borders.[2] While research commissioned by the government had predicted that the resulting flows would be small (Dustmann et al. 2003), it is in fact claimed that the government's decision led to the largest

[1] See Gregg and Machin (2012) for a more detailed discussion, including that real wage falls across the distribution of wages are not a usual feature of recessions in the UK.

[2] Access to the UK labor market was more or less liberalized for EU8 migrants from May 2004. New migrants coming to work in the UK were meant to register on the Worker Registration Scheme (WRS) within one month of taking up employment in the UK. However, it is thought that a relatively high proportion of those that should have registered, likely to be around a third, failed to do so (Drinkwater et al. 2009).

single immigration wave in UK history (Drinkwater et al. 2009).[3] By far the largest number of EU8 migrants to the UK came from Poland, with over 250,000 entering between May 2004 and June 2006, compared to a Polish-born population of around 60,000 according to the 2001 Census (Drinkwater et al. 2009).[4]

It is clear that the scale of EU8 migration post-2004 took the UK government by surprise and that subsequent policy was in part a (political) reaction to concerns raised by the perception promulgated in sections of the media that resident workers in many parts of the UK were now competing with the newcomers in the labor market. Subsequent policy towards Bulgarian and Romanian workers was one immediate reaction, with restrictions imposed on their entry to the UK when their countries joined the EU in 2007. Provision for Bulgarians and Romanians to come to the UK to engage in mainly low-skilled agricultural work has been made under the Seasonal Agricultural Worker Scheme (SAWS) and Sector Based Schemes (SBS), but since 2007 this has only been available to Bulgarians and Romanians at the expense of workers from other countries, particularly those from Eastern Partnership countries (e.g. Ukraine, Moldova, Belarus) who comprised a large proportion of those allowed to work in the UK agricultural sector between 2000 and 2007. In addition to entering the UK labor market via these schemes, Bulgarians and Romanians could also work in the UK prior to January 2014 if they were self-employed, as was the case with migrants from EU8 countries in the lead-up to the 2004 enlargement. As well as the legitimately self-employed, it has also been argued that there are a growing number of immigrants, including Bulgarians and Romanians, who are working effectively as paid-employees due to being *registered* as self-employed in the UK.

The introduction of the Points Based System (PBS) in 2008 can also be considered a wider response to the challenges of the UK's responsibilities under EU treaties and law. The PBS, which deals with economic and educational migrants from outside the European Economic Area (EEA), was the government's attempt to balance the (potentially competing) imperatives of firstly being seen to be "in control" of the UK's borders and secondly enabling UK business to access the skilled labor force it needs. In effect, the PBS replaced the previous system of immigration by compressing over 80 work and study routes into the UK into 5 main tiers (Devitt 2012). The explicit intention was to increase the average skill level of migrants from outside the EEA, with the scheme awarding points to migrants for educational qualifications and English language ability, as well as targeting a list of

[3] However, the forecasts of migration flows were based on the assumption that Germany and other EU member states would open their borders to EU8 migrants at the same time as the UK.

[4] Estimates from the most recent Census indicate that the number of Polish migrants living in England and Wales had risen to around 580,000 by March 2011. For a discussion of recent migration from Poland to countries including to the UK from the perspective of the home country, see Anacka et al. (2016).

"shortage" occupations, which have to be deemed sufficiently skilled by the Migration Advisory Committee (MAC) to appear on the list.[5]

3 Recent Migration Flows to the UK

This section initially uses the Long-Term International Migration (LTIM) estimates, which are produced by the Office for National Statistics (ONS), to examine recent migration flows to and from the UK. These are the headline/official migration figures reported for the UK in terms of year-on-year changes to gross and net migration flows, and are available on a consistent basis back to 1991. Despite being the main method of measuring immigration to the UK, there are a number of criticisms of the LTIM data.[6] These include that the estimates only relate to long-term migration, namely those intending to stay in the UK for at least 1 year, which implies that they only partially cover the extent of migration to the UK. Given that the data is mainly obtained from the International Passenger Survey, which only samples a relatively small number of migrants, there are concerns over the accuracy of the estimates. This is especially the case regarding migrants from particular countries/regions or with particular characteristics.[7] There are also some definitional issues such as whether students should be included in the estimates, with some organizations such as universities arguing that students should be reported separately from other long-term international migrants.

Long-term immigration rose rapidly between 1997 and 2004, from just over 300,000 to almost 600,000 *per annum*, but has subsequently levelled off.[8] While this is to some extent due to the impact of the recession in the UK, other factors are also likely to have had an influence, including policy changes such as the introduction of the PBS. Emigration has also increased since the late-1990s, but not as sharply as immigration, and has also dipped since 2008. As a result, net migration has increased quite substantially, with 1992 the only year in the last two decades when there was a net inflow of people into the UK. In particular, net migration rose from 48,000 in 1997 to 252,000 in 2010, before falling back to 216,000 in 2011. In terms of the reasons for migrating to the UK, students are currently the largest group, followed by those moving the UK for a job. The relative importance of these two reasons has changed since 2007, following an estimated fall of around 50,000 in the number arriving with definite job offers and migrants entering through the study route continuing to experience a strong growth up to 2010. The trends in the

[5] Devitt (2012) discusses the process by which occupations appear on the list. Recent amendments that have been made to the PBS imply that the points aspect of the system is now more muted.

[6] For further information on the construction of the LTIM estimates, see ONS (2012).

[7] Ninety-five percentage confidence intervals for LTIM estimates are now reported by the ONS.

[8] These estimates include British citizens. See Clark et al. (2014) for details on the estimated amount of out and return migration by Britons.

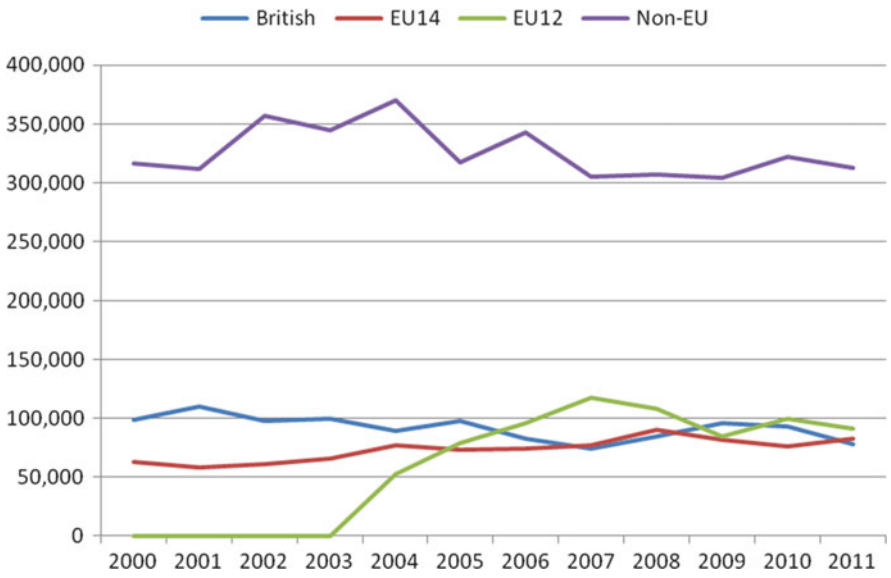

Fig. 1 Long-term immigration to the UK by citizenship group (Source: ONS)

other reasons have been more stable, although there has been a large decline in the 'other' category since 2002.

Figure 1 shows inflows into the UK over the same period according to their region of citizenship. Four citizenship groups are identified: British, EU14, EU12 and non-EU.[9] The most noticeable change in inflows within this period is observed for migration from the EU12. There were no estimates for inflows from these countries prior to 2004, but over 50,000 long-term migrants were estimated to have arrived in the UK in the first year of accession. According to the TIM estimates, long-term immigration from the EU12 peaked at 118,000 in 2007 and subsequently dipped below 100,000 in 2009 and 2011. Long-term immigration from EU14 countries rose fairly steadily between 2001 and 2008, reaching 90,000 in the latter year. Long-term immigration from non-EU countries was highest in 2004, when it reached 370,000. Despite migration to the UK from outside the EU having since declined, it has remained over 300,000 in each of the subsequent years. Finally, return migration by British citizens has fluctuated within the range of 70,000–110,000.

The LTIM data also provides the main estimates of emigration from the UK, suggesting that the number of citizens from EU14 countries has remained at around the 50,000 mark since 2000. In contrast, return migration from the UK to the EU12

[9] Table 3 in the Appendix contains a list of the countries in the EU14 (pre-2004 member states, excluding the UK) and EU12 (countries joining the EU between 2004 and 2007) groupings, as well as the main countries of origin in the non-EU category.

was fairly low until 2008 and then rose sharply in that year, with the estimated number of EU12 citizens leaving the UK more than three times higher than in 2007. Return migration to these countries has since fallen and was below 50,000 in both 2010 and 2011. Emigration by citizens from non-EU countries has been at least 100,000 in each year since 2000, but these flows have been small in relation to immigration, which suggests a larger degree of permanent migration from non-EU countries, especially in comparison to migrants from the EU12. There was a fairly sharp decline in emigration by British citizens between 2006 and 2010, followed by a slight rise in 2011.

As previously mentioned, the LTIM estimates only relate to individuals intending to stay in the UK for at least a year and thus do not capture short-term migration. This is important in the context of flows of European migrants to the UK, given that circular, seasonal and other types of temporary migrants are more likely to come from EU countries owing to freedom of movement as well as closer geographic proximity. Therefore, in order to gain a more complete picture of recent migration to the UK that also includes temporary migrants, information is now presented from the National Insurance Number Registrations by Overseas Nationals (NINo) database, which is maintained by the Department of Work and Pensions (DWP). This database contains information on overseas nationals registering for a national insurance number in the UK since 2002. The majority of registrants will have already taken up or are about to take up employment in the UK, including the self-employed, as well as recording some benefit claimants. The database should thus represent a relatively accurate record of new migrants entering the UK for the first time, although it does not provide any information on individuals leaving the UK.

Figure 2 reports NINo registrations in the UK by nationals from the three sending areas examined in Fig. 1 for the period between 2002 and 2011. The most noticeable aspect of the figure is the very rapid growth in NINo registrations

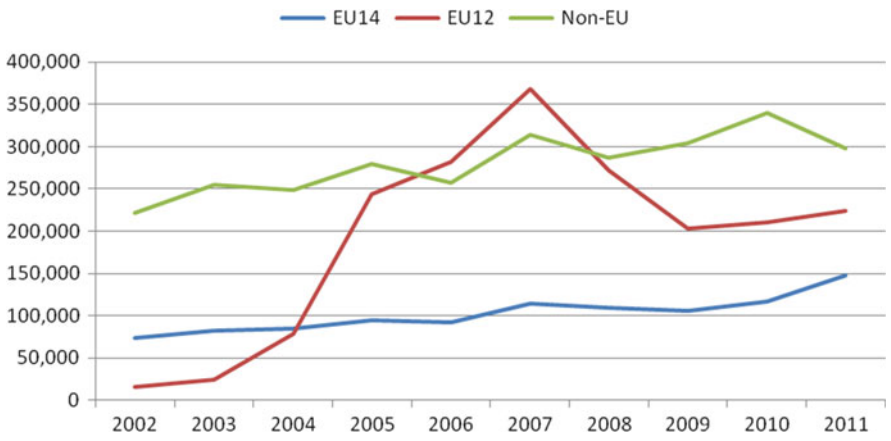

Fig. 2 NINo registrations in the UK by nationality group (Source: DWP)

made by nationals from EU12 countries between 2004 and 2007. This is consistent with high levels of short-term migration from these countries, given that this increase is far more marked than the fairly steady rise in long-term immigration shown in Fig. 1, as confirmed by other studies such as Pollard et al. (2008). NINo registrations from EU12 countries fell quite sharply when the UK economy was in the grip of the recession, but subsequently increased in both 2010 and 2011. In contrast, registrations from the EU14 have displayed a fairly steady increase since 2002, although a more rapid rise in 2010 and 2011 can also be observed. Registrations from outside the EU also showed a steady rise up to 2010 before dipping in 2011, which might relate to the tougher migration stance taken by the Coalition government.

In order to more closely examine recent European migration flows to the UK, the EU14 and EU12 can each be split into two groups, as indicated in Table 3 in the Appendix. For the former, these relate to registrants from Portugal, Italy, Ireland, Greece and Spain (PIIGS), countries that were severely affected by the global financial crisis, and the other EU14 countries. The EU12 can be divided into the EU8 and other new member states (Malta, Cyprus, Bulgaria and Romania). There has been an increase in registrations from the PIIGS since 2007, which is particularly evident after 2009. The sharp increase and subsequent decline in registrations from the EU8 is also clearly evident. There was a fairly large increase in registrations from other new-EU member states following the accession of Bulgaria and Romania in 2007, despite the transitional arrangements imposed by the UK government on migration from these countries. Registrations from other EU14 countries have also grown, albeit at a fairly slow pace, rising from around 37,000 in 2002 to almost 54,000 in 2011. By way of comparison, registrations from the PIIGS increased from around the same level in 2002 to almost 94,000 in 2011.

Details on registrations from individual EU and selected non-EU countries are presented in Table 3 in the Appendix, clearly indicating a strong growth in registrations from each of the EU member states most affected by the recession and Euro-crisis since 2009. For example, NINo registrations from Spain and Greece more than doubled between 2009 and 2011, and also increased by around 50 % for the Irish and Italians and a third for Portuguese nationals. However, the recent pattern of registrations from EU8 countries has been quite different. In particular, inflows of migrant workers from Poland have declined quite considerably since peaking in 2007, with registrations in 2009–11 around a third of the level seen in 2007, when more than 240,000 NINos were allocated to Polish nationals. A similar reduction in percentage terms was also seen in registrations from the Slovak Republic. By contrast, inflows from the Baltic States have increased since the recession, with registrations from Latvia, Lithuania and Estonia increasing by 171, 128 and 62 % respectively between 2008 and 2011. NINo registrations from Bulgaria and Romania have remained high, yet fairly stable since 2007, because inflows from these countries were regulated by the transitional arrangements up to the end of 2013. Registrations from Germany and France have also risen, with these countries accounting for more than two-thirds of the registrations from other EU14 countries in 2011, compared to 60 % in 2002.

The NINo database contains limited information on the characteristics of registrants, specifically their gender, age band and area of residence in the UK. Changes in the broad characteristics of registrants from EU14 and EU12 countries and from outside of the EU are examined across three periods: 2002–2004, 2005–2007 and 2008–2011, which roughly correspond to pre-enlargement, post-enlargement and recession phases.[10] Analysis of the data indicates that there is a higher percentage of male registrants in each period for all three groups, although it is fairly gender-balanced for each group. There have been some fluctuations, with males accounting for around 56 % of NINo registrants from EU12 countries in 2005–2007 and 55 % of non-EU registrants in 2008–2011. The age structure of registrants from each of the three groups is also fairly similar, with around 80 % of working age registrants aged under 35. Again, there are some variations, with the 16–24 age group accounting for an increased percentage of registrants. This might have been influenced by greater student numbers in work (part-time, especially for non-EU countries), although the majority of recent arrivals from EU12 countries tended not to be students. Registrants from the EU12 have become less concentrated in London, with only a quarter residing there in the middle period, which is far lower than the equivalent percentages for those from the EU14 and outside the EU.[11] As a result, EU12 migrants have become fairly evenly dispersed across the UK, which is consistent with the spatial analysis of data from the WRS undertaken by Bauere et al. (2007) and McCollum and Findlay (2011). In contrast, recent migrants from the EU14 have become more concentrated in London, where 54 % of registrants from these countries resided in 2008–2011.

4 Changing Socio-economic and Labor Market Characteristics of Immigrants in the UK

While the previous section mainly focused on inflows of migrants to the UK, we now turn our attention to examining migration stocks in order to obtain a more complete picture of how immigration to the UK has evolved over the past decade or so, particularly in the light of changes affecting the economy. As well as examining how the size of immigrant groups has grown, we also analyze their socio-economic and labor market characteristics. This will be mainly undertaken using the Labour Force Survey (LFS), which is the main regular source of information used to examine the socio-economic and labor market circumstances of sub-sections of the UK population. Data from the Annual Population Survey (APS), which incorporates respondents from the LFS but has a boosted sample size, will also be

[10] See Clark et al. (2014) for further details.

[11] A relatively high percentage of individuals from the EU14 have registered as overseas residents, although this has declined in recent years. For example, almost 9600 (13 %) registrants from EU14 countries registered from outside the UK in 2002 compared with 1300 (1 %) in 2011.

presented to obtain a more accurate indication of the size of particular immigrant groups.

The number of immigrants from outside the EU has grown steadily since the start of the century, from around 1.5 million to over 2.6 million by the end of 2011. As with data on migration flows to the UK, the population of working age EU8 immigrants was very small until just before 2004. However, it started to increase even before the enlargement, with estimates suggesting that there were fewer than 50,000 working age EU8 immigrants in the third quarter of 2003, which had risen to more than 76,000 by the second quarter of 2004 and almost 120,000 by the end of that year. The number of working age migrants from these countries subsequently rose rapidly between 2005 and 2007, with the estimated population of this group exceeding half a million by the start of 2008. The estimated population of working age EU8 migrants remained fairly constant at this level until the start of 2010 before rising again. By the end of 2011, there were estimated to be more than 700,000 working age migrants from the EU8 resident in the UK, which is slightly greater than the estimated figure from EU14 countries. The estimated immigrant population from the latter group of countries has been relatively constant, with only a small rise towards the end of the period despite the increase in inflows indicated in the NINo figures.

LFS data are now used to analyze the socio-economic and labor market characteristics of the same three immigrant groups defined in the previous section (EU14, EU12 and Non-EU) over three periods: 2000–2003; 2004–2007 and 2008–2011. The sample of LFS data examined in this section has been constructed by pooling 48 consecutive quarterly datasets from 2000 to 2011. The dataset only includes respondents interviewed for the first time (wave 1) in order to avoid double-counting, in the light of wave 1 interviews being face-to-face and this wave having the highest response rates (Drinkwater et al. 2009). Table 1 presents information on key personal characteristics, whilst Table 2 reports labor market outcomes for working age migrants.

Table 1 reports information for the same characteristics available in the NINo database (gender, age and region), as well as some additional ones (marital status and years of education). In contrast to the flow statistics, there has been a slight majority of females amongst working age migrants for the three groups in each of the periods, apart from migrants from the EU12 in the immediate post-enlargement period. The percentage of 25–34 year old migrants from new member states has also been increasing, with more than 50 % in this age category in the final period. As a result, the percentage of working age migrants aged over 50 in this migrant group fell from 23 % to 8 %.[12] In contrast, the age structure of migrants from EU14 countries and outside the EU was similar across the three periods. This was also true for the geographical distribution of migrants from these two groups, whereas migrants from EU12 countries became far more dispersed after enlargement, with

[12] The composition of this group was quite different in the first period because of a higher proportion born in Cyprus and Malta pre-enlargement.

Table 1 Characteristics of working age immigrants in the UK by grouped area of birth

	EU14			EU12			Non-EU		
	2000–3	2004–7	2008–11	2000–3	2004–7	2008–11	2000–3	2004–7	2008–11
% male	46.4	47.9	47.1	45.1	50.0	47.0	48.3	48.2	48.5
% aged 16–24	14.3	12.6	13.6	13.3	24.2	19.1	13.1	12.5	12.4
% aged 25–34	27.3	26.7	25.2	25.1	41.1	51.0	26.8	27.5	26.8
% aged 35–49	31.8	35.4	37.8	38.5	23.5	22.1	40.6	39.3	39.7
% aged 50–59/64	26.7	25.4	23.4	23.1	11.2	7.8	19.5	20.7	21.1
% in London	28.5	26.0	26.5	48.6	32.5	23.7	42.7	37.6	35.6
% in South	33.7	34.3	33.6	29.1	26.7	27.7	23.0	25.1	24.9
% in Midlands	11.2	10.4	10.7	7.5	14.2	15.7	13.3	14.7	15.1
% in North	14.8	15.1	15.5	9.8	16.3	16.8	15.2	16.3	17.3
% in devolved regions	11.9	14.3	13.7	5.0	10.3	16.2	5.8	6.4	7.1
% arriving pre-1980	47.1	37.3	29.6	49.3	15.5	4.1	39.6	29.2	22.0
% arriving in 1980s	16.4	17.2	15.9	10.4	3.8	1.2	17.9	14.6	11.9
% arriving in 1990s	26.5	21.9	23.0	26.5	9.9	5.4	29.7	23.6	20.5
% arriving 2000–2003	10.0	14.1	10.4	13.8	16.2	10.6	12.8	21.6	19.2
% arriving 2004–2007	–	9.5	14.1	–	54.6	61.6	–	11.0	18.4
% arriving 2008–2011	–	–	6.9	–	–	17.2	–	–	8.0
% married	54.5	53.0	50.3	67.7	49.1	47.9	68.7	68.3	68.3
% with high education	28.9	31.7	37.0	25.8	33.5	36.0	32.2	35.6	39.9
% with medium education	22.0	23.4	23.8	28.7	42.2	46.5	26.1	25.0	25.5
% with low education	49.1	44.9	39.3	45.5	24.4	17.5	41.7	39.4	34.6

Source: LFS

Notes: The High Education category relates to individuals leaving full-time education after the age of 20, the Medium Education category to those leaving between the ages of 18 and 20 and the Low Education category to those leaving under the age of 18

less than a quarter living in London by the final period. The impact of immediate post-enlargement flows of migrants from the EU12 to the UK is clearly shown in the table, with 62 % of those interviewed in 2008–2011 having arrived between 2004 and 2007. A lower percentage of migrants from the EU12 were married after enlargement, although the percentage of married working age migrants from EU14 countries was only slightly lower in the final period. The percentage of highly educated individuals has increased for the three migrant groups, whilst the percentage of migrants with low levels of education has decreased for each.[13] The decline observed for migrants from the EU12 is particularly noticeable, falling from 46 % in 2000–2003 to 18 % in 2008–2011.

Table 2 presents information on a range of labor market outcomes, with the first of these indicating that activity rates have risen for each group across the three periods. This increase was fairly small for EU14 and non-EU migrants but much larger for EU12 migrants following accession. In particular, the activity rate of migrants from the EU12 increased by more than 15 percentage points between 2000–2003 and 2004–2007. The activity rate for this group had risen to 85 % by the final period, which is noticeably higher than for either EU14 or non-EU migrants. Activity rates have increased for both males and females in each of the three migrant groups across the three periods. However, there continues to be noticeable gender differences in activity rates amongst migrant groups in the UK; for example, the activity rates for EU12 migrants had risen to 91 % for males and 79 % for females in the 2008–2011 period, compared with equivalent rates of 80 and 60 % for non-EU migrants. The same pattern is reflected in employment rates, given that unemployment rates have generally been low for each group. As result, the employment rate for migrants from EU12 countries had increased to 81 % by 2008–2011, compared to 73 % for EU14 migrants and 63 % from outside the EU. The unemployment rate for migrants from the EU12 also decreased over the three periods and was just over 5 % in the final period.[14] In contrast, the unemployment rate for migrants from the EU14 and outside the EU increased between the second and third periods. The self-employment rate for these two groups was fairly similar in each of the three periods, whereas there was a large decline (6 percentage points) in the rate for migrants from EU12 countries in the pre and post-enlargement periods. This is a continuation of the trend noted by Clark and Drinkwater (2008), who attributed the relatively high self-employment rate for this group in the first period to the entry of entrepreneurs prior to the restrictions on migrant workers being removed.

[13] Educational categories have been constructed using the age left full-time education variable and the definitions are explained in the notes to Table 1. This table highlights the increasing levels of human capital possessed by immigrants to the UK. The introduction of the PBS implies that this is likely to continue and the skills attainment of immigrants compared to the UK-born is expected to further widen.

[14] This compares to a rate of around 7 % for those born in the UK in this period. The employment rate for the native born was also around 2 percentage points lower in 2008–2011 than 2004–2007.

Table 2 Labor market outcomes of working age immigrants in the UK by grouped area of birth

	EU14			EU12			Non-EU		
	2000–2003	2004–2007	2008–2011	2000–2003	2004–2007	2008–2011	2000–2003	2004–2007	2008–2011
Activity rate	75.6	76.3	77.8	67.9	83.2	85.0	65.6	68.0	69.7
Employment rate	71.4	72.6	72.7	63.5	78.1	80.6	60.1	62.7	63.4
Unemployment rate	5.5	4.9	6.6	6.5	6.2	5.2	8.3	7.7	9.0
Self-employment rate	14.0	13.0	14.2	20.0	14.3	13.8	15.9	15.0	14.9
% with prof/Man occs	33.4	35.4	38.7	27.8	13.1	9.9	32.7	32.4	32.7
% with intermediate occs	33.4	34.1	33.6	34.0	26.9	26.2	33.6	32.3	29.9
% with low skilled occs	33.3	30.6	27.8	38.3	60.1	64.0	33.8	35.3	37.4
% in prod./manuf.	15.2	14.3	12.4	14.4	22.2	25.7	14.3	12.5	10.0
% in construction	6.5	6.6	5.8	7.6	11.4	10.1	3.0	3.4	3.6
% in retail/hospitality	20.8	18.2	19.1	22.7	23.0	26.1	23.4	22.7	22.4
% in transport/comms	6.4	6.9	6.0	5.4	9.7	7.8	8.7	8.4	8.4
% in business/finance	18.4	18.9	21.6	14.7	12.5	13.4	18.3	18.4	19.1
% in public services	26.3	29.0	29.3	24.8	14.5	12.3	27.5	29.9	32.1
% in other services	6.4	6.1	5.8	10.4	6.7	4.6	4.9	4.9	4.4
Average hourly earnings	12.27	12.98	13.49	12.05	8.27	7.79	12.33	12.28	12.50
	(9.97)	(10.33)	(10.89)	(10.60)	(5.46)	(4.61)	(10.41)	(9.72)	(12.20)

Source: LFS

Notes: Hourly earnings are gross figures, reported in pounds in May 2007 prices. The standard deviation of gross hourly earnings is reported in parentheses

Although the majority of migrants from the EU12 have jobs, they are typically employed in low-skilled occupations; for example, over 64 % of migrant workers from these countries had low-skilled jobs in the third period, compared to 28 % for migrants from the EU14 and 37 % from outside the EU. By the final period, only 10 % of migrants from the EU12 who were in employment had high-skilled jobs, while the corresponding figures for EU14 and non-EU migrants were 39 and 33 %. Given the high levels of educational attainment amongst EU12 migrants, as shown in Table 1, this might indicate that UK employers are keen to recruit such workers into low-skilled positions. The industrial distribution of employment amongst the three migrant groups is consistent with the figures on occupation; for example, 52 % of migrant workers from the EU12 had jobs in Production, Manufacturing, Retail and Hospitality in the final period, compared with around 32 % from the other two groups. In contrast, the percentage of EU12 migrants in Business/Finance and Public Services is much lower.

The real earnings of migrants from the EU14 have risen over the three periods. Moreover, the dispersion of earnings, as measured by the standard deviation, has also increased for this group. The real earnings of non-EU migrants have remained fairly constant, although the variability of earnings rose quite sharply for this group in the final period. In contrast, the average earnings of EU12 migrants have declined considerably since enlargement, falling from a similar average to that observed for EU14 migrants in the first period to around £4.70 an hour lower in the second period. Real earnings further decreased for migrants from new member states in the final period. Moreover, the earnings distribution for this group has become very compressed post-enlargement, as shown by the low standard deviation.[15]

The extent of skill-mismatch amongst the three different migrant groups can also be examined using the LFS.[16] The degree of mismatch appears to be highest for migrants from the EU12, given that over a half of highly-educated individuals from these countries worked in low-skilled occupations following EU enlargement, compared with less than 10 % of migrants from the EU14 and 22 % from outside the EU. This might be partly explained by the lower English language proficiency of many migrants from accession countries, as well as the typically shorter durations of their stays in the UK (Clark and Drinkwater 2008). There was also a higher percentage of low-skilled workers from these countries amongst migrants with medium and low levels of education. There has not been much change in the occupational attainment of particular educational groups amongst migrants from the EU14 since the start of the recession; however, the occupational outcomes for non-EU migrants deteriorated for each educational category in 2008–2011, despite the introduction of the PBS.

[15] See Drinkwater et al. (2009) for a more detailed discussion of the earnings of recent immigrants to the UK, particularly focusing on Polish migrants. Furthermore, the spatial concentration of migrant groups and regional pay variations should be taken in account when making comparisons between the earnings of migrant groups in the UK.

[16] See Clark et al. (2014) for further details.

Finally, in this section we discuss the adjustment in labor market outcomes for migrant groups over the recession. Despite Table 2 indicating that unemployment rates have risen for EU14 and non-EU migrants in recent years, Wadsworth (2010) reports that a similar change in unemployment was experienced by immigrants and the UK-born in the most recent recession, in contrast to previous recessions. In particular, Wadsworth (2010) shows that unemployment differentials between immigrants and natives have typically risen during recessions and decreased during periods of growth in the UK since 1979. However, in the most recent recession, similar increases in unemployment were observed for immigrants and natives, both for males and females. A possible explanation for this might be the increased levels of skills possessed by recent immigrants who have entered the UK. Dustmann et al. (2010b) also use LFS data to examine cyclical variations in employment and wages between immigrants and natives, and report that the unemployment response to economic shocks for immigrants is much higher than that experienced by natives within particular skill groups in the period between 1981 and 2005. Similar results are reported for immigrants and natives in Germany. Dustmann et al. (2010b) also find that the differential responses to wages over the economic cycle were much smaller.

5 Labor Market and Fiscal Impacts of Recent Immigration to the UK

Most studies concerning the impact of immigration on the UK labor market have employed some variant of the spatial correlation approach (Altonji and Card 1991; Borjas 1999). The essential idea is to examine the effect of an increased supply of immigrants in a particular labor market, usually defined as a geographical area. The average labor market outcomes of native or resident workers are regressed on a variable reflecting the immigrant supply shock, and the estimated coefficient on this variable is assumed to measure the labor market effect of immigration. Controls can be included for other characteristics such as age or human capital that might be considered to affect outcomes. However, despite this, the approach is subject to a number of potential criticisms; for example, using geographical areas as the unit of analysis might underestimate the effects of immigration if natives respond to an influx of migrants by leaving areas where migrants cluster. Similarly, the immigrant supply shock might not be exogenous with respect to the random error if immigrants choose a location based upon their perceptions of labor market success. Various modifications have been made to the simple spatial correlations approach in order to address these criticisms, including the use of instrumental variables and using alternative units of analysis such as cells defined across skill groups rather than geographical regions.

The broad message from such studies in the UK is that there has been little impact on the employment and wages of native or resident workers. However, this

conclusion only holds in the aggregate, with positive and negative effects having been found in particular segments of the market. Furthermore, there is also evidence that immigration might be worse for the labor market outcomes of natives/residents in the recent economic downturn than a strongly growing economy.

First considering the impact on employment, Dustmann et al. (2005) adopt the spatial correlation approach using data from the LFS from the period 1983–2000. Their geographical unit of analysis is the standard region and their definition of immigrant status reflects nativity (UK-born vs. non-UK born). Overall, they find no statistically significant effect of immigrant inflows on the employment of UK-born workers at the aggregate level. However, there is a statistically significant, negative effect amongst certain sub-groups in the labor market; for example, inflows of workers with intermediate qualifications, defined as O-Levels or equivalent (a lower level of qualification than that required to enter higher education), are found to reduce the employment of similarly qualified UK-born workers. MAC (2012) interprets Dustmann et al.'s estimates as suggesting that an inflow of 10,000 immigrant workers with intermediate qualifications would reduce the employment of similarly qualified UK-born workers by around 2000. Reed and Latorre (2009) also apply the spatial correlation approach using more recent data from DWP administrative records in 2007, finding no overall effect of immigration flows on the employment of the resident working age population. Notably, Reed and Latorre's data includes more EU8 migrants than those used by Dustmann et al. (2005) and thus the lack of an employment effect might be considered a better guide to the impact of further EU enlargement on the UK workforce than previous studies.

One important caveat to these findings regarding employment is that conclusions drawn about the effect of immigration on the labor market might depend on the state of the business cycle, which MAC (2012) investigates using a spatial correlation approach with LFS data up to 2010. The longer time period allows the analysis to be carried out separately for sub-periods when there was a positive output gap and those when there was a negative output gap. Indeed, the contrast between these is striking, with no significant effect on the employment of the UK-born during expansionary sub-periods yet a significant negative effect during sub-periods when there is a negative output gap.

Gilpin et al. (2006) analyze the effect on native unemployment of EU8 migration, with this approach again based on spatial correlations. However, unlike the aforementioned studies of employment, Gilpin et al. are able to use a much lower level of aggregation: 409 Local Authority Districts (LADs) as opposed to the regional measure (less than 20 geographical units). This is possible because their data is drawn from administrative records, captured when EU8 migrants registered on the WRS, and the claimant count measure of unemployment. Gilpin et al. estimate a number of models in which the key independent variable is the proportion of WRS registrations relative to the working age population in a LAD and the dependent variable is the change in the unemployment rate (as measured by those claiming Job Seekers Allowance) in the LAD. They control for several other factors, including the potential endogeneity of the migration variable, and estimate

a number of static and dynamic specifications of the model. In no case do they find any evidence of a statistically significant association between EU8 migration and the unemployment rate in a LAD. However, in the light of the findings from MAC (2012) described in the previous paragraph, it is worth noting that Gilpin et al.'s data refers to changes in the claimant count between November 2004 and November 2005: a period during which the UK labor market and economy were still relatively buoyant.

Variants of the spatial correlation approach have also been applied to the impact of immigration on the UK wage distribution, with studies such as Dustmann et al. (2005, 2013), Nickell and Saleheen (2008), Lemos and Portes (2008) and Manacorda et al. (2012) all finding relatively small effects on wages in the aggregate; however, there are some statistically significant associations in particular sections of the labor market or for particular types of worker. For example, Dustmann et al. (2013) extend their earlier analysis (Dustmann et al. 2005) by considering how immigration affects wages, not just at the mean (log) wage but rather across the whole of the wage distribution. In contrast to earlier studies, the "average" effect of immigration on wages, measured here at either the mean or median of the distribution, is positive and significant, although there is variation in this effect at different quantiles: at the lower end of the distribution, immigration is found to have a negative effect on the wages of natives, while a positive effect exists at the upper end. Dustmann et al. (2013) argue that the positive findings are consistent with a labor market in which native and immigrant workers are imperfectly substitutable in the production process. They further suggest that the extensive "downgrading" observed by immigrants to the UK, i.e. the tendency to work in occupations for which they are overqualified, might contribute to the positive effect.

Nickell and Saleheen (2008) also address downgrading and note that increases in the immigrant share of employment are U-shaped with respect to the occupational distribution: in other words, immigrants tend to concentrate in the upper and lower tails of the wage distribution. Nickell and Salaheen argue that the reasons for this might be important in determining the impact of migration on wages. At the upper end, migration might be more demand-driven with firms paying higher wages to attract highly qualified staff, while at the other end of the distribution, supply shocks, such as the impact of EU enlargement, might be more important as a source of migration flows and hence one would expect to find a bigger impact on wages here. Their empirical work supports this view, with a 10 percentage point increase in the share of immigrants at the mean of the wage distribution is estimated to reduce wages by 0.4 %; however in the case of workers in "semi/unskilled services – that is, in care homes, bars, shops, restaurants, cleaning, for example" (Nickell and Saleheen 2008: 19), a 10 percentage point increase in the migrant share leads to a 5.2 % reduction in wages. This extremely large wage effect emphasises the importance of considering separate segments of the labor market.

Manacorda et al. (2012) explicitly adopt the idea that there might be imperfect substitution between native and immigrant workers. Within a Constant Elasticity of Substitution production function framework, they use data on the relative

employment levels and relative wages of immigrants and natives within labor market cells defined by age and education to directly estimate the elasticity of substitution between natives and immigrants. The data clearly rejects the hypothesis of perfect substitutability between native and immigrant labor, which Manacorda et al. argue might help to explain why empirical work has largely failed to find any strong evidence of a negative effect on native wages. Essentially, immigrant workers are supplying a significantly different stream of productive services compared to natives. A corollary of this is that an expansion of the supply of immigrant workers will have the largest negative effect on the wages of existing immigrants. A similar conclusion is reached in Brücker et al. (2014), using a slightly different empirical approach.

The impact of immigration on public finances and the welfare state depends on a number of characteristics of the migrants themselves, primarily including their age and labor market status. To the extent that migrants tend to be young, unattached and in employment, it might be expected that they would be contributing to the exchequer through taxation and not consuming welfare services. Similarly, those who stay for short durations are unlikely to draw on health or other public services. On the other hand, migrants who bring dependents or acquire dependents in the UK, as well as those who stay permanently, are more likely to consume the services provided by the welfare state. Therefore, estimates of the impact of migration on the public sector reflect the demographic composition of the migrant groups concerned. Recent research commissioned by the MAC (2012) has estimated the consumption of public services by different migrant groups in comparison to the native population, suggesting that, as a whole, migrants consume somewhat less in terms of personal services (including social work, personal care, disability and some child welfare services) and health compared to non-migrants. This is driven by the lower average age of migrants. Note particularly how recent migrants, whose average age is lower than all migrants, consume only around 62 % of the health services of non-migrants, whereas the respective figure for all migrants is 89 %. The exception to this general rule of lower consumption for migrants is found in the area of state funded education services, where all migrants consume 33 % more per head than non-migrants. However, this reflects the methodology used to calculate the estimates whereby the expenditure on the children of migrants is counted to the migrant parent irrespective of where the child was born. All of the variation in education expenditure by group is explained by the average household composition of the groups.

However, the consumption of government services is only one side of the fiscal balance sheet relating to immigration, with a number of studies having investigated whether the *net* contribution of immigrants is positive or negative. Here, some measure of the monetary value of the consumption of services is subtracted from an estimate of the contribution of the relevant migrant groups to the exchequer. In terms of the UK, such work generally finds a small positive effect with immigrants seen as making a net positive contribution to the government budget, with studies including those of Gott and Johnston (2002), Sriskandarajah et al. (2005) and Rowthorn (2008). To provide a flavor of the results, Rowthorn (2008) concludes

that immigrants make a net contribution of around £0.6 billion *per annum* to the economy, although there is a wide range of variation around this in other studies, depending on the particular methodology used.

One criticism of such studies is that they are essentially static in nature: in other words, they only consider the contemporaneous contributions to, and withdrawals from, the budget surplus of given stocks of migrants in a particular year or years. This neglects that immigration is inherently a dynamic process and that long-term immigration implies a future flow of payments to, and withdrawals from, the government. However, the full analysis of the dynamic behavior of immigrants is clouded in uncertainty regarding how long immigrants will stay in the UK, as well as their future patterns of household and family formation, labor market trajectories, etc. Therefore, any such analysis is highly dependent on the assumptions made about how immigrants will behave in the future. The behavior of previous cohorts is unlikely to reflect a good guide here, given the different source countries and characteristics of current immigrant flows compared to past flows.

One related issue is the treatment of the children of immigrants and whether or not their consumption of public services should be treated as government expenditure on immigrants, despite the fact that they might have been born in the UK. Indeed, how such expenditure is allocated can in practice turn a net positive contribution into a negative one (Vargas-Silva 2011).

Dustmann et al. (2010a) specifically examine the fiscal impact of EU8 migration to the UK using data from the LFS between 2004 and 2009, finding a strong positive fiscal contribution from EU8 migrants with a ratio of tax revenues to expenditures of 1.35. This was attributable to the relatively high employment rates and younger age of the migrant group compared to the resident population. These factors made up for the fact that EU8 migrants tended to work in sectors and occupations for which they were overqualified and were hence accepting wages that were lower than might be expected given their levels of human capital. In the context of the fiscal contribution of immigrants, it is also worth noting that government policy in the UK has specifically limited the extent to which migrants are entitled to claim certain types of welfare benefits. EU8 migrants were excluded from certain tax credits until they had registered with the government, and from all of the main types of social security benefit until they had worked for over 12 months in the UK (Dustmann et al. 2010a).

6 Conclusion

Despite a slowdown in inflows of migrants to the UK in recent years, large numbers continue to arrive. Some of the decline appears to have been the outcome of reduced flows owing to the recession, although this reduction is unlikely to have been as rapid as the Coalition government would have liked, given their stated intention to lower immigration from the ‘hundreds of thousands to the tens of thousands’. The introduction of the PBS, with further modifications as well as changes to the

admission of students, might help to achieve this objective. Immigration from EU member states continues to be high, although there has been a change in the countries from where migrants originate. In particular, there has been an increase in migration from the member states most affected by the recession, especially Spain and Italy in numerical terms, and a reduction from EU8 countries since 2007, especially Poland, partly reflecting their improving economies. However, other factors such as an appreciation in the zloty relative to the pound and increased migration to other member states following the relaxation of transition arrangements (Pollard et al. 2008) are also contributing factors. Therefore, immigrants have continued to enter the UK despite the sluggish performance of the UK economy in recent years, but the balance of where they originate from has also been clearly influenced by the relative performance of different European economies.

The socio-economic characteristics and labor market outcomes of immigrants have also changed over the past decade. This appears to be more the result of migration policy decisions concerning EU enlargement, especially with migrants from EU8 countries being granted more or less free access to the labor market. In addition to the very large flows of migrants from new member states entering the UK, these migrants typically had high employment rates but also low occupational attainment and hence low earnings. This is despite the high percentage of this group having high levels of education, as measured by age left full-time education. Based upon the young age profile and high employment rates of recent EU migrants to the UK, it is estimated that they have made a positive net fiscal contribution and not had an adverse impact on the aggregate labor market outcomes of natives. However, large migration flows to particular areas or skill groups can produce losers, as well as winners, amongst different sections of the native population.

Appendix

Table 3 NINo registrants in the UK by country of nationality, 2002–2011

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
PIIGS	37,180	45,030	44,490	46,400	43,190	53,850	54,690	57,210	67,620	93,890	543,550
Greece	3070	3040	2750	3310	3250	3660	2940	2750	3270	5600	33,640
Ireland	8090	9170	9270	10,200	9510	10,580	10,550	11,050	13,920	17,040	109,380
Italy	7710	8120	8160	10,350	11,060	15,730	16,460	16,880	18,490	24,900	137,880
Portugal	7910	12,620	13,850	11,710	9700	12,040	12,980	12,230	12,080	16,350	121,450
Spain	10,400	12,080	10,460	10,830	9670	11,840	11,760	14,300	19,860	30,000	141,200
Other EU14	36,740	37,490	40,400	47,720	48,980	60,560	55,330	48,820	49,210	53,880	479,160
Austria	1170	1180	1220	1460	1380	1780	1570	1230	1350	1390	13,740
Belgium	1560	1440	1430	1740	1730	2200	2080	1880	1960	2190	18,190
Denmark	2110	2230	2070	2200	2170	2120	1770	1730	1700	1860	19,970
Finland	1330	1300	1250	1330	1270	1440	1300	1110	1260	1290	12,880
France	13,120	12,890	13,470	16,290	17,470	22,960	22,260	19,920	19,680	23,450	181,520
Germany	8840	9610	10,410	12,790	13,470	16,770	14,900	12,500	12,220	12,730	124,230
Luxemburg	40	50	50	60	70	80	90	60	60	80	650
Netherlands	4820	5280	6890	7380	7060	7770	6720	5710	6030	5970	63,620
Sweden	3750	3510	3610	4470	4360	5440	4640	4680	4950	4920	44,360
EU8	9520	16,890	68,650	236,350	276,540	334,590	230,910	167,670	176,820	181,960	1,699,930
Czech Republic	1050	1170	4670	13,020	10,960	12,290	10,470	8710	7260	7700	77,290
Estonia	160	190	1060	3000	2160	1680	1440	1950	2240	2340	16,200
Hungary	680	850	2550	7690	8910	13,870	14,680	13,750	14,200	17,910	95,100
Latvia	350	580	3700	13,500	11,420	9320	7970	20,120	28,280	21,580	116,830
Lithuania	1430	3140	10,710	29,100	24,200	22,240	16,500	21,770	37,740	37,560	204,390

(continued)

Table 3 (continued)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Poland	4740	9490	38,440	144,740	192,210	242,530	152,320	85,860	74,850	84,140	1,029,340
Slovak Republic	890	1270	6850	24,710	26,220	32,080	26,980	15,150	11,910	10,400	156,460
Slovenia	220	200	670	590	460	580	550	360	340	330	4320
Other EU12	5820	7470	10,320	7770	5960	33,270	41,100	35,130	33,130	42,180	222,160
Bulgaria	3710	4320	5720	3110	1940	12,250	15,880	13,540	12,450	14,460	87,380
Cyprus	320	300	580	1070	1000	1160	1200	1060	1200	1440	9340
Malta	220	220	390	590	580	690	580	470	520	480	4740
Romania	1570	2630	3630	3000	2440	19,170	23,440	20,060	18,960	25,800	120,700
Australia	17,570	17,590	16,620	22,670	22,520	25,740	21,270	16,370	14,770	15,220	190,330
Bangladesh	6330	7520	7550	8010	8810	10,990	8930	15,480	18,820	10,000	102,430
China	7320	12,690	13,330	13,160	11,450	15,230	15,560	13,710	15,730	16,600	134,780
India	20,750	29,290	32,930	43,350	43,310	53,820	52,150	69,150	79,780	59,820	484,330
Nigeria	5140	7000	7970	11,910	10,790	14,680	15,090	17,960	17,070	15,680	123,300
Pakistan	15,720	15,250	20,630	21,940	21,020	27,930	22,700	21,890	35,470	46,840	249,390
Philippines	10,890	10,990	8700	8640	8360	8480	8750	10,980	9630	5500	90,920
South Africa	17,000	18,390	19,170	23,690	17,630	14,320	12,580	8440	3860	3500	138,580
USA	7220	7510	7810	9480	9390	11,780	10,960	9320	9850	10,650	93,960
Other Non-EU	113,440	128,420	113,500	116,910	104,590	131,200	118,950	120,590	134,900	114,640	1,197,090
Unknown	700	680	710	560	510	440	590	490	840	690	6220
All nationalities	311,340	362,210	412,780	618,560	633,050	796,880	669,560	613,210	667,500	671,050	5,756,130

Source: DWP

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