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Research Report

The costs and benefits of European immigration

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The Costs and Benefits of European Immigration

Rainer Münz, Thomas Straubhaar, Florin Vadean, Nadia Vadean

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HWWI Policy Report No. 3
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The Costs and Benefits of European Immigration

Rainer Münz, Thomas Straubhaar, Florin Vadean, Nadia Vadean

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Executive Summary

In the early 21st century Europe is confronted with an ageing population, stagnating or even declining native populations, high unemployment and in the most key countries also with slow economic growth. At the same time Europe remains one of the prime destinations of international migration.

Free movement of people is a means of creating an integrated Europe. Geographic mobility also helps on establishing a more efficient labour market, to the long-term benefit of workers, employers, taxpayers and EU Member States. Thus, our paper quantifies current migration patterns (see pp. 14-15); it recollects theoretical (see pp. 16-27) and empirical arguments (see pp. 28-47) on why immigration is so important, to what extent labour mobility allows individuals to improve their job prospects and employers to recruit people with adequate skills. The paper also discusses what kind of common European policies should be undertaken to optimise benefits of international migration. All our findings might not only avail understanding the economic impact of immigration. But they have policy implications for migrant receiving countries in Europe as well. The aim is to develop a better understanding of how the EU and its Member States could use availability and skills of today's and future immigrant populations in order to cope with economic and demographic challenges.

Demography and Ageing

Immigration has a positive influence on population and labour force growth. If natural population growth turns negative, immigration can help maintain total population and the labour force constant. Immigration could also be a remedy to shortages of labour and skills that are unrelated to demographic processes (see pp. 28-31). However, immigration is not a solution for tackling the consequences of demographic ageing in Europe. The level of net migration required to keep the old-age dependency ratio constant would entail increases of inflows well beyond socially desirable and politically sustainable levels (see pp. 16; 30-31).

Labour Markets

Empirical evidence shows that the impact on wages and employment is on average negative, but very small (see pp. 32-37). This suggests, that the potential downward effect is offset by additional creation of employment due to economies of scale and spillovers (which increase productivity) as well as higher demand for goods and services (due to population growth through immigration; see pp. 16-20).

Compared to the US, the immigration impact on wages and employment was found to be more negative in EU countries. However, this negative effect is not evenly distributed among EU Member States. In Greece, Italy, Spain and the UK it turned out to be negligible or slightly positive. Immigrants apparently acted as complements to native workers and competition causing downward pressure on wages and job displacement hardly arose (see pp. 32-37). For example, high-skilled immigrants filled in vacancies that went unmet by the native labour supply and thus increased productivity, while low-skilled migrants took jobs avoided by natives (e.g. dirty, difficult and dangerous jobs, low paid household and other service jobs) and jobs in sectors that are traditionally affected by strong seasonal fluctuations (e.g. farming, construction, and tourism).

Negative effects are observed in the case of Belgium, where new immigrants competed with immigrants who had come during earlier periods for

available low-skilled jobs, resulting in high unemployment rates among certain foreign-born groups (in particular immigrants from Congo, Morocco and Turkey). In Germany, due to the rigidity of the labour market and the comparatively low mobility of German workers, the labour market effects of immigration were found to be negative as well, in particular in the construction sector. This illustrates, that market regulations that have the scope to protect native workers often have an unintended consequence. In the long run they tend aggravating the negative impact of immigration on the labour market situation of the natives (see p. 36).

With respect to labour market efficiency, empirical evidence from several EU countries shows that it could be improved by immigration. Since immigrants move to the most attractive regions, where salaries and employment opportunities are higher, their labour market integration induces a convergence effect on wages and unemployment between regions. While at the same time the labour market shortages are reduced (see pp. 20; 37-38).

Public Finances

The implication of international migration on the welfare systems of EU Member States is diverse. Empirical evidence illustrates that the impact is strongly dependent upon the original "gate of entry" or way of admission, the labour market access and – as a result of the former – the socio-economic characteristics (labour market performance) of the immigrants.

Countries with high share of economic migration – implying that immigrants have a speedier access to work (e.g. UK, Italy, Greece, Portugal and Spain) – experienced a positive contribution of immigrants to the treasury (see pp. 38-41).

In countries where immigration flows were dominated by asylum-seekers (who are permitted to work under restrictive conditions) and families reuniting (e.g. Denmark, Sweden), immigrants were more dependent on welfare payments than natives. The same occured in countries were immigrants had a low labour market performance (partly due to discrimination and inappropriate access to schooling and training; e.g. The Netherlands). Germany partly also falls into this category because of the large-scale admission of ethnic Germans and their dependent family members who are characterised by high unemployment and high take-up rates of state pensions (see p. 39).

The lowest labour force participation registered in the EU-15 in 2003 was that of immigrant women of Turkish and North African nationality, illustrating that migrant women (in particular Muslim women) are more likely than men to remain outside the labour market, which makes it even more difficult for them to integrate into the receiving society (see p. 41).

Balance of Payments and International Competitiveness

Immigration has a small but positive impact on trade relations between migrant receiving and migrant sending counties, as shown by empirical results from the UK and Spain (see pp. 42-43). Though, the overall effect on the balance of payments of the EU Member States is uncertain.

Immigrants (in particular seasonal and temporary workers) remit a significant part of their income to their relatives back home. The sum of remittances' outflows from the 25 EU Member States equalled in 2004 the equivalent of some US$ 49.7 billion. These capital flows represent undoubtedly a drain on the balance of payments, although, they might support EU exports of

goods and services too. The EU countries could improve their competitiveness relative to the migrant sending countries through the devaluation effect on the exchange rate and through the additional spending capacity generated in the migrant sending countries (see pp. 43-45).

To our knowledge there is no literature on the impact of remittance outflows on the migrant receiving countries' balance of payments and their international competitiveness. The direction and size of the effect remains to be explored.

Growth

The influence of immigration on growth was found to be positive in the case of immigrants endowed with financial or human capital. Immigrants that provide financial capital have a positive effect on consumption and investments and high-skilled professionals are complementary to investment flows in the sectors they are employed in and thus attract more investments (see pp. 45-47). Only the low-skilled migrants were estimated to reduce labour productivity in sectors that are employing them. However, low-skilled migrants are mostly taking jobs avoided by natives and in sectors with seasonal labour shortages (e.g. farming, road repairs and construction, tourism-related services). In particular in Southern European countries, which have market shortages for low-skilled labour, they not only helped these sectors to survive, but also contributed to their development (see p. 47).

Similar to the case of welfare systems, the impact of immigration on growth strongly depends on the labour market performance of the migrants. Several European countries experienced high skilled migrants being employed in low skilled jobs. This so called brain waste generates resource costs and alerts the questions about recognition of diplomas, assimilation and integration in the migrant receiving economy. Labour market integration often does not occur due to a combination of rigid labour markets, the reciprocal link between low labour market status and relatively poor school performance, and to some extent also because of labour market discrimination against non-European immigrants. Discrimination not only hinders labour market performance of immigrants, but by decreasing returns to human capital lowers their incentive to invest in host-country-specific human capital, which in turn causes poorer labour market performance (see p. 47).

Conclusions for a European Migration and Integration Policy Approach

Maximising benefits and minimising costs of immigration means:

– EU Member States need to set-up flexible and market oriented admission systems that help ease labour market bottlenecks and long-term deficits at all qualification levels – from unskilled workers to highly skilled professionals. Attracting highly skilled migrants will be of particular importance as demonstrated by recent legislative changes in France and the UK.

– EU Member States ought to try attracting more high skilled migrants by granting long-term residence permits, facilitating access to the whole EU labour market, improving the recognition of degrees, qualification and professional skills, increasing investment in R&D and better disseminating information in the migrant source countries about the conditions of admission and rights granted to newcomers.

– Non-economic migrants (reuniting family members, recognized refugees and quota refugees) should be granted speedy access to the labour market.

More emphasis should be given on the recognition of degrees and qualifications acquired of these non-economic migrants prior to immigration.
– Foreign nationals with refugee status as well as asylum seekers tolerated to stay for an undefined period of time need to be allowed and encouraged to accept jobs and to seek work at their qualification level.
– Asylum seekers should be given preferential access to temporary or seasonal employment.
– EU Member States ought to continue the efforts addressing the challenges of migrants' integration (in particular of non-economic migrants) and help improving the labour market performance of migrants by ensuring the recognition of qualifications, fighting against discrimination and racism, providing language training and assuring affordable housing.
– Social and labour market inclusion of migrant women should be actively promoted.
– Labour markets should be granted a higher degree of flexibility in order to make sure that growing sectors take advantage of increased productivity and contribute to job creation. Under certain circumstances assuring a given level of income for workers by wage subsidies may be considered.
– Certain immigrants may be temporarily excluded from a particular range of welfare benefits to prevent the EU Member States from acting as welfare magnets.
– EU Member States have to consider promoting circulation of high-skilled migrants by facilitating dual-citizenship and improving portability of acquired rights and claims towards welfare systems of EU Member States.

Special attention should be given to the integration of children with migrant background (the so-called second generation). This is crucial with regard to the aim of maximising economic benefits and reducing costs of immigration. If EU Member States are able to integrate well second generation migrants, positive economic and fiscal contributions could be increased. If failing to do so, they have to carry the financial burden of higher unemployment and lower economic success of people with migration background. As empirical evidence makes clear, language proficiency and education are key elements that decide about success or failure of immigrants and their children. With regard to the conditions of an efficient migration policy this means:
– Promoting school education, job training and higher education for immigrants – in particular for those from middle and low-income countries.
– Promoting school education, job training and higher education among children of immigrants.
– Facilitating acquisition of citizenship for long-term migrants and their descendants.

It remains an open question what model should be followed with regard to the political and economic integration of immigrants:
– The Anglo-Saxon immigration model (i.e. Canada, Sweden, USA, UK) grants economic rights at entry and political rights after a reasonably short period, facilitating the integration of immigrants into the labour markets and subsequent affiliation into the receiving society.
– The Southern European immigration (i.e. Greece, Italy, Portugal, Spain) model tends to admit or – at least – tolerates economic migrants even if they have no legal access to the labour market. Until recently Southern European countries have periodically offered regularization to irregular labour migrants. At the same time this opens up a path towards citizenship.

– The Northern continental European (i.e. Belgium, Denmark, France, Germany, the Netherlands) immigration model grants rights in several steps: first the right of entry and of residence; later, only after assuring that the immigrant's employment is not harmful to domestic labour market participants, economic rights are granted; and finally, when immigrants are considered to be sufficiently acculturated they may claim political rights through naturalisation.

To maximise benefits of immigration and reduce costs of integration, European countries should be encouraged to give migrants legal access to their labour markets. Other alternatives are costly for the public coffer and have the unintended consequence of rather delaying than encouraging the integration of immigrants. However, it remains of course a crucial political question, to what extent European societies are willing to offer not only economic, but political inclusion through naturalisation and birthright citizenship for children of immigrants born on their territory.

More sensible quantitative research and provision of factual information to the public is needed on: (a) the way both high-skilled and low-skilled immigrant labour contributes to employment and growth in the EU by helping ease shortages on labour markets and thus improve their efficiency, and (b) the way in which free-mobility of third-country nationals residing in an EU Member State and/or common measures to admit economic migrants would help to better integrate the EU labour market, improve its efficiency and the competitiveness of the European economy, thus enhancing welfare gains for all citizens and residents of Europe.

1 | Introduction

1.1 | Scope

Western and Central Europe[1] is home or host to some 42 million international migrants, representing about 8.9% of its total population.[2] More than half of them have come from countries outside Western and Central Europe. The other 45% have moved between countries of this region. When only taking immigrants from third countries into account, Europe's immigrant population in absolute terms is still smaller than the number of immigrants in the United States.[3] Nevertheless, Europe has become one of the main destinations on the world map of international migration. From a historical perspective, this is a relatively new phenomenon.

In contrast to demographic realities, many Europeans still do not see their homelands as destination for immigration, nor do they assume that immigration could turn into a permanent and possibly even necessary and managed process. Today, this contra-factual perception of demographic realities has become a major obstacle for the management of migration and the implementation of proactive migration regimes. International migration is certainly increasing on a global scale, and the causes and underlying processes that have led to this shift from emigration to immigration in Europe are diverse. The most important causes are related to the considerable economic, social, and political imbalances that mark the gap between relatively rich, democratic, and stable but ageing societies in Europe and the much poorer, less stable, but youthful and demographically growing societies in neighbouring and other world regions.

Despite this situation many EU Member States, so far, are characterised by an absence of pro-active immigration policies. Traditionally such immigration policies were associated with guest worker schemes implemented during economic boom periods or sectoral labour market shortages. More recently such policies also try to establish a preferential admission of high skill migrants.

The lack of coherent pro-active migration policies is partly due to the concern that immigration may lead to a burden for the treasury and worries that immigrants might put a downward pressure on wages and native employment. As a result, in many Western European countries, the humanitarian[4] reasons were more important for the admission of long-term migrants than the economic ones.

In recent years most Western European EU countries underwent a period of slow economic growth. In the years 2000-2004, the EU-15's GDP grew yearly by an average rate of 1.6%.[5] In the new EU Member States (EU-10), however, the annual average growth rate was +3.2%.[6] For the EU-25, this resulted in an annual average growth rate of 1.7%.

At the same time, Europe's native populations experience by demographic stagnation. Between 2000 and 2004, annual natural population change[7] in the EU-15 was as low as +0.1%. Most new EU Member States suffered natural population decline (EU-10: -0.1%). In the EU-25, natural growth amounted to +0.07%. As a result Western and Central Europe's population increase (+1.5 to +2.1 million p.a.) was mainly driven by immigration.

Over the last decade, Europe's old age dependency ratio (population 65+ divided by population 15-65) grew constantly in the EU-25 reaching 25% in 2005.[8] Demographic ageing combined with stagnation in the numbers of gainfully

1 Defined as the European Economic Area (EEA) and Switzerland. The EEA includes EU-25, Iceland, Liechtenstein, and Norway.

2 In certain European countries official statistics do not give population by place of birth but by citizenship. Naturalised immigrants are therefore not always statistically "visible" and native-born children with foreign citizenship remain in the "foreigner" category if at birth they acquire solely their parents' citizenship. In the decade 1992-2001 roughly 6 million people were naturalised in the EU-15 (see OECD/Sopemi, 2004). For a detailed analysis of migrants and legal foreign residents in the EU-15 see also Münz and Fassmann (2004).

3 The comparison has to take into account that some 45% of Western and Central Europe's 42 million foreign born residents have come from another country of this region. In the case of the U.S. people moving from one state to another appear as internal mobility and not as international migration.

4 Admission of co-ethnic resettlers, family reunion, asylum seekers and refugees.

5 Source: EUROSTAT; own calculations.

6 Source: EUROSTAT; own calculations.

7 Births minus deaths.

8 Source: EUROSTAT; own calculations. A ratio of 25% means that in 2005 there were 25 people age 65+ per 100 persons at working age (15-64).

employed people, as well as high unemployment rates, welled to a situation where the employed work force and taxpayers in general have to bear growing welfare and social expenditure, putting additional strain on the social security systems. Future projections estimate that the situation will worsen further in the coming decades when the baby boom generation, born in the 1950's and 1960's, will reach retirement age.

In recent debates on immigration, we can identify a paradigmatic change. In the past, immigration was perceived rather as a fiscal burden or even as a threat to national identity and social cohesion. Meanwhile, the fears have shifted. Many deplore a lack of integration among immigrants with different ethnic and religious background. Due to this perceived lack of integration in particular of Muslim migrant communities and the terrorist attacks in New York, Madrid and London, certain scepticism about immigration from Islamic countries has been articulated.

At the same time the pro-active recruitment of migrants is now regarded by many experts and several politicians as a feasible solution to Europe's demographic challenges. These voices expect a possible relief from strains of demographic ageing on the national labour markets and the welfare systems. Some even see enhanced mobility within Europe and the inflow of qualified labour as a means for boosting economic development.

1.2 | Road Map

In the remainder of this paper we attempt to critically examine the socio-economic theory and recent empirical evidence on the demographic and economic impact of immigration in order to observe if the above mentioned expectations are justified. In Section 2 we discuss available data on immigration to Europe. Section 3 gives an overview of the socio-economic theories on the impact of migration. Ranging on subjects from entry, integration in the host society and economy, to assimilation, we discuss first short term effects on demography, those on the labour market, i.e. wages and employment, then effects on public finances (that have both short-term aspects and long-term implications) and finally long term effects on the balance of payments and growth. Following the same structure, Section 4 examines the empirical evidence regarding the effects of immigration in the EU member countries. Section 5 concludes and summarises the main policy implications.

1.3 | Methodology

This paper is based on desk top research. It refers to existing literature on demographic, economic and labour market effects of international migration. The main focus is on migrant receiving countries and economies, in particular on EU Member States.[9] From this overview and based on prior work, the authors of the paper draw some conclusions and policy recommendations.

9 Other papers of this project are dealing with the sending countries' perspective both overseas (Katseli et al., 2006) and in Central Europe (Okólski, 2006).

2 | Immigration to Europe: Stocks and Flows

After having been primarily countries of emigration for more than two centuries, during the last 50 years, many parts of Europe gradually became destinations for international migrants. As a result the number of European countries with a positive migration balance has grown over the last decades. In many cases, the size of net migration determines whether a country still has population growth or is entering a stage of population decline.

Today, all countries of Western Europe (EU-15, Norway, Switzerland) and a majority of the new EU Member States (EU-10) have a positive migration balance.[10] It is very likely that, sooner or later, this will also be the case in most of the remaining countries of Europe.

10 Cyprus, the Czech Republic, Hungary, Malta, Slovakia, and Slovenia.

In early 2006, the total population of Western and Central Europe, the Balkans and Turkey amounted 594 million. The European Union (EU-25) had 462 million inhabitants: of these, 389 million were either citizens or foreign residents of the 15 pre-enlargement Member States (EU-15). The other 74 million were citizens or foreign residents of the ten new EU Member States (EU-10; of them: 73 million in Central Europe and the Baltic States [EU-8]). 106 million people were living in EU accession countries[11] (of them: 34 million in the AC-3 countries of the next enlargement rounds, and 72 million in Turkey), another 12 million people in the rest of Western Europe,[12] and 17 million in other Western Balkan countries.[13]

11 Bulgaria, Croatia, Romania (AC-3) and Turkey.

12 Iceland, Liechtenstein, Norway and Switzerland.

13 Albania, Bosnia-Herzegovina, Macedonia, Serbia and Montenegro (including Kosovo).

In 2005, Western and Central Europe still experienced a population increase. In the 28 EEA countries and Switzerland, total population growth was +2.1 million. But 11 of the 28 EEA countries (as well as three of the four EU accession countries[14]) had an excess of deaths over births. In the coming years, the number of countries with declining domestic population will increase. The other 19 countries (analysed in Table 1; Maps 1 to 3) still retain some natural population growth. Net migration was positive in 25 of the 33 analysed countries.

14 Excess of deaths over births in: Bulgaria, Croatia, Romania.

Relative to population size, Cyprus[15] had the largest positive migration balance (+27.2 per 1000 inhabitants), followed by Spain (15.0 per 1000), Ireland (+11.4), Austria (+7.4), Italy (+5.8), Malta (+5.0), Switzerland (+4.7), Norway (+4.7) and Portugal (+3.8). On the other hand, Lithuania (-3.0 per 1000 inhabitants), the Netherlands (-1.8), Latvia (-0.5), Poland (-0.3), Estonia (-0.3), Romania (-0.5) and Bulgaria (-1.8) had a negative migration balance.

15 Greek part of Cyprus only.

In absolute numbers for 2005, net migration was largest in Spain (+652,000) and Italy (+338,000), followed by the UK (+196,000), France (+103,000), Germany (+99,000), Portugal (+64,000), Austria (+61,000) and Ireland (+47,000).[16] Among the new EU Member States (EU-8), the Czech Republic experienced the largest net migration gain (+36,000). In addition, Hungary, Slovakia, Slovenia and Croatia also had a positive migration balance.

16 Net flow of migrants (regardless of citizenship) according to Eurostat (Chronos data base).

Several countries, in particular the Czech Republic, Italy, Greece, Slovenia and Slovakia only had a population growth because of immigration. In other countries, for example Germany and Hungary, recent population decline would have been much larger without the positive migration balance. The EU-25, in 2005, had an overall net migration rate of +3.7 per 1,000 inhabitants and a net gain from international migration of +1.7 million people. This accounts for almost 85% of Europe's total population growth.

In absolute terms, Germany has by far the largest foreign-born population (10.1 million), followed by France (6.5 million), the UK (5.4 million), Spain (4.8 million) and Italy (2.5 million). Relative to the population size, two of Europe's smallest countries – Luxembourg (37.4%) and Liechtenstein (33.9%) – have the largest stock of immigrants, followed by Switzerland (22.9%) and two Baltic States (Latvia 19.5% and Estonia 15.2%), Austria (15.1%), Ireland (14.1%), Cyprus (13.9%), Sweden (12.4%) and Germany (12.3%). In the majority of West European countries, the foreign-born population accounts for 7-15% of the total population, while in the new EU Member States in Central Europe (excluding the Baltic States, Cyprus and Slovenia), the share of foreign-born is still below 5% (see Table 2; Map 4).

3 | Impact of Immigration: Theoretical Expectations

3.1 | Demography and Ageing

In non-agrarian economies there is no direct link between economic output and population size or density. As a result medium and high income countries do not have "optimum populations" and theoretical arguments would not suggest actively populating regions with declining population, e.g. with migrants from third countries, in order to maintain a given population size. Problems may, however, arise from rapid changes in the population structure, in particular from changes in the age structure. Available models and projections (see Figure 6) show that immigration is no remedy to demographic ageing caused by longevity. The main reason is that over time migrants also grow older. But they would have a lasting impact if they had higher fertility rates and would not converge to (usually lower) fertility levels of the receiving society.

3.2 | Labour Market Effects

3.2.1 | Impact of Immigration on Wages

The static neo-classical model (Berry and Soligo, 1969; Borjas, 1995) predicts that market integration increases economic welfare, because labour can move to wherever its productivity, and thus the income workers can attain, is the highest. This assumes mobility from less productive to more productive jobs. This process will continue until marginal productivity and thus wages for the same work have levelled out throughout the integration area. As a result migration may lead to production factor price convergence between countries.[17]

When labour migrants enter a particular receiving country, the supply of labour increases, i.e. the supply curve shifts, and the average market wage falls (see Figure 1, Step 1). Due to wage convergence between the sending and receiving countries, migration incentives weaken over time and migration flows between countries are no longer driven by national wage differentials.

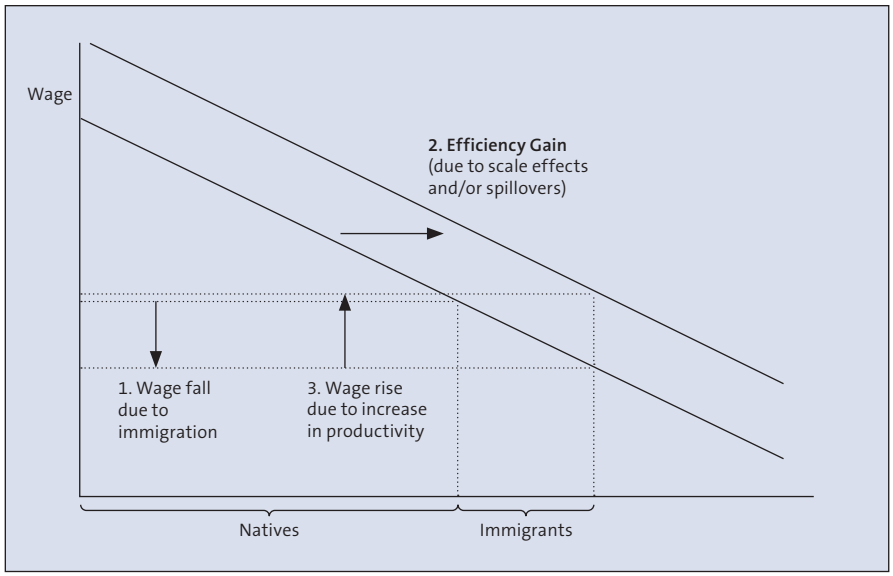
In this simple framework, the immigrants and the capital owners in the receiving country are net beneficiaries of migration, while native workers in the receiving country are net losers. However, as Borjas (2003) noted, the empirically measured impact of immigration on wages of native workers fluctuates from study to study and seems to cluster around zero. These findings contradict the neo-classical theory and put forth two major explanations. The first is that there are market forces at work, such as economies of scale and spillovers, which increase productivity and thus offset the potential downward effect on wages (see Figure 1, Step 2 and 3). A second explanation is that of institutional factors, i.e. collective wage agreements that prevent labour markets from adjusting as expected.[18]

There are two major approaches for analysing the wage effects of immigrant labour: the *factor proportions approach* and the *area approach*. The *factor proportions approach* proposed by Borjas, Freeman and Katz (1992) calculates the effect of a supply shock in a market with heterogeneous labour, i.e. high skilled and low skilled labour, and a specific production technology. After assuming perfect substitution between natives and immigrants[19] from the

17 The main production factors are labour and capital; their "prices" are wages and interest rates respectively.

18 However, such labour market rigidities might induce unemployment, if natives are displaced. Yet, in a dynamic setting it is possible that immigrants may prove complements and not substitutes to home labour and thus enhance employment in the receiving country in the long term.

19 One immigrant worker replacing exactly one native worker of the same skill level.



Source: Berry and Soligo, 1969; Borjas, 1995.

Figure 1:
Impact of migration on wages and employment in receiving countries

same skill group and a certain elasticity of substitution between skilled and unskilled labour[20] (derived from other studies), this approach calculates the relative effect of the supply shock on wages by comparing the receiving country's actual labour supply of a particular skill group to the labour supply that would have been if there were no immigration. The influence of immigration on wages is dependent on the skill composition of the immigrants compared to that of the native work force. When it is equal, there would be no impact on the wage structure of the receiving country. If the immigrants are, however, less skilled than natives the wage of the unskilled would decrease and the wage of the skilled would increase. Reciprocally, if the immigrants are relatively more skilled than the natives, the wages of the skilled workers decrease and that of the unskilled increase. Therefore, the consequences of immigration are dependent on the relative and not the absolute skill structure of the immigrants when compared with the natives of the receiving society. One critique of this method is that the approach does not estimate the effect of immigration but rather simulates it. It uses exogenous information on the elasticity of substitution among the skill groups to calculate the relative effect of the supply shock on wages and, therefore, the results flowing from this approach are too sensitive to it. In addition, it may also suffer from the omission of certain influences such as changes in demand and capital inflows.

20 One skilled worker replacing more than one unskilled worker.

The *area approach* is based on the fact that immigration is spatially highly concentrated. Thus, in the case that native and immigrant labour are substitutes, one would expect the following correlation: the higher the proportion of immigrants in a particular local labour force, the lower the wages of natives with whom they compete.[21] Empirical findings on the wage effect, however, vary between studies and even between different historical periods of the same regions. One explanation for that is that migrants are particularly attracted to dynamic regions where the wage growth is higher, i.e. the immigration shock could be endogenous itself. Consequently, the measured impact on wages would be underestimated. But even when analysing truly exogenous shocks,[22] no effect on the natives' outcome was found. This suggests that even when taking account of endogeneity, the wage effect could still be incorrectly estimated due the misspecification of the regression equations.

21 This approach is seen as controversial because of the lack of theoretical micro-foundation.

22 The best researched event is the 1980 influx of Cuban immigrants in Miami (the so called Mariel boat lift) which increased Miami's labour force by 7% almost overnight.

Borjas (1999) noted that the observed changes of wages in local markets may be underestimated due to particular influences that are not well understood and not modelled in the regression equations. Such forces could be as follows: the growth in local demand due to immigrant expenditures, the inflow of capital (in response to the increase in local demand and the rise in the rate of return to capital), outward migration of natives, a local reallocation of resources across sectors, adjustment of interregional and/or international trade and the real wage growth of natives due to technological change and/or economies of scale. Longhi et al. (2004) conclude that when such endogenous processes following an immigration shock occur, the wage effect will be sizeable in more closed labour markets and in the short run, when the offsetting factors have not had sufficient time to influence the local labour market and the wage structure. There is, however, no consensus on which of the adjustment processes listed above might be primarily responsible for the small effect of an immigration shock on wages.

Governments of migrants receiving countries use certain instruments such as dismissal protection, minimum wages and replacement incomes to protect native workers against the low-wage competition of immigrants. But all these are from a theoretical point of view very inefficient. On the one hand, the maintenance of standards makes the unskilled native workers worse off than they would be without government action. The wage depression in the presence of social standards is stronger than in their absence. On the other hand, high replacement incomes are inefficient since they slow down labour market adjustments, tend to raise unemployment in the formal sector of the economy, create incentives for the expansion of irregular labour markets and put an additional burden on the treasury.

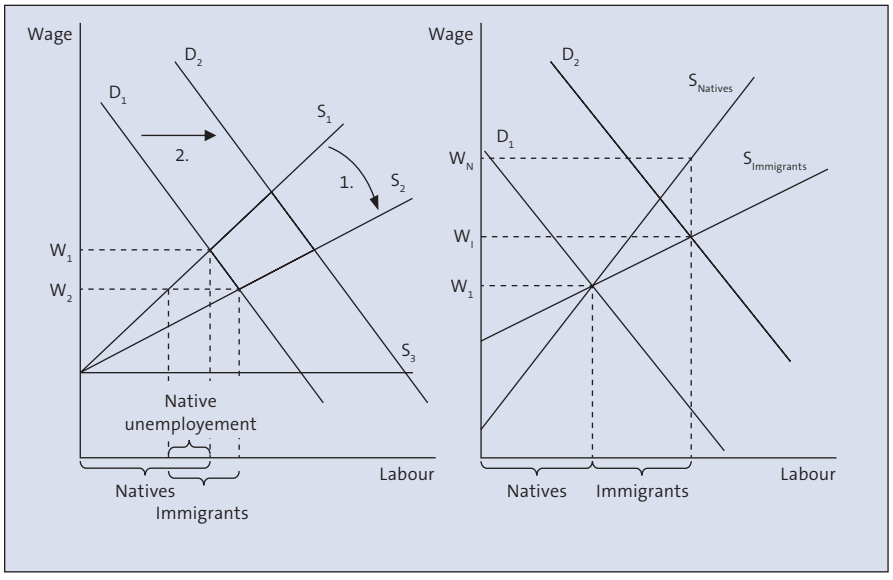
As an alternative, some scholars proposed wage subsidies that would provide supplementary income through government welfare payments if a person accepts to work in low paid job. The goal is that everyone works at whatever wage a job for him/her exists and in the sum a socially acceptable income is achieved from both sources. Moreover, by allowing more flexibility in the labour market more low-skilled jobs will be created that could meet the large low-skilled unemployment for both EU and third-country nationals. Furthermore, wages for simple jobs will not experience free-fall since at some point there would be more vacancies than unemployed and employers would compete for workers by offering higher wages (Sinn et al., 2006). Besides, if wage subsidies are limited to natives only they would have the advantage of not being eroded by welfare systems competition (Sinn, 2004).

3.2.2 | Impact of Immigration on Employment

Another important question, beyond the impact on wages, is the following: does immigration have a displacement effect on native labour, i.e. immigrants replacing natives, or does it generate an increase in the demand for labour in addition to the immigrant supply effect? In the neoclassical model, there is no effect on unemployment since perfect price flexibility and full employment of factors are assumed. Under more realistic assumptions, common sense analysis is often based on the concept of "a lump of jobs", i.e. a fixed number of jobs in the immigrant receiving country. If immigrants are employed then, by definition, some natives must lose their jobs (DeVoretz, 2006). Initially, the receiving country has no immigrants at equilibrium and full em-

ployment of nationals with a wage of W_1 (see Figure 2). Opening the labour market to immigrants causes the supply curve of labour to shift everywhere to the right (to S_2), assuming a certain entry quota of foreign workers.[23] This labour supply shock lowers the home country's wage to W_2 and displaces part of the native labour. However, if these workers provide complementary human (or financial capital) and/or if economies of scale are attained, then the labour demand curve will shift to the right (to D_2), which in turn will raise the wage rate and increase the demand for resident labour. In this particular case, the number of jobs created by the presence of immigrants just offsets the displacement of jobs in the aggregate if favourable dynamic effects are incorporated. Still, we must be careful to recognise that even in this neutral case, there is a so-called "churning effect". It arises since native-born workers are still displaced for a certain period of time and only the long-run demand effects compensate this initial job displacement. Furthermore, the native workers, who initially lost their jobs, may not be employed as a result of the latter labour demand curve's shift, because they may be of a different skill level than the created jobs. Thus, the displaced workers will need to be retrained, which in turn generates costs to the treasury or to their household budget, and/or a higher demand for immigrant labour could be induced.

The second part of Figure 2 presents an extreme case of nearly total displacement under which the native workers initially work at a wage rate W_1 prior to the arrival of any immigrants. Given a growing demand for labour from D_1 to D_2, however, only immigrant workers would be hired since they would supply their labour at a lower wage W_I than the native workers W_N. This is often the case when either regular or irregular unskilled workers enter the receiving country's labour market and work for a lower wage than the marginal domestic worker in this particular sector. Native workers in this case are not totally displaced but the sector is eventually dominated by immigrant low cost/low wage labour.



Source: DeVoretz (2006).

Figure 2:
Immigration impact on employment – neutral and negative effect

From a theoretical point of view, a "churning effect" does not necessarily have to happen. Ortega (2000) presents a theoretical model for positive effects of immigration on natives' wages and unemployment, in an economy with equilibrium unemployment, i.e. people unwilling to work at the market wage.

23 In the extreme, S_3 would be the new supply curve with no immigration quota. Here the displacement of home labour will be complete.

He theorises that there are three equilibrium points. The first equilibrium is assumed in the absence of immigration, i.e. each worker decides to look for work only within his/her home country. In the second equilibrium some workers of the structurally weaker country seek work in the more advanced country. And the third occurs when all individuals in the weaker (or poorer) country would try to emigrate.

The author suggests the existence of a *self-fulfilling prophecy*, arising from the matching process. The immigrants anticipate on the one hand receiving wages that are high enough to compensate for the migration costs. On the other hand, the employers expect to pay relatively low wages to immigrant workers who have had high search or migration cost. These prospects increase the labour demand in the receiving country and generate "pull forces" for immigration. Moreover, the above equilibria are Pareto-ranked, meaning that with the third migration equilibrium (full migration), all market actors are better off compared to the second equilibrium (partial migration), which in turn dominates the first equilibrium (no migration). Ortega concludes that in the specified framework, everybody gains from immigration. The employers benefit from the lower wages on average and are thus compensated for the high search costs they might bear in equilibrium. The immigrants are also better off as they have better employment chances in the host country and receive higher salaries. And the natives are also winners as the job creation keeps the unemployment rate low. Furthermore, they earn higher wages because of their better bargaining position, due to the increased labour market tightness. To sum up, this would be a case where the natives and the immigrants do not have to compete for scarce job opportunities and are therefore complements on the labour market, not substitutes.

3.2.3 | Impact on Labour Market Efficiency

Theoretical research on the impact of immigration on the labour market efficiency is less extensive than that on wages and employment. Borjas (2001) examines whether the immigration improves the labour market efficiency by quickly closing the gap between the marginal products of labour in different regions. He assumes sizeable wage differences across regions and high migration costs (fixed for the different potentially migrating groups and higher than the wage gap), so that the natives are not motivated to move from one region to another. The capital is fixed and owned by the natives. Conversely, the newly arriving migrants are self-selecting, highly responsive to the wage differentials, acting income maximising and bearing the costs of migration from low to higher wage regions.[24]

24 Borjas (2001) finds out that the "old" migrants have the same behaviour as the natives.

Opposite to one-region aggregate labour markets, the immigrants are supplements to the natives and they cluster in regions with higher wages. By doing so, they play an important role in reducing the wage differentials. This represents an efficiency gain from immigration for the receiving country, due to the more efficient allocation of resources and a maximising effect on GDP: the bigger the wage differentials – the larger the efficiency gains.

3.3 | Immigration and the Public Finances

Theories about the fiscal contribution of immigrants rely on the observation, that tax contributions from the native-born and the foreign-born reach

maximum at midlife and are low at early and late stages of life, i.e. have a concave nature over the life cycle. However, the consumption of public goods and services has the opposite pattern, reaching minimum at midlife, i.e. has a convex nature over the life cycle (DeVoretz, 2006).

In the optimistic case (Figure 3), the foreign-born contribution may be greater than that of the natives. There are two reasons for this: First, the foreign-born consumption of public goods and services on average usually starts at a later stage in life than that of the native-born, since the majority of immigrants arrive as young adults. Second, in theory the foreign-born are assumed to have particular earning capacity due to positive selectivity. As a result, their taxes and social security contributions could generally exceed the consumption of public goods and services. The delayed use of public services coupled with the convex nature of public consumption over the life cycle and the existence of a positive discount rate, i.e. the interest rate used in discounting future cash flows, lead to the conclusion that intensive foreign-born consumption of public goods only occurs after retirement. In contrast, the native-born population has intensive consumption of public goods at both the beginning and at the end of the life cycle. Thus, in this optimistic case, there is net fiscal transfer from the foreign-born to the native-born residents and an overall fiscal net gain from migration.[25] However, this is based upon the assumption of high employment rates and earning capacities among immigrants.[26]

25 See DeVoretz (2006).

26 For employment rates of foreign-born populations in EU-15 see Münz and Fassmann (2004).

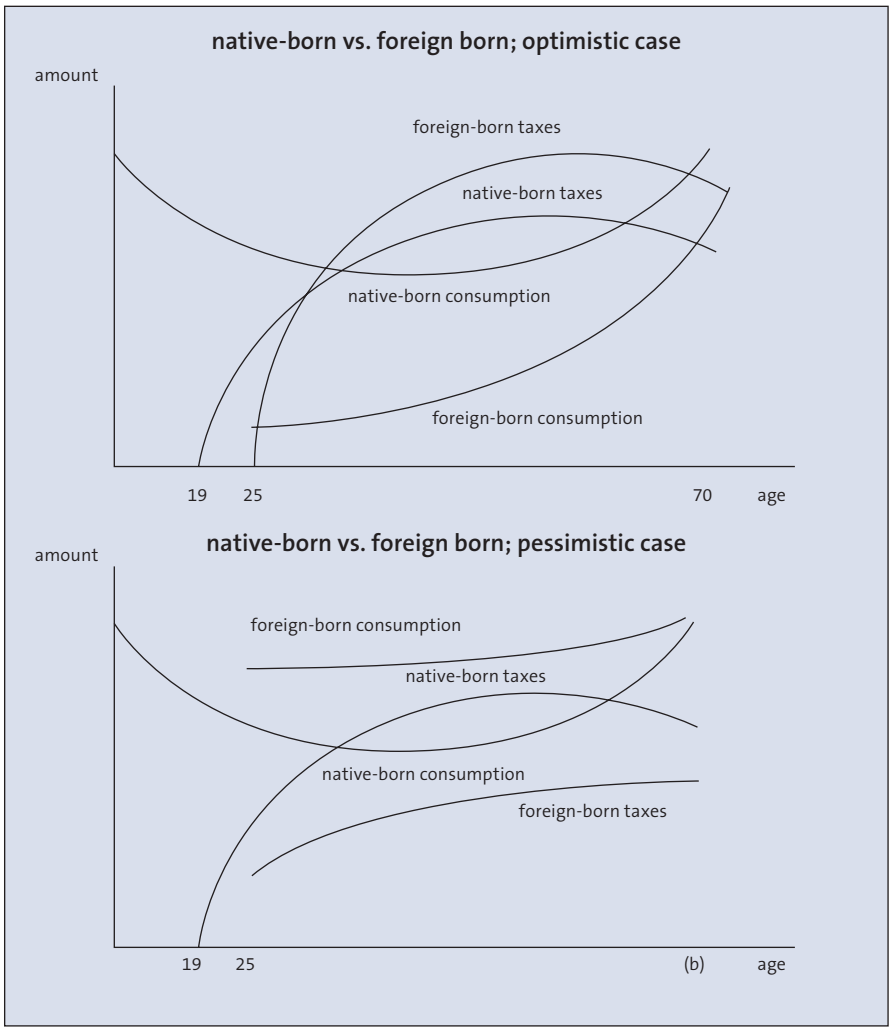


Figure 3:
Contributions and public goods consumption by place of birth (native-born vs. foreign born; optimistic case)

Figure 4:
Contributions and public goods consumption by place of birth (native-born vs. foreign born; pessimistic case)

Source: DeVoretz (2006).

In the pessimistic case (Figure 4), the results suggest almost the opposite. The earning capacity of the foreign born – and in particular their contributions to the public coffer – is assumed to be lower compared to that of the natives. The reason could be either lower wages or lower employment rates, or even both. This would simultaneously raise their public goods consumption, e.g. unemployment benefits, social assistance, benefits in kind, and lower their tax payments. That is particularly the case if migrants are actually excluded from employment in major parts of the formal sector. Under these circumstances, the foreign-born act as a draw on the treasury and there is a financial transfer from the natives to the foreign-born residents; immigration creates a fiscal net burden.

Given the above theoretical outcomes, Simon (1984) concluded the following: if additional immigrants make a positive contribution to the treasury, a country should continue to admit immigrants until their contribution goes to zero. However, as DeVoretz (2006) argues, the above static presentation has many limitations. In particular, researchers face the complex task of assigning the costs of pure public goods (public safety, military defence, foreign policy, etc.) on the margin to the newly arriving immigrants.

When regarding the amount of public goods provided, theory states that individuals derive utility from the consumption of private goods and of a shared public good (Alesina and La Ferrara, 2004). Since different migrant communities may have different preferences for the type of public good to be provided, increased diversity lowers the utility of public good consumption. Therefore, a possible strategy for the increase of welfare during rises in ethnic diversity would be to provide less public goods and consequently to lower taxes. Thus, more of the income would be left to the residents and they would benefit from increasing their consumption of private goods.

3.4 | Balance of Payments Effects

3.4.1 | Migration and Trade Creation

There is no consensus in international trade theory whether trade and migration are substitutes or complements. The role of trade was often emphasised as an alternative to labour movements.[27] For example in a Heckscher-Ohlin framework, when two countries are differently endowed with labour and capital but have similar technologies, each country has a comparative advantage in that sector of production in which its abundant factor is intensely used. This could lead to welfare gains through an international division of labour. Subsequently, trade leads to convergence of goods' prices, which implies factor price equalisation. Thus, the incentives for factor movements – foreign direct investments and international migration – are reduced, meaning that international trade, foreign direct investments and international migration are substitutes.

In a Ricardian world, with countries having different technologies but the same factor endowments, each country specialises and exports the goods for which it has an advantage in productivity. If free movement of capital and labour is included in the model, there will be an inflow of the intensely used factor in the export sector and the initial comparative advantage is enhanced by the resulting endowment differences. International trade and factor flows are in this case complements.[28] Models of the New Trade Theory, that account

27 See Mundell (1957) and Venables (1999); see Layard et al. (1992) for a study on East-West migration in Europe.

28 See Markusen (1983).

for increasing returns to scale, monopolistic competition as well as agglomeration forces, also strongly suggest that trade and factor movements (including international migration) are complements.[29]

29 See Krugman (1995) and Fujita, Krugman and Venables (1999).

Migration literature of the last decade analysing the impact of immigration on the sending and receiving countries' trade balance suggests the same. It is argued that the immigrants influence bilateral trade flows in two ways. First, immigrants have a preference for the products of their home country, and secondly, immigrants can reduce the transaction costs of bilateral trade between their host and home countries. The first effect certainly would have a positive impact on the sending country's exports. However, the second mechanism would affect both imports and exports of the two respective countries involved and thus, have a positive effect on both economies.

The mechanisms through which immigrants can reduce the transaction costs of bilateral trade can be broadly classified into two categories, depending on whether the effect of the immigration on trade is individual-specific or not. The first category is marked by network connections. Transaction costs are reduced because of individual business connections or personal contacts of the immigrants with their home country or other Diaspora communities in third countries. Under this mechanism, regardless of the immigrants' country of origin, immigration would always lower the transaction costs of international trade. The second mechanism is non-individual-specific. Transaction costs of bilateral trade are reduced because of the specific knowledge, brought by immigrants, about foreign markets and different social institutions. This know-how could be taken advantage of only in the case that immigrants come from a country with social and political institutions that are substantially different to those in the receiving country. Although these two mechanisms are not entirely exclusive, their relative importance could be identified in some receiving countries' export data.

Recent developments in network theories highlight the role of social networks in enforcing contracts and in overcoming inadequate information about trading opportunities. Rauch (1999) points out that search processes in international trade involve transaction costs that are determined between others due to pre-existing ties between trade partners. Rauch and Trindade (2002) argue that where ethnic communities are a large part of the countries' population, and have numerous connections across borders, they facilitate international trade mainly by providing market information and matching. On the other hand, ethnic communities that are small fractions of the receiving countries' population are close-knit and facilitate international trade primarily by enforcing community sanctions that deter opportunistic behaviour.

3.4.2 | Remittance Outflows, Competitiveness and Exports

There is substantial literature on the influence of migrants' remittances on the migrant sending countries, but practically none on the impact of migrants' remittances on the migrant receiving economies. Although migrants' remittances can be considered a capital drain on the receiving countries, it must be noted that they represent only a fraction of the added value generated by immigrant labour. Immigrants spend a significant portion of their income on necessities and accommodation. The maximum that they are able to remit back home, represents mere savings. However, we can assume that even these savings remitted can have a positive effect on the receiving country's econo-

my in at least two ways. On the one hand remittances may finance its exports through the so-called "boomerang effect". In the short run, production facilities in the middle or low-income (migrant sending) countries often cannot meet the additional demand generated by remittances and significant parts of it are covered by imports. Furthermore, industrial (migrant receiving) countries profit in the long run from exports of technology too, as facilities are built up in developing countries.

On the other hand, migrant remittances may have a devaluation effect on the exchange rate (or relieve appreciation pressures) which improves the migrant receiving country's competitiveness relative to the migrant home country. Thus, we conclude that from a theoretical point of view, migrant remittances are expected to have a positive effect on the balance of payments of migrant receiving countries.

3.5 | Immigration and Growth

There is a wide range of economic literature analysing the effects of migration on the economic growth in sending and receiving countries. The theory ranges from neo-classical static models (which explain short-term growth effects), to neo-classical growth models (that determine long-run growth rates by exogenous elements) and finally to endogenous growth models. The last theories were developed in the last twenty years based on the pioneering work of Romer (1986, 1990) and Lucas (1988) and explain long-term growth effects on the base of the average skill level in the economy, human capital accumulation and human capital employment in research and development (R&D).[30]

30 For further literature overviews on this topic see Barro and Sala-i-Martin (1995), Walz (2001) and Drinkwater et al. (2003).

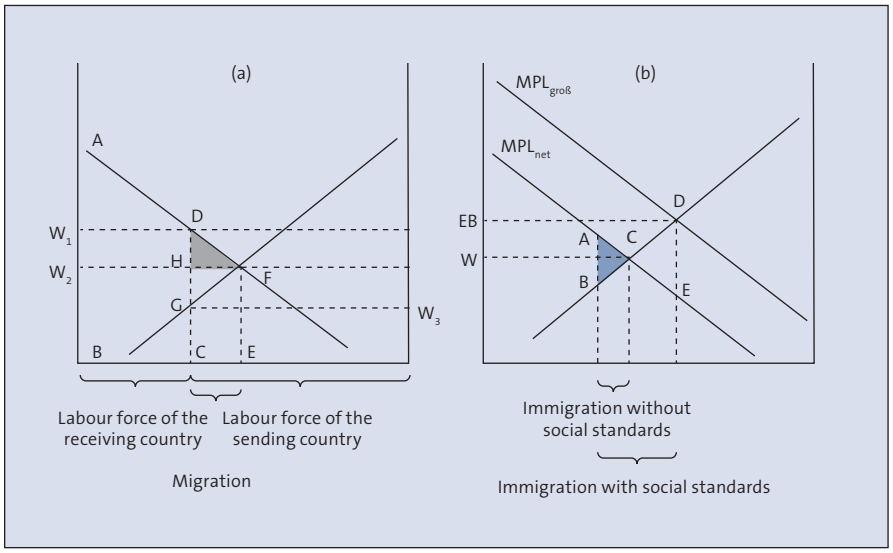
Barro and Sala-i-Martin (1995) argue that there are two important differences between natural population growth and demographic growth resulting from international labour migration. The first is that – at least in relative terms – the population of the migrant receiving country rises and that of the sending country falls. Thus, every immigration effect in the host country is accompanied by an emigration effect in the sending country. The second difference is that the immigrants in contrast to new-borns, bring along a certain amount of human capital accumulated in the sending country or in a previous host country. This leads to an increase of the amount of human capital of the receiving country.[31] Furthermore, immigration interacts with the savings patterns of the natives as well. Domestic capital accumulation could be altered by the fact that natives do not care – or care much less – about the immigrants compared to new-borns, and consequently will save less. Similarly, natives can be exposed through immigration to different saving behaviours that will change their savings habits and domestic capital accumulation (Walz, 2001). All models described in this section are characterised by these particularities of the international migration process.

31 This means, that labour mobility implies some degree of capital mobility.

In the static models, the growth effects of immigration are explained by the so-called *immigration surplus*. The term was coined by Borjas (1995), who used it to refer to the increase of the income of natives (GNP), due to immigration. When labour migrants enter a destination country the labour supply curve shifts and the market wage falls (from W_1 to W_3; Figure 5a). Domestic income (GDP) rises (from the area ABCD to the area ABEF; Figure 5a), but part of it is distributed directly to the immigrants as labour income (the area HCEF; Figure 5a). However, the market wage equals the productivity of the last immigrant hired. Thus, immigrant labour increases domestic GDP by more than

what it costs to employ it. The difference is the immigration surplus (the area DFH; Figure 5a) and equals to the GNP rise of the migrant receiving country. The author further argues that the increase in production, due to immigration, might result in the reduction of production costs per unit and thus, increase the size of the immigration surplus substantially.[32] When distinguishing between low skilled and high skilled labour, he argues that if capital is not taken into account as a production factor, the immigration surplus is maximised when the immigrant labour would be a complement in production for the native labour and not a substitute. This would be the case when the skill composition of the immigrants differs from that of the native workers. Finally, when capital is taken into account as a production factor, then skilled immigrant labour generates a larger immigration surplus (compared to unskilled immigrant labour) because of the production complementarities that exist between skilled labour and capital. This conclusion is reinforced, if considering the possibility that the human capital brought in by the skilled immigrant labour increases productivity.

32 However, immigration could lead to increased congestion and decreasing returns to scale because other factors of production remain fixed.



Source: DeVoretz (2006).

Figure 5:
The immigration surplus and the growth effect of social standards

When accounting for homogenous labour, i.e. no differentiation between skilled and unskilled labour, the overall economic gain from migration for the migrant sending and the migrant receiving country taken together are given by the area DFG (Figure 5a). This is caused by the fact that the migrant labour in the receiving country has a higher productivity than in the sending country. However, the social standards granted in migrant receiving countries may distort demand for labour to the extent that these economic gains vanish or even turn into a loss. The area ABC in Figure 5b represents the economic gain for the two countries. Due to employment benefits, i.e. net wage plus hiring and firing costs, maternity allowance, and legal holiday, at a level of EB, more immigrants would be attracted in the receiving country than they would be in the absence of social benefits, i.e. a net wage of W. The additional migrants that move to the receiving country because of the social benefits will generate an economic loss that equals the area CDE (see Figure 5b). This is due to the fact that these additional migrants work in the receiving country at a lower net productivity than previously in the sending country. The overall growth effect in this case is given by the difference between the ABC and the CDE area and can be positive, zero or negative, depending on the level of social benefits in

the migrant receiving country, i.e. more social benefits generating a bigger loss.

A convenient starting point for the study of the long-term growth effects of migration is the Solow-Swan model augmented by migration (Barro and Sala-i-Martin, 1995). The assumptions of the model that allows for migration are: free mobility of labour; the economy is closed with respect to international trade and capital mobility; and the savings rate is exogenous, i.e. constant. The long-run growth rate in the model is determined by population growth and exogenous technical progress. Short-term dynamics are positively driven by capitl per capita accumulation. Further, capital per capita accumulation depends positively on the savings rate and negatively on the population growth. Immigration has a composite effect on capital accumulation: on the one hand, it reduces capital per capita in the migrant receiving country by increasing population, but on the other hand it increases capital per capita because each migrant brings a certain amount of capital. Consequently, the overall effect of immigration on capital accumulation depends on the relation between capital per capita of the resident population and the capital per capita that the immigrants bring along. Usually migrants bring with them little capital and so the capital per capita reducing effect dominates.[33]

33 The assumption, that the capital per capita of the resident population is higher than the capital immigrants are endowed with is regarded as plausible by most scholars; see Kyriacou (1991), Barro and Sala-i-Martin (1995) and Walz (2001).

An extension of the model considers also human capital. If human capital per migrant is larger than human capital per capita of the native population, than there will be a positive effect on income per capita. To summarize the effects: if we assume a constant immigration rate, then the welfare effect depends on the amount of financial and human capital migrants bring into the receiving country. If immigration increases the average amount of capital per capita, income per capita increases too. However, if migrants are endowed with less capital than the average native population, then immigration leads to a decline in the average capital per capita. Therefore, income per capita declines. Since this is the empirically relevant case, we can summarize that in the framework of the neo-classical growth model, immigration has a negative effect on income per capita. However, this effect is the smaller, the more capital the immigrants are endowed with.

The assumption that human capital plays the dominant role in the determination of the long-term growth rate is central in the endogenous growth theory. According to Lucas' (1988) pioneering modelling, the accumulation of human capital is a function of the skill level (i.e. average amount of human capital per person) in the economy, the effort (i.e. time) devoted to human capital accumulation and the efficiency in the human capital sector.[34] Output is determined by technology, the stock of financial capital and the effective workforce, which includes employment, average human capital and time allocation, and by assuming that human capital has a positive effect on productivity. Walz (2001), thus, identifies three possible channels through which migration could influence the long-term growth rate: a change of the average human capital in the receiving economy, a change in the efficiency of the human capital accumulation process and the allocation of time between production and human capital accumulation.

34 There are assumed constant returns to the accumulation of human capital.

First, immigration can directly alter the average human capital of the receiving economy through the so-called *composition effect* (Reichlin and Rustichini, 1998). This means, that depending on the skilled versus unskilled ratio of the immigrants, the average human capital in the economy could be increased or reduced. If the migrants have a higher average skill level than the

natives, the average human capital in the receiving economy would be increased, the accumulation of human capital improved, and this would have a positive effect on growth. In contrast, the *composition effect* would have a negative effect on growth, when low skilled workers enter the labour market of the receiving economy. However, Walz (1996) concludes, that while the optimal migration policy for the receiving country would be to accept only high skilled immigrants, this would hurt the sending countries because of the *brain drain*.

Walz (2001) points out that immigration usually leads to more ethnic and cultural diversity as well. This, on its part, may reduce the knowledge spillovers between groups, due to higher communication costs. In a dynamic setting, diversity would thus have a negative effect on the accumulation of human capital. However, this negative effect is always to be considered together with the positive contribution of immigration to human capital accumulation. Furthermore, in the case of high skilled immigration, it is plausible that the positive influence dominates. In particular, as pointed out by Durkin (1998), highly skilled immigrants are the ones with the highest assimilation incentives and therefore heterogeneity would vanish over time. Hence, Walz (2001) concludes, that receiving countries, when formulating immigration policies, should consider skills and the ability of migrants to acquire human capital and to assimilate over cultural homogeneity.

4 | Empirical Evidence: Impact of Immigration in Europe

4.1 | EU-25 Demographic and Immigration Trends

4.1.1 | European Demographic Perspectives

Europe's demographic situation is characterised by low fertility, an increasing life expectancy, and overall by a projected shrinking of native populations in the decades to come. This contrasts with the demographic prospects of neighbouring regions to the south and south-east, where fertility is much higher, albeit declining, life expectancy is also increasing, and overall population is projected to continue to grow at a considerable pace.

Low fertility and increasing life expectancy in Europe both reverse the age pyramid, leading to a shrinking number of younger people, an ageing work force, and an increasing number and share of older people. According to Eurostat data and projections by the United Nations, Western and Central Europe's [35] total population size will slightly increase during the next 20 years (2005: 472 million, 2025: 479 million) and start to decrease only during the following decades (to 462 million by 2050). However, the number of people between the ages of 15 and 64 would decrease from 317 million in 2005 to 302 million (or -5%) until 2025 and to 261 million (-18%) by 2050 (Table 3).

During the same period, in Western and Central Europe the number of people over 65 years of age will increase from 79 million in 2005 to 107 million by 2025 (+35%) and to 133 million in 2050 (+68%). As a result, the demographic old age dependency ratio (population 65+ divided by population 15-65) is likely to increase from 26% in 2005 to 35% until 2025 and 51% by 2050 (Table 3).

The situation on the Balkans and in the European CIS countries [36] is similar to the one in the EU-25. Sustained endogenous population growth, however, is expected for Albania, Azerbaijan, Kosovo, Macedonia, Turkey (Table 7), and most parts of Central Asia (Table 5),[37] but many Balkan countries, Russia, and Ukraine face considerable demographic decline (Tables 4 and 6).

In contrast, the situation in Europe's southern and south-eastern neighbour regions, i.e. in the Middle East and North Africa (MENA-14[38] and the Gulf States; Tables 8 and 9) is characterised by higher – but declining – fertility, rising life expectancy, and sustained demographic growth. Total population in MENA-14 will grow steadily from 313 million in 2005 to 438 million by 2025 (+40%) and to 557 million by 2050 (+78%). During this period, in MENA-14 the number of people between ages 15 and 64 will almost double: from 195 million in 2000 to 289 million by 2025 (+48%) and to 365 million by 2050 (+78%). At the same time, this region also faces an ageing problem and its population over age 65 will grow almost fivefold over the next 45 years (Table 8).

The change in the economically active population, however, will be smaller than the projected changes for the age group 15-64, because only 60-80% of this age group are currently employed or self-employed. Today, the size of Western and Central Europe's labour force is 227 million. After 2010, this region (EEA and Switzerland) can expect a decrease in the active population. By 2025, the decrease will reach -16 million (compared to 2005; Table 3). During the same period (2005-2025), the active or job-seeking population will still rise by 7 million people in the EECA-20 (Tables 4 to 7) and by 66 million in MENA-14 (Table 8). In EECA-20, this increase will mainly take place in Turkey

35 The 28 EEA countries and Switzerland.

36 EECA-20 countries in Europe are Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Georgia, Macedonia, Moldova, Romania, Russian Fed., Serbia-Montenegro, Turkey, Ukraine.

37 EECA-20 countries in Asia are Kazakhstan, Kyrgyz Rep., Tajikistan, Turkmenistan, Uzbekistan.

38 MENA-14 countries are Algeria, Djibouti, Egypt, Iran, Iraq, Israel, Jordan, Lebanon, Libya, Morocco, Syria, Tunisia, West Bank and Gaza, and Yemen. 12. Without Kosovo.

(Table 7) and Central Asia (Table 5). In countries such as Bulgaria, Moldova, Romania, Serbia and Montenegro, the active or job-seeking population is already shrinking.

Throughout the 21st century, Western and Central Europe will be confronted with a rapidly decreasing native work force (-44 million until 2050; Table 3) while the potentially active population will continue to grow in Europe's southern and south-eastern neighbour regions (+118 million until 2050 for MENA-14; Table 8) and in Turkey (+16 million until 2050; Table 7).

For Europe, the main challenge is the changing ratio between economically active and retired persons, i.e. old age support ratio. With a projected employment rate of 70%, the number of employed persons per person aged 65 and above will decline from 2.7 in 2010 to some 2.2 in 2020 and to only 1.5 in 2040. If, after reaching the so-called Lisbon target, the employment rate were to rise further to 75% between 2010 and 2020, the decline in this ratio would be attenuated, reaching 2.4 in 2020 and 1.8 in 2040.

In North Africa and the Middle East, the main challenge is to absorb those currently unemployed and those entering the labour market during the next two decades. In order to fully cope with this challenge the MENA-14 countries would have to create 45 million new jobs until 2010 and more than 100 million until 2025, while Europe is confronted with choices concerning higher retirement age, higher labour force participation of women, and the recruitment of immigrants. The current labour market conditions in many MENA-countries raise doubts whether these economies will be able to absorb the significant expansion of the labour force. As a consequence of persistent, large-scale unemployment in most MENA-14 countries, migration pressures on the contracting labour markets in Europe will increase.

Economic indicators clearly reveal two observations of interest: the large gap between Europe and neighbouring world regions, but also the considerable heterogeneity within these regions. The maximum ratio of per capita income between the richest European and poorest MENA-14 country is 93:1; for the regional per capita averages, the ratio still amounts to almost 5:1.[40]

In 2005, Western and Central Europe (the EEA, and Switzerland) had 474 million inhabitants, with an average GDP (PPP) per capita of US$ 27,306, ranging in Western Europe from US$ 69,800 (Luxembourg) to US$ 19,335 (Portugal) and in the new EU Member States from US$ 21,911 (Slovenia) to US$ 12,622 (Latvia). The EECA-20 region had 402 million inhabitants, with an average per capita GDP (PPP) of US$ 8,214, ranging from US$ 12,158 (Croatia) and US$ 7,950 (Turkey) to a mere US$ 1,388 (Tajikistan). In 2005 the Middle East and North Africa were home to 313 million people, with an average per capita GDP (PPP) of US$ 7,371 per year. In the Gulf States, the average per capita GDP (PPP) is close to European levels (US$ 11,218), but the region also comprises low-income countries such as Morocco (US$ 4,503), Syria (US$ 3,847), and Yemen (US$ 751).[41]

Political, ethnic, or religious conflicts exist in almost all world regions. But as asylum and displacement figures show, only some of these conflicts create migration pressure, which explains, at least partly, the annual inflow of some 400,000-450,000 people[42] seeking asylum in Europe.[43] A ranking of all EU+EEA, EECA, and MENA countries according to a political stability indicator and a rule of law indicator may serve as a proxy for the level of individually perceived insecurity.[44] Despite all the possible imperfections in the constructions of such indicators, the exercise indicates differences in political stability, the human rights situation, and the general rule of law between

40 At purchasing power parity (PPP).

41 Data from the IMF, World Economic Outlook Database, April 2006.

42 For the last 14 years, the lowest figure was 260,100 (in 1996), the highest was 698,600 (in 1992).

43 In 2000-2003, Afghanistan, Iraq, the Russian Federation (in particular, Chechnya), Serbia and Montenegro (including Kosovo), and Turkey were the most important countries of origin of people seeking asylum in Europe. See United Nations High Commissioner for Refugees (2004).

44 The expected value of the indicator across all countries world-wide is 0, with a standard deviation of 1. For further information on how the indicator is constructed, see Kaufmann, Kraay, and Mastruzzi (2003).

Europe and neighbouring regions, with the EU countries at the top of the score, most Balkan and some CIS countries in the medium range, and many of the MENA countries in the lower segments.

In Europe, all 25 EU Member States are characterised by a high degree of political stability and a general rule of law. In contrast, the populations of several countries in the Balkans, the Caucasus, and Central Asia, as well as in North Africa and the Middle East, are confronted with some degree of political instability (or the prospects of such instability occurring) and no general rule of law. This may significantly reduce individual security and hence influence the decision to remain in the country of origin or to emigrate. Besides the economic and demographic arguments, the political and human rights imbalance adds yet another dimension to such decisions and therefore has to be taken into account when considering the realities of wider Europe's current and future migration flows.

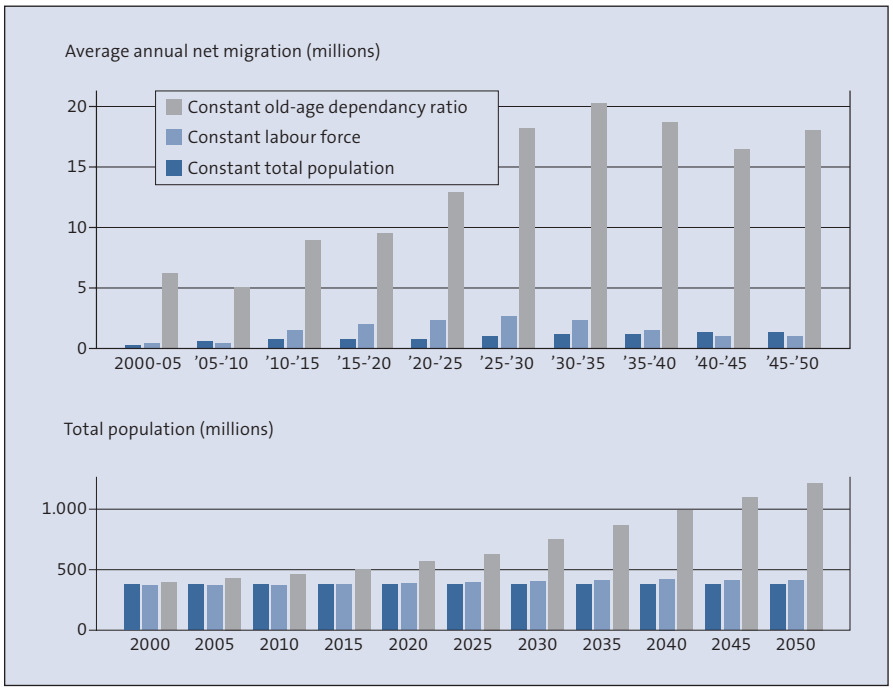
These imbalances explain why Europe is and will continue to be a major destination for migrants, even in times of slow economic growth, high domestic unemployment in many EU countries, and growing efforts to control and eventually reduce the inflow of asylum seekers, as well as regular and irregular labour migrants.

Even if economic conditions in the sending countries were to improve, one should not expect the economic push factors to disappear rapidly. The current levels of economic growth and job creation in sending countries in Europe' neighbouring regions, i.e. MENA and Central Asia, and other parts of the world with migratory links to Europe, e.g. Sub-Saharan Africa, South Asia, are not sufficient to absorb the projected demographic growth and, in particular, the growth of the labour force in these countries. Large cohorts will try to enter the labour market during the coming years, while unemployment and underemployment are already high. One also has to bear in mind that the majority of migrants either do not come from the lowest-income countries, but rather from the middle-income countries, or they come from low-income countries but have a middle-class background. It seems that emigration only occurs once a certain level of development has been reached, which allows a first generation of potential emigrants to acquire the necessary means for leaving their home country. Therefore, a successful development process does not neces-sarily translate into a decrease in migration, but higher incomes definitely have a lasting impact on the outflow of people.[45]

Coppel, Dumont and Visco (2001) note that immigration could not provide a complete solution to the budgetary problems arising due to the ageing of the population. The authors stress that although for the EU, particularly in the last decade, net migration has been the main factor contributing to population growth, it could not offset the negative impact of the ageing society on the living standard and the additional budgetary expenditures. A widely quoted report by the United Nations (United Nations, 2000) has investigated the level of immigration required to achieve population objectives in selected countries between 1995 and the year 2050. Maintaining the size of the population or that of the working-age population (15 to 64 years), at their highest levels reached in the absence of migration after 1995, would imply migration flows for the EU-15 that are not too different from those recorded during the period 1980-95. On average, almost a million net immigrants per year would be required to keep the EU-15 population constant over the period and slightly more than 1.5 million to maintain a constant working-age population. On the

45 For an overview of current research and activities of relevant stakeholders on issues and causes and effects of international migration and international cooperation on migration issues, see Tamas (2003).

other hand, in order to maintain the old-age dependency ratio at its 2000 level, the level of net migration required would entail an enormous increase (round 700 million immigrants during the period 1995-2050) compared to the recent levels. Such a scenario is rather unrealistic and would imply not only large-scale immigration, but also a large increase in total population (see Figure 6).



Source: United Nations, 2000.

Figure 6:
Replacement migration scenarios for the EU-15, 1995-2050

4.1.2 | European Immigration Structure

Between 2000 and 2005 the total population of today's 25 EU Member States grew on average by some 1.8 million people per year. 80% of this population growth was driven by international migration (average net gain: +1.5 million p.a.).[46] In 2005, population growth was +2.0 million with a net gain from migration in the order of +1.7 million people. Of the EU-25 countries 20 had a positive migration balance. The only exceptions were the Baltic States, Poland and the Netherlands. In 2004, net migration gains were highest in Cyprus (+27.2‰ of total population), Spain (+15.0‰) and Ireland (+11.4‰). In countries like the Czech Republic, Italy and Slovenia net migration turned an excess of deaths over births into a positive total population change (see Table 1, Maps 1 to 3).

In early 2006, total population of the EU-25 was 462 million. The number of third-country nationals living in the EU-25 is estimated to be 23.8 million people, or 5.2% of its population, while the foreign-born residents of the EU-25 amount to 40.5 million people (8.8% of total population; Table 2).[47] These 40.5 million include first-generation migrants born either in another EU Member State or in a third country. Relative to the population size the following Member States reported the highest share of foreign-born residents: Luxembourg (37.4%), Latvia (19.5%), Estonia (15.2%), Austria (15.1%), Ireland (14.1%), Cyprus (13.9%), Sweden (12.4%), Germany (12.3%), Belgium (11.4%) and Spain (11.1%) (see Table 2). The largest group of third-country nationals living in the European Union are Turkish citizens, around 2.4 million of whom 1.9 million live in Germany.[48]

46 For an overview of current research and activities of relevant stakeholders on issues and causes and effects of international migration and international cooperation on migration issues, see Tamas (2003).

47 Source: OECD (2006), UN (2006) and European Labour Force Survey, Eurostat; own calculations (see Table 2).

48 COM (2004) 508 final.

The key gates of entry for third-country immigrants in the EU are employment, family reunification, asylum and education. In 2001 some 40% of the residence permits were granted in the EU-15 for employment and another 30% for family reunifications.[49] However, on the one side these numbers do not account for seasonal and temporary labour migration, which is quite common in countries like Austria, Germany, France, Italy and Spain. On the other side, they do not include irregular immigration.[50]

49 Source: Employment in Europe 2003.

50 Münz (2004).

The main reasons for admission of newly arriving migrants differ significantly between EU Member States. In some countries recent immigration is predominantly linked to family reunification, e.g. in Sweden (50%), France (40%), Denmark (36%) and Finland (33%). In contrast, employment was the reason of legal entry in 61% of the cases in Italy, 46% in Portugal, and 36% in Spain.[51]

51 See Employment in Europe 2003.

The skill structure of immigrants from third countries differs on average from that of people born in the EU-25 (natives and intra-EU migrants). Low skills are overrepresented among third country immigrants (36.0%; compared to 28% among those born in the EU-25; see Table 10). High skills are also slightly overrepresented among third country immigrants (25% vs. 24%). Several EU Member States in continental Europe attract primarily low skilled immigrants. In France, Malta, Portugal and Spain some 40-50% of all migrants from third countries are low skilled. At the same time, in Austria, Belgium, France, Slovenia and Sweden the share of low skilled migrants from third countries is 1.5 to 3 times higher than the share of low skilled natives and intra-EU migrants. In a few countries the share of highly skilled migrants from third countries is above EU average. This is particularly true for Denmark, Estonia, Slovakia (37-38%), Sweden and the UK (30-31%, see Table 10). Ireland is the only country where the majority of third country immigrants are highly skilled (57% compared to 28% of the natives and intra-EU migrants).

Since the 1990s, irregular immigration has contributed significantly to the increase of the foreign-born population of countries like Greece, Italy, Portugal and Spain. This has become obvious in the course of several regularisation campaigns. Most regularized immigrants are low-skilled or take up low-skilled jobs.

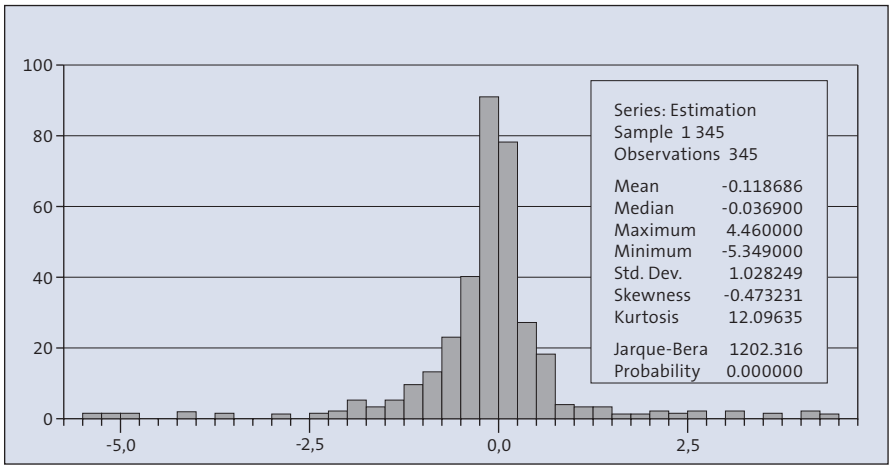
4.2 | Labour Market Effects of European Immigration

4.2.1 | Immigration and Wage Adjustment

A recent synopsis of a large number of empirical studies concludes that the overall immigration impact on the wages of native workers is very small (Longhi et al., 2004). A 1% increase in the proportion of immigrants in the labour force lowers wages across the investigated studies by only 0.1%. However, there is considerable and systematic variation around the mean (see Figure 7).

The main determinants were found to be labour market rigidities, i.e. firing costs, rigid wages, and business entry costs, the endogeneity consideration of immigration (reverse causality: wages may have an impact on immigration; immigrants are attracted to sectors and regions with higher wage growth), and the choice of the empirical approach used. First, the downward effect on wages tends to be larger in labour markets that have greater institutional rigidities (as is the case in many EU-25 countries), where the adjustment process of labour supply and demand is hampered. Second, studies that do not

control for the endogeneity of the proportion of immigrants in local markets are likely to underestimate the effect on wages, because migrants are attracted to regions with higher wage growth. And third, across the studies in the sample the estimates obtained by the factor allocation approach tended to be closer to zero than those from the area approach.



Source: Longhi et al. (2004).

Figure 7:
Distribution of the wage effect sizes

Another robust conclusion is that the wages of earlier immigrants are much more affected by new immigrants than the wages of the native workers. This is in line with the theoretical expectation, as recent and earlier immigrants tend to be closer substitutes in the labour market than recent immigrants and native workers. Similar results where obtained by a World Bank study. When simulating an increase in labour supply by 3% due to immigration, a decrease of 6% of the old migrants' income was to be expected, while the income of the native was expected to increase by 0.4% (World Bank, 2005).

Studies that identified immigrants only in terms of ethnicity or citizenship, instead of country of birth and years in the receiving country, were less able to detect a negative impact of immigration on wages. In general, the degree of substitutability between particular skill groups of migrants and natives drives the magnitude of the effect on wages. In most of the studies for Europe and the USA, the average migrant is much less skilled than the average native. Thus, immigration had a more significant depressing effect on wages of low-skilled natives, due to the fact that newly arriving migrants are greater substitutes to them. Conversely, the average immigrant, usually low skilled in the US and Europe, has a positive impact on the wage of highly skilled native workers because they are complements rather than substitutes in production.

The European empirical evidence shows that immigrants and natives are rather complements. In Italy, the inflow of foreign workers increased the wages of the native manual workers. This positive effect is larger for small firms and particularly in the North of Italy (Gavosto, Venturini and Villosio, 1999). An increase in the number of the immigrant workers by 1% raised the native wages by 0.1%. The authors interpret this result in the light of the existence of labour shortages in certain jobs, which natives are unwilling to accept, and the existence of strong trade unions and centralised bargaining. Further, they estimated that immigration exceeding a certain quantitative level may generate competition with native workers and subsequently have a negative

impact on the wages of the native workers. Additional immigration that increases the immigrants' share to over 7.7% of total employment, 10.0% of employment in small firms or 12.2% of employment in Northern Italy, was predicted to lead to competition with natives and to a negative consequences for their wages.

In the UK a recent study suggested that wages among native resident workers had not been affected at all by immigration. And if they were affected, they would rather have gone up (Dustman et al., 2003).

In Spain a study covering the early 1990s concluded weak but positive effects of immigration on the labour market outcomes of native workers (Dolado et al., 1996). An OECD survey distinguished three categories of immigrant workers in the Spanish labour market, all three categories being complements to native workers. The first group consists of immigrants from other EU countries, who are on average better educated than the average Spanish workers and engage in skilled jobs in labour market niches and linked to their characteristics as immigrants (language ability, cultural proximity for services to foreign residents). A second group consists of the highly educated non-OECD immigrants employed mostly in the commerce and professional service branches. The third group includes the majority of non-OECD immigrants, who, by contrast, are more concentrated in unskilled jobs. In part, they occupy jobs that are no longer attractive for native Spaniards, due to harsh working conditions and low pay, e.g. greenhouse farming, construction jobs and domestic services, where virtually no natives are employed. In these jobs, immigrants seem to be complementary to the native labour force. However, they compete with each other and generate a downward pressure on the wages and the labour conditions in the sectors they are employed in (OECD, 2003).

Immigration was recognised by an OECD study as a success story for the Greek labour market. A substantial increase in labour supply of about 10% over 10 years – generated by immigration – has been absorbed with little detrimental effect on Greek workers' wages. Immigrant workers in Greece tend to be concentrated in three particular sectors, in which they are complements to the natives: agriculture, household services and constructions. In the case of construction, EU regional funds and the Olympic Games of 2004 in Athens have provided a boost to demand, causing wages to rise for both natives and foreign workers (OECD, 2005c).

4.2.2 | Immigration and Employment

As often noted by scholars and the European Commission[52], there is an unused employment potential among immigrants. This holds particularly true for the group of migrants from medium and low-income countries. The employment rates of third-country nationals (across all skill levels) are much lower compared to EU-citizens in 11 of the 15 pre-enlargement EU Member States (EU-15; see Tables 12, 13).

The highest differences in employment rates are recorded in the Netherlands (32.1% points), Sweden (27.2% points), Denmark (26% points), Belgium (24.9% points), Finland (22.0% points), France (19.5% points) and Germany (18.4% points). While employment rates for third-country nationals increased during the period 2000-2005, unemployment rates remained stable at 17%, being twice as high than those of EU-nationals (Table 12). The highest differences in unemployment rates between third-country nationals and EU-

52 See Münz (2004), Employment in Europe 2003, Employment in Europe 2004, COM (2004) 508 final.

nationals were registered in the above mentioned countries as well, but in a different order: Belgium 23.4% points, Finland 17.7% points, Sweden 15.7% points, France 15.5% points and Netherlands 13.3% points (see Tables 14, 15).[53]

Furthermore, gender and the cultural background seem to be important determinants of employment too. Migrant women from middle and low-income countries are more likely than men to remain outside the labour market and spend most of their time at home, which makes it even more difficult for them to acquire the language skills and establish the social networks required to integrate into their host society.

53 Source: European Labour Force Survey, Eurostat; own calculations.

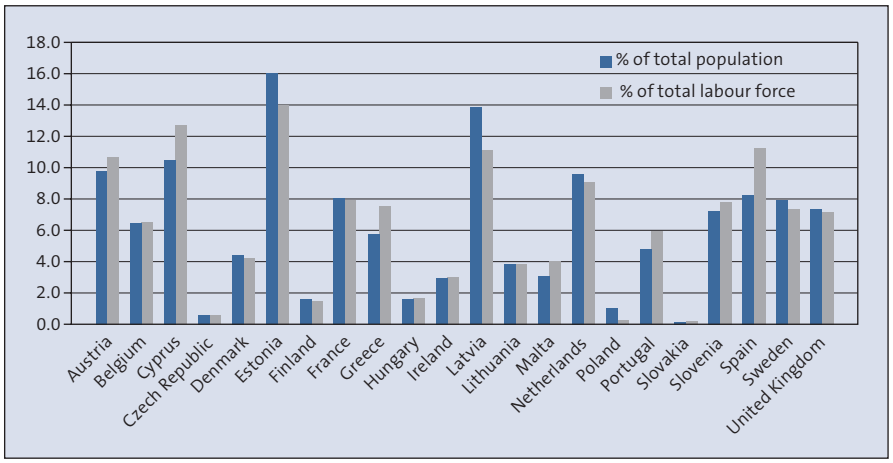


Figure 8:
Share of third-country (non-EU) foreign born in the total population and the total labour force, 2005

Note: Data for Germany, Italy and Luxembourg are not available. The labour force consists of the number of people aged 15 and over who are employed or unemployed (i.e. do not have jobs but are actively looking for work).
Source: European Labor Force Survey (LFS): ad hoc modules, Eurostat; own calculations.

For example, in 2003, immigrant women with Turkish and North African citizenship had the lowest employment rates in the EU-15. Their labour force participation rates only reached levels of 30.5% and 25.4% respectively. These rates represent just about half the level of national female employment and merely one third of the comparable male employment level. However, when also taking naturalised immigrants into account, the employment rates of women born in predominantly Muslim countries are substantially higher, reaching almost 40% in 2003.[54] Nevertheless these rates are well below employment rates of native-born women.

54 See Münz and Fassmann (2004); Employment in Europe 2004.

Empirical studies analysing the immigration effects on native employment show results comparable to the effects on wages. A study on the effect of immigration on native employment, which analysed a sample of European countries, shows that the impact is rather small. A 10% increase in the immigrants' share in total employment would reduce native employment rates by 0.2 to 0.7% (Angrist and Kugler, 2003). The key issue is whether and to what extent foreign workers complement native workers or rather compete with them.

In Western Europe, there are at least three categories of jobs that are usually avoided by natives and where the question of job displacement hardly arises. First, in many industrial countries dirty, difficult and dangerous (so called 3D) jobs are being increasingly shunned by native workers. Second, the current life-style of many West Europeans is sustained by a wide variety of low-paid service jobs (e.g. house cleaning or pizza delivery, as well as child-care), that are taken up by immigrants. Third, the majority of natives does not respond to the demand of low-skilled jobs in the underground economy, which

in the EU countries now employs at least 10-15 million workers – many of whom are immigrants with an irregular status.

Another category of jobs, although perhaps not completely avoided by native workers, often suffers from seasonal shortages of labour, e.g. farming, road repairs and construction, hotel, restaurant and other tourism-related services. In the farm sector, in contrast to depriving local workers of jobs, immigrants redress labour scarcities and help these businesses to flourish during the busy seasons. Finally, the demand for skilled labour in several skill and knowledge intensive industries, notably in the fast-moving information technology sector, exceeds dramatically the domestic skilled labour supply (IOM, 2005). Thus, it is not surprising that recent studies have found almost no correlation between migration and domestic unemployment.

A country specific aspect of Italy is that the internal labour mobility is very low, despite the large employment-unemployment and income gap between the North and the South of the country. This is due to the coexistence of high income per capita differential and low consumption per capita differential (leading to high cost of internal mobility) between Southern and Northern Italy. The immigrants however, being income-maximising, move to the areas with high wages and low unemployment, and thus act as complements to the much less mobile natives. Therefore, the immigrants have not been found to negatively influence the transition of natives out of or into unemployment. The only negative impact was for those looking for a job for the first time, in other words young unemployed people with no job experience (Venturini and Villosio, 2004).

According to an OECD study, migration to Spain has had a relatively small influence on the overall labour market performance of natives so far. Neither high- nor low-skilled immigrants were observed to have a negative effect on employment of Spanish workers. High-skilled immigrants are often employed in skilled jobs in multinational companies or tourism, which were created mainly due to the presence of permanent immigrants from other EU Member States or due to foreign direct investment in Spain. Many other high-skilled immigrants are self-employed.

Low-skilled immigrant workers are seen as complementing the Spaniards, insomuch that they accept jobs in which the domestic work force is no longer interested. In total, immigration had no major impact on the unemployment disparities within the country. However, there was a clear and significant positive effect on the employment rate and the female labour force participation. Employment is estimated to have increased by 27% between 1999 and 2002 due to immigration and female participation by 10% points in 10 years to reach 52% (OECD, 2003).

One of the most striking observations about the Belgian labour market is the high unemployment rate among certain immigrant groups from middle and low-income countries, e.g. immigrants from Congo, Morocco and Turkey, and their concentration in relatively low-skilled jobs, often due to linguistic difficulties or to low levels of education. However, discrimination in the labour market is also a factor. A particular feature in the Belgian case could also be the high concentration of foreigners in declining sectors like coal mining and steel (OECD, 2005d). The findings seem to indicate that immigrants compete mostly with each other for available low-skilled jobs.

Another issue related to the impact of immigration on unemployment is that instruments aiming to protect the workers, e.g. dismissal protection and

rigid wages, reduce the negative effect of immigration only in the short run. In the long run, however, they are likely to aggravate the negative impact of immigration on equilibrium native employment. This is due to the fact that these instruments generally reduce employment. Thus, in the presence of immigration the competition between immigrant and native workers for available jobs is sharpened (Angrist and Kugler, 2003). For example, the construction industry in Germany employs large numbers of both regular and irregular foreign workers. In times of recession, the rigid labour market and the comparatively low mobility of regular German workers determine that they compete directly with immigrants, thus undermining their own job prospects (IOM, 2005).

A Centre for Economic Policy Research report provides an analysis of public perceptions on the way immigration affects wages and employment. The results suggest large differences in responses according to educational background, with the lower educated consistently overestimating the negative effects of immigration. There are also large differences in responses across European countries, some of which are associated with differences in the number of resident immigrants, unemployment rates, GDP per capita, and the number of past asylum applications. The main conclusions of the report are that only a factual and well-researched knowledge base can lead to immigration policies that respond optimally to the needs of a society. Furthermore, policy is likely to react to the voters' subjective perceptions which may be based on low levels of factual knowledge. Therefore, there is an urgent need in Europe for more sensible quantitative research on immigration related issues and provision of factual information to the public (Dustmann and Glitz, 2005).

4.2.3 | Immigration and Labour Market Efficiency

Many studies on European migration show that immigration plays an important role in improving labour market efficiency. All sectors with jobs avoided by natives, e.g. dirty, difficult and dangerous jobs, low-paid household service jobs, low-skilled jobs in the informal sector of the economy, sectors experiencing seasonal labour shortages, e.g. farming, road repairs and construction, hotel, restaurant and other tourism-related services, are heavily dependent on the labour supply of immigrants. In their absence, these sectors would probably not survive (IOM, 2005; OECD, 2003). Other fast growing sectors, like the IT sector, experience long-term shortages that in the short-term cannot be met by the domestic education systems. The skills required for the new jobs typically differ quite substantially from those of workers who were made redundant. The extent to which the latter are retrained and redeployed depends considerably on whether other workers are available who already have had such training. One estimate for Western Europe claims that the skills gap has cost US$106 billion in lost gross domestic product (GDP) between 1998 and 2000 (ILO, 2000). This loss would have been even higher in the absence of immigration.

Another aspect of labour market efficiency is the difference in wages and unemployment rates between regions, due to low mobility of the natives. In Spain immigrants have almost no role in reducing regional unemployment differences. They move to regions where there are employment opportunities. Sometimes these opportunities exist in regions where the unemployment rate is low, such as in Madrid and Barcelona, and sometimes in regions where it is

high, like in Andalusia, thus reflecting the strong segmentation of the labour market (OECD, 2003).

In Germany, however, important efficiency gains in the case of Polish seasonal workers were observed. They could be explained on the one hand by the fact there are some jobs the natives do not want, typically so far the seasonal asparagus, fruit and grape harvest, and on the other hand because there are some occupations where the skill endowment of German workers is insufficient. In a country with strict labour market regulations, strong unions and persistent unemployment like Germany, immigration successfully increases the degree of flexibility on the labour market, decelerates wage growth and thus ultimately increases employment (Akkoyunlu, 2001).

By comparatively analysing the labour markets in Western, Central and Eastern Europe evidence was found that immigration helps reducing the divergence between the sending and receiving countries, improves productivity and speeds up convergence that is beneficial for all countries involved. Thus, in the EU case, it seems that immigration speeds up the convergence process between Member States, providing gains for all EU countries (Akkoyunlu, 2001).

Levine et al. (2003) examine the impact of European East-West migration of different skill compositions, where Central and Eastern Europe are characterised by lower total factor productivity and a lower skill-unskilled labour ratio. They distinguish between two effects of East-West migration: an efficiency effect from the more efficient use of labour in the West and a sectoral reallocation effect arising from the change in the skilled-unskilled wage rates. The first effect is explored by linking migration with the skill-unskilled labour ratio of the sending region, i.e. Central and Eastern Europe, and the second by analysing exclusively migration of skilled labour. Both types of migration result in an increase in economic growth. Furthermore, skilled-labour migration causes a shift out of the high-tech sector in the migrant sending regions.[55] Accordingly, these sending regions will specialise in traditional sectors and Western Europe's receiving regions in high-tech sectors. Further, the authors note that despite the growth gains there are winners and losers. While skilled migrants and skilled households in Central and Eastern Europe gain, skilled households in Western Europe lose. At the same time, the average Western household tends to gain and its counterpart in Central and Eastern Europe tends to lose. The main winners, however, are the migrants themselves.

55 Emigration from Central and Eastern Europe exceeding the equivalent of 5% of Western Europe's total population is estimated to have as consequence the disappearance of the high-tech sector from these sending countries (Levine et al., 2003).

4.3 | Immigration and the Public Finances of the EU Member States

Despite the fact, that many scholars and policy makers regard immigration as an option for addressing Europe's demographic problems, there is no consensus in the literature about the fiscal net contribution immigrants make to the treasury of the receiving country. For a long time, the concern that immigrants may become a fiscal burden has been a central component of the debate over migration policies. Further concerns were that if migration occurs as a result of the welfare programmes offered by Western countries, then this could create competition between these countries to deter migrants from entering and consequently result in the erosion of the welfare state. Provisions such as selectively delayed integration of immigrants into the welfare system were adopted (Sinn and Ochel, 2003; Sinn, 2002), and countries like Ireland and the UK already applied them to delay welfare payments to recent immigrants

from the new EU Members States, while opening their labour markets to them without transitional delay.

The European experience with immigrants' contribution to the public coffer is mixed. In a number of countries such as Austria, Belgium, Denmark, France, the Netherlands and Switzerland immigrants are apparently more dependent on the welfare system than the native population. However, in several other countries such as Germany, Greece, Portugal, Spain and UK the immigrants contribute similarly or even more to the treasury compared to natives (IOM, 2005). A Home Office study shows that immigrants make a positive net contribution to the UK economy (Gott and Johnston, 2002). It estimates that in 1999/2000 immigrants in the UK paid US$ 4 billion more in taxes than they received in benefits. Furthermore, if intergenerational considerations are taken into account, the transfers made by immigrants may be higher since the second generation immigrants, i.e. children of immigrants, are likely to be net tax payers. Similar results were presented by an ILO study. Moreover, the study suggests that in the absence of the immigrants' contribution either public service would have to be reduced, fees increased or taxes raised (ILO, 2004).

Germany has had very large immigrant inflows including ethnic Germans from Central Europe and CIS countries, labour migrants, asylum seekers and family members joining spouses or parents already living there. Germany also has a progressive tax structure and rather generous welfare provisions. Thus, the immigrant fiscal transfers ultimately depend on immigrant employment opportunities, in the case of rigid labour markets (Bevelander, 2000). Simon and Akbari (2000) examined the German immigrant public finance transfers under optimistic and pessimistic sets of assumptions, with the usual limitation concerning the omission of some public goods (defence, foreign policy, and infrastructure). They found out that around 1990, Germany's foreign-born were net contributors under either set of assumptions used. Similar results were obtained by an ILO study covering a more recent period. This study stressed that 78% of immigrants in Germany are of working age and thus, an average immigrant makes a positive net contribution up to some EUR 50.000 over his/her lifetime (ILO, 2004).

While more modest, Sweden's immigrant programmes give a certain priority to the admission of asylum seekers, refugees and other people admitted for humanitarian reasons. Interestingly, around 1992 a representative Swedish foreign-born household head started to have a positive public transfer balance approximately at age 30 keeping it up until about age 65 (Gustafson and Osterberg, 2001). The Swedish-born household's contribution begins at age 25 for the male head of household, and is more distinct, but also declines to zero at age 65. In the same period the undiscounted transfer for the representative foreign-born household had a relatively small negative value of SEK -11.272 (some US$ -1.500).[56] The shape of the Swedish public transfers indicates that if a small public finance deficit occurs, as happened in 1992, the remedy is straightforward: income or labour force participation of the foreign-born must rise faster than those of the natives or publicly-financed consumption should be reduced.

56 In 1990 prices.

The foreign-born public transfer results, however, are sensitive to two key determinants: education and residence status. If Swedish refugees had the minimum (or compulsory) level of education in 1992, then their public finance transfers would have been negative almost for their entire life. On the other hand, if the Swedish foreign-born residents were admitted as non-refugees

with university education, then the public finance transfers exceed the average Swedish-born contribution by a three-fold margin. However, the refugee portion of the Swedish population did not make a positive transfer and this led to calls for the limitation on the admission of any foreign-born, including those from the new EU Member States (DeVoretz, 2006).

The specific skill and origin structure of the immigrants in Spain created positive effects on the public finances (OECD, 2003). EU foreigners who own capital (usually elderly British, Dutch and German pension receivers) help increase demand and contribute through direct and indirect taxes. The high skilled immigrants pay relatively high income taxes and have limited claims towards the Spanish pension and social security system. This is partly the case also with temporary workers, who are in the short run net contributors to the treasury, regardless of whether they are legally or illegally employed. Irregular migrants make at least indirect payments to the treasury, but their access to welfare benefits is limited. And even when qualified for welfare benefits they often do not claim them, being anxious to conceal their identity (IOM, 2005).

In Italy, successive regularisation programmes have resulted in very large numbers of legalised immigrants joining the formal sector, thus widening the tax base and enhancing the social security revenue (OECD, 2005b).

The large differences among all these findings can be explained first by differences in the methodology used, i.e. the benefits and contributions considered, the area of analysis, and the way the value of the services provided was calculated. However, the size and direction of the public finance transfers clearly depend on the characteristics of the immigrants: education and skills, age, family status and size, gate of entry and main motives for immigration, cultural background, etc. (IOM, 2005).

Experience in countries like Spain has shown that skilled immigrants are less dependent on public welfare and that they contribute more because of having higher incomes (OECD, 2003). Similar results were obtained by a study on migration and the Dutch economy: Migrants that perform better on the labour market than the average Dutch residents alleviate public finances over a wide range of ages of entry . However, non-Western immigrants turned out to be on average a burden to the public budget, mainly because of their low employment and high unemployment rates. Their low employment rates are strongly related to their lower educational attainment (only about 30% have higher secondary or tertiary education compared to over 60% of the Dutch natives). Discrimination and cultural factors are, however, likely to play a role too. Some immigrant women (in particular Muslim women) are reluctant to enter the labour market because of cultural reasons (Roodenburg et al., 2003).

Family status is important as well. Young, active and single immigrants are less likely to depend on welfare. But the situation changes over time especially when getting married and having children. Then, welfare transfers are likely to increase due to additional health benefits and education for the children. A recent ILO study for Germany stresses the importance of the age factor for welfare transfers. The study shows that if an immigrant arrives at the age of 30, he/she will contribute EUR 110.000 over his/her lifetime. In contrast, a person that immigrates at birth will create a net fiscal cost of EUR 60.000 (ILO, 2004).

A further issue is that non-economic migrants have more difficulties in economic performance and labour market integration, and provide a larger potential burden to the social security systems than economic migrants.

Recent analysis on Denmark and Germany has provided new evidence that an ever rising share of immigrants is unlikely to be rapidly joining the labour force, due to the fact that they arrive as asylum seekers or as family members (Constant and Zimmermann, 2005). In Germany, until 2005, only EU citizens and foreigners with an unlimited residence permit – which was generally granted after at least five years of residence in Germany or to recognised refugees – did not need an additional work permit.[57] All others (about one third of the foreign resident population), including foreign-born spouses of German and long-term foreign residents, did not obtain immediate labour market access. And even when access was granted, it was initially subject to labour market testing and bureaucratic discretion. This meant that they could only obtain a work permit for a particular job if neither Germans nor other EU citizens nor third country nationals with a privileged status were available and if no "negative effects" on the regional labour market could be expected (OECD, 2005e).[58] This highlights the importance of another factor determining the net contribution of immigrants to the public coffer: the policies concerning the integration of immigrants in the receiving country's society.

57 On January 1st, 2005 a new German immigration law entered into force and removed most of these legal obstacles, e.g. spouses now immediately obtain the same labour market access as the principal migrant.

58 Between 1997 and 2000, asylum seekers and so called non deportable aliens, i.e. quasi-refugees, could not work in Germany, whatever their length of stay.

According to the Global Commission on International Migration (GCIM), destination countries are generally unable to take advantage of the contribution immigrants may make to the society if they are unsuccessful in effectively integrating them. The Global Commission underlines that social exclusion and marginalisation of migrants and their children is associated with particular risks and costs. In the extreme case some may retreat from society and look for ways of expressing their frustration, e.g. the 2005 riots in the suburban ghettos of France's major cities.

Such situations not only represent a threat to public safety and the rule of law. They may also lead to negative attitudes towards migrant communities, place new obstacles in the way of integration and social cohesion. What particularly matters to maximise the positive contribution of immigrants are transparent immigration policies and the rule of law (i.e. transparency regarding the admission of migrants and refugees, active involvement of both migrants and native citizens in the integration process, a secure legal status), the access to training for immigrants and their children (i.e. assistance for acquiring language skills, schooling, higher education and vocational training), economic opportunities and non-discrimination regarding employment (i.e. recognition of diplomas, scope for occupational mobility and advancement), non-discrimination with regard to housing (i.e. avoiding ghettoisation) and last but not least political rights (i.e. local voting rights and access to citizenship).

While work, education and language skills are generally considered to be the most important avenues of inclusion, migrant women are more likely than men to remain outside the labour market. For example, immigrant women with Turkish and North African citizenship had in 2003 the lowest employment rates in the EU-15, at levels of 30.5% and 25.4% respectively. These represent only about half the level of national female employment and almost one third the level of national male employment rates (European Commission, 2004). It is thus not surprising that the Global Commission on International Migration underlined the need for immigration policies and integration programmes to be gender-sensitive and give special attention to the social situation and inclusion of migrant women (GCIM, 2005).

A separate factor related to the use of public welfare is the attitude of the native population towards it. A general social reticence and cultural aversion

of the host society towards public welfare dependency is likely to discourage immigrants from relying on it unjustifiably. However, the reverse could be equally true (IOM, 2005).

4.4 | Immigration Effects on the Balance of Payments

4.4.1 | Immigration and Trade Creation

In order to measure the size and direction of the relationship between immigration and trade, empirical studies in general use gravity models of trade[59] augmented by immigration. Gould (1994) analysed the impact of immigration on trade between the US and 47 trading partners between 1970 and 1986. He observed that exports were influenced to a greater extent by immigration than imports and that immigration affects rather trade in consumer goods than trade in production goods. A further finding was that the immigrant-link effect exhausts itself as the number of immigrants increases over time.

59 In these models, trade is assumed to be negatively correlated with the geographical and/or cultural distance between countries. For more complex models see Hofmann and König (2006)

Dunlevy and Hutchinson (1996) studied the links between immigration and import patterns of the US for the period 1870 to 1910. They discovered a strong relationship between the size of the migrant cohorts and imports. Furthermore, they found that differences in culture and language as well as the possession of specialised information enabled immigrants from Asia and Latin America to exploit trade opportunities missed by American and northern European immigrants. However, these results come only from the study of imports, which are strongly affected by the preference of immigrants. Later studies on the receiving countries' export pattern provide a better picture over the relative impact of the individual specific and non-individual specific mechanisms on transaction costs.

Helliwell (1997) analysed the influence of borders on trade among Canadian provinces and between Canadian provinces and US states. He observed effects of migration on international but not on inter-provincial trade and explained it by the fact that Canadians moving from one province to another do not contribute much in enhancing relevant knowledge, as their information about institutions and markets of their provinces are not new to the receiving provinces. Similar to Gould (1994) he suggested that returns from migration are decreasing over time and with the formation of larger Diaspora communities in the receiving country.

Girma and Yu (2002) examine the bilateral trade between the UK and 48 selected trading partners by distinguishing between Commonwealth and non-Commonwealth countries. Their results indicate first that Britain has a generally higher propensity to trade with Commonwealth countries. Second, that there is robust evidence that immigration from non-Commonwealth countries has a significant trade enhancing effect. A 10% increase in the immigrant stock raises UK exports to those countries by 1.6%. However, the effect of immigration from the commonwealth countries on the UK's exports to them is statistically insignificant. Thus, the findings support the idea that immigration increases bilateral trade through the knowledge brought by immigrants about foreign markets and different social institutions rather than their own business connections or personal contacts with the home countries. Third, the authors detect a pro-trade effect of immigration from non-Commonwealth countries, similar to other studies in the literature, but reveal

a trade substitution effect of immigration from Commonwealth countries. The latter could be the result of import-substituting activities of immigrants from Commonwealth countries. Since the immigrant population in the UK from Commonwealth countries is relatively large compared to that from non-Commonwealth countries, manufacturing activities could be more attractive than importing activities when there are economies of scale for production. On the other hand, it is argued that, in the case of the UK, since immigration flows into the UK are small in magnitude compared to domestic migration flows, the effect of decreasing returns to immigration could be avoided.

Blanes-Cristobal (2003) obtained similar results for the effects of Spanish immigration on bilateral trade with 40 partner countries for the period 1991 to 1998. However, as an OECD study points out, trade flows between Spain and other EU countries have in many cases preceded the migration of people. Similarly, the immigration of non-EU foreigners to Spain is still very recent, and largely reflects already existing cultural and economic (including trade) links, e.g. with Latin American countries (OECD, 2003). Thus, the direction of causality is not very clear.

4.4.2 | The Balance of Payments Effects of Remittances Outflows

While migrants' remittances are a steadily growing external resource of capital for middle and low income countries, they are in the same time a draw on the balance of payments of industrialised countries. As already discussed in this paper, to our knowledge, there is no literature on the effect of remittances' outflows on the migrant host economies. However, we expect positive effects in at least two ways: First, by financing the migrant receiving countries' exports through the so-called "boomerang effect". In the short run, production facilities in the middle and low income (migrant sending) countries often cannot meet the additional demand generated by remittances and significant parts of it are covered by imports (from migrant receiving countries). And second, migrant remittances may have a devaluation effect on the exchange rate (or relief appreciation pressures) that improves the migrant receiving countries' competitiveness relative to the migrant sending countries.

According to the definition of the International Monetary Fund (IMF) migrants' remittances are reported in the balance of payments statistics under three categories:

– "Compensation of Employees" (a subcategory of "Income in the Current Account"), i.e. gross earnings of workers residing abroad for less than 12 months;
– "Workers' Remittances" (a subcategory of "Current Transfers" in the "Current Account"), i.e. the value of monetary transfers sent home by workers residing abroad for more than one year; and
– "Migrants' Transfers" (a subcategory of "Capital Transfers" in the "Capital Account"), i.e. the net wealth of migrants who move from one country of employment to another.

Many central banks, however, do not follow the IMF's definition and report migrants' remittances also under other categories; most commonly as "Other Transfers of Other Sectors"[60]. In its report entitled Global Economic Prospects 2006 the World Bank identified a number of countries where migrants' remittances fall under this category: Algeria, China, Gambia, Iran, Kenya, Lebanon, Malaysia, Mauritius, Nigeria, Serbia and Montenegro and Vietnam

60 "Other Transfers of Other Sectors" are the second subcategory of private transfers besides Workers' Remittances.

(World Bank, 2005). Therefore, in the case of these countries, the World Bank added the category "Other Transfers of Other Sectors" to the "Compensation of Employees", "Workers' Remittances" and "Migrants' Transfers" categories in order to estimate the overall size of remittance flows. However, the World Bank estimate does not take into account that a lot of other middle-income countries (e.g. Bulgaria, Czech Republic, Hungary, Poland, Romania, Russia, Slovakia, Ukraine) and some high-income countries (e.g. Germany[61] and the UK[62]) also report migrants' remittances completely or partly under "Other Transfers of Other Sectors".

There are several problems linked to estimates of international migrants' remittances flows and to comparisons between countries.

First of all, estimating migrants' remittances as the sum of "Compensation of Employees", "Workers' Remittances" and "Migrants' Transfers" definitely underestimates the real flows. However, by adding "Other Transfers of Other Sectors",[63] financial flows are included that are definitely not linked to workers' remittances, e.g. humanitarian aid from NGOs, pension payments, insurance and reinsurance benefits, transfers to and from investment funds or to and from savings accounts held in banks outside the country of residence, and even some transfers from illegal activities. In this study, we define remittances flows as the "Compensation of Employees" plus an estimated fraction of the total private current transfers (i.e. the sum of "Workers' Remittances" and "Other Transfers of Other Sectors").[64] Based on the analysis of the balance of payments statistics of numerous countries, we assume workers' remittances to account for 50% of the private current transfers in the case of high-income countries and for 80% of the private current transfers in the case of middle and low-income countries, which have less liberalised financial markets and thus less in- and outflows of other transfers.

Second, some small industrialised countries like Luxemburg and Switzerland have labour markets extending into bordering regions of neighbouring countries. As a result, a considerable part of the work force consists of commuters residing in a neighbouring country. Consequently, these countries report high flows of "Compensation of Employees" going to other countries. In order to correct for this "cross border commuter effect", we exclude these flows from the calculation of migrants' remittances for these two countries.

Finally, the total migrants' remittances outflows worldwide do not match with the total migrants' remittances inflows worldwide. Following the definition described above, in 2004 the total migrants' remittances outflows worldwide amounted to US$ 225.1 billion while the total migrants' remittances inflows worldwide amounted to US$ 278.6 billion.[65] This is mainly due to the fact that source countries and destination countries of remittances count private transfers under different categories of their balance of payments (e.g. as a foreign investment outflow in the source country, but as a workers' remittance inflow in the destination country).

All data on migrants' remittances, including those in this study, must be therefore interpreted with caution.

In 2004, 60.5% (=US$ 135.1 billion) of migrants' remittances were sent from high-income countries (see Figure 9). In the same year, according to our estimate 33.0% of the world's remittances originated from the EU-15, 2.4% from the EU-10 and another 3.7% from other EEA countries[66] and Switzerland.

However, there is no explicit data on remittance outflows from the EU-25, EU-15 or EU-10. The amounts given in Figure 9 and 10 are based on the sum of

61 The German Federal Bank reports only cash transfers as "Workers' Remittances". It further supplements these data with estimates on the basis of statistics from the German Federal Employment Agency on the number of employed and unemployed foreign nationals who are subject to social insurance contribution (IMF, 2005). This, however, results in a strong underestimation, because neither migrants who have entered into employment without the full social insurance benefits nor those who were naturalised in Germany are included in the statistics. Migrants' remittances transferred by banks and all remittances of naturalised migrants are reported under the category "Other Transfers of Other Sectors".

62 In the Balance of Payments Statistics Yearbook neither "Workers' Remittances" nor "Other Transfers of Other Sectors" are reported for the UK. We estimated the sum of the two by subtracting the General Government transfers from the total "Current Transfers".

63 As done by the World Bank (2005) for selected developing countries and by Straubhaar and Vadean (2006) for all developing countries.

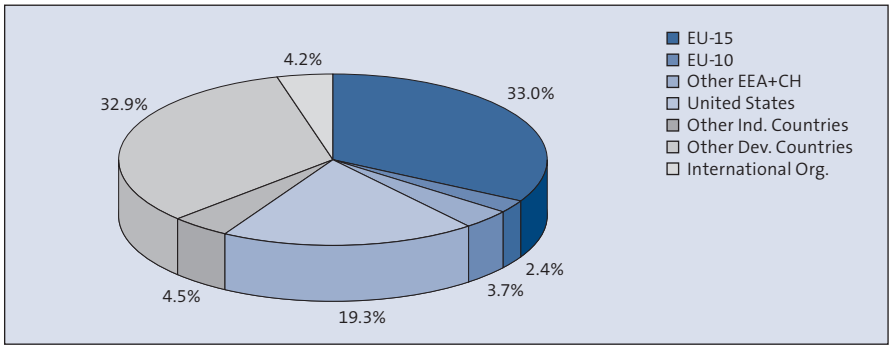
64 "Migrants' Transfers" have been disregarded in our calculations, because they are not explicitly reported in the Balance of Payments Statistics Yearbook. However, "Migrants' Transfers" currently represent only a very small amount (US$ 1.5 billion in 2004; source: World Bank) in comparison to the estimated total remittance flows worldwide (US$ 225.1 billion).

65 When estimating remittances as the sum of "Compensation of Employees" and "Workers' Remittances", the world total amount of migrants' remittance outflows for 2004 is US$ 161.6 billion, while the total amount of migrants' remittance inflows US$ 193.7 billion. Source: IMF (2005).

66 Iceland, Liechtenstein, and Norway.

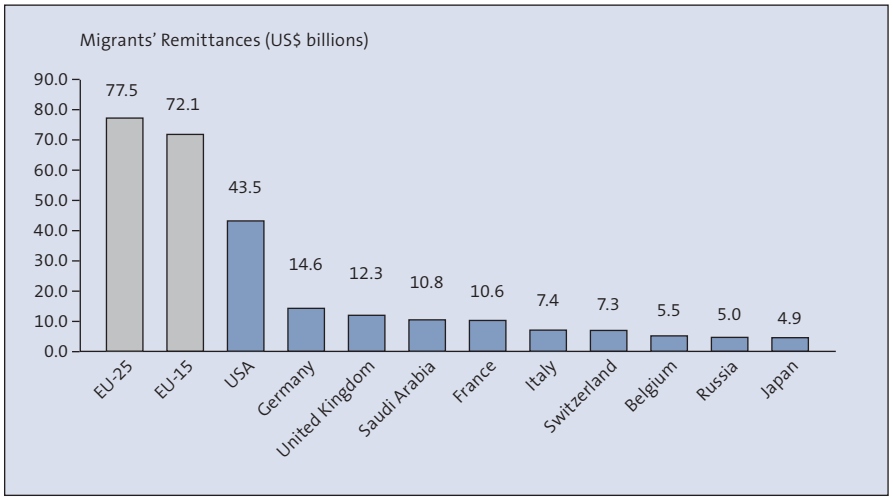
remittance outflows from the respective Member States and surely overestimate the actual size of total outflows, since part of these go to other EU Member States. However, the EU is undoubtedly one of the world's major sources of remittances, with five of its Member States in the Top-10: Germany US$ 14.6 billion, United Kingdom US$ 12.3 billion, France US$ 10.6 billion, Italy US$ 7.4 billion, and Belgium US$ 5.5 billion (see Figure 10).

More and better data on migrants' remittances are needed in order to estimate the real size of the effects discussed here. The European Central Bank (ECB) would be in the best position of playing a more important role in the collection, correction and dissemination of remittance data for the EU Member States and the EU as a whole.



Source: own calculations; IMF (2005).

Figure 9:
Source of migrants' remittances, 2004



Source: own calculations; IMF (2005).

Figure 10:
Top 10 source countries of migrants' remittances, 2004

4.5 | Immigration Impact on Growth

A World Bank report shows that the migrants' destination country can enjoy significant gains from immigration. Through simulating migration flows which increase the labour force of all high-income countries by 3%, the authors demonstrate that the global income gains would be about 356 billion US$, from which native households in migrant receiving countries would benefit in the order of 139 billion US$ (or about 0.4% of their total income; World Bank, 2005).[67]

In the European context, estimates of a worse-case scenario of rigid wages and immigration of exclusively unskilled workers show that a 1% rise in EU employment due to immigration could have generated income losses to the EU

67 In the simulation model it is assumed that the "new" migrants receive public benefits equal to their tax payments.

population in the order of 34 billion EUR or about 0.7% of the EU-15 GDP in 1993. However, in an optimistic scenario, in which mainly skilled workers immigrate and unemployment is assumed to be constant, small possible gains from immigration were predicted. In this case, a 1% increase of the EU labour force in one year, due to immigration of skilled workers only, was projected to increase the income of natives by about 181 million EUR, or about 0.003% of the EU-15 GDP, in 1993. A similar increase in the UK and German labour force would have augmented the income of UK natives by about 15 million EUR, or 0.002% of UK's GDP, and the income of German natives by 32 million EUR, or 0.002% of the German GDP (Bauer and Zimmerman, 1999).

These simulations also demonstrated that immigration has effects on the income distribution in the receiving country and that these effects could be quite substantial. Capital always benefits from immigration and these benefits increase with the share of non-manual immigrants. Under the assumption of skilled immigration equalling 1% of the native labour force, the gains of capital would have reached 11.5 billion EUR or 0.22% of the EU-15 GDP in 1993. Non-manual, native workers show a positive immigration gain as long as no more than 40% of the immigrants are manual. However, manual native workers benefit from immigration, if more than 70% of the immigrants are non-manual. Both types of labour could lose much through immigration, depending on the share of immigrants who substitute them. For instance, if all immigrants arriving in one year would equal 1% of the native work force and all immigrants were non-manual, non-manual native workers would lose 0.9% of their initial income. The maximum loss for the manual native workers is calculated to reach 1.8% of their initial income, in the case of manual immigration.

Empirical work focusing on the post World War II period gives only partial support to the theoretical hypotheses of the augmented Solow-Swan model. Analyses based on regional data from the United States, Japan and five Western European Countries (France, Germany, Italy, Spain and the United Kingdom), confirm the negative effect of migration on growth rates. However, the results reject the positive relation between migration flows and the speed of convergence to the long-term growth rate (Braun, 1993; Barro and Sala-i-Martin, 1995). This was explained by the fact that migration cost and adjustment cost of investments slow down the convergence process (Braun, 1993). Dolado et al. (1994) by analysing the impact of immigration on output and growth in 23 OECD countries during the period 1960-1985, found evidence that the human capital brought in by immigrants was fairly high. And their results show, that this was enough to halve the negative impact of the population increase through immigration on output and growth. Further, as predicted by theory, the speed of adjustment to the steady state, i.e. long-term growth rate, is increased by migration.

The empirical analysis of the impact of European migration on the receiving and sending economies confirmed the theoretical hypotheses of the endogenous growth models. Straubhaar and Wolburg (1999) analysed the effects of Central and East European migration to Germany both in a neo-classical growth model and a Lucas-type endogenous growth model. First, they observed that migration flows from Central and Eastern Europe increased the average stock of human capital in Germany by 0.65% in 1994, whereas the opposite effects occurred in the sending countries. As a result a classical case of brain drain linked to the emigration flows from Central and Eastern Europe

and evidence for a brain gain linked to the German immigration flows were ascertained. Further, the authors note that the share of high-skilled workers has a positive effect on the GDP in both models, i.e. the neo-classical growth model and the Lucas-type endogenous growth model. Moreover, Germany experienced a welfare gain from immigration of relatively high-skilled workers, despite of the remittances' outflow, while the brain drain was found to be a burden for the sending countries even when remittances where taken into account (Straubhaar and Wolburg, 1999).

The different immigrant groups in Spain were all proven to boost economic development, but in different ways. German or British pension receivers that move to Spain for retirement contribute to development by bringing in financial capital. They not only consume local goods and services, but also have an impact on demand through the acquisition of real estate, which has contributed to growing real estate prices at a pace of about 30% per year between 1994 and 2002. Professionals working in the tourism sector and for multinational companies operating in Spain, although they do not own capital, are complementary to the investment flows in the sectors they are employed in. These investment flows increased the stock of capital in the Spanish economy and are assumed to have enhanced economic growth.

The way in which immigrants affect productivity also depends on their qualification and subsequently on the type of jobs they occupy. While the highly-skilled European immigrants in Spain are assumed to positively increase productivity, non-EU immigrants mainly occupy low-productivity jobs. They are estimated to have reduced labour productivity growth by 0.1 to 0.2% points per year. But these estimates have not taken into account the possible positive effects of the immigrant labour on the labour productivity of native workers. Besides the overall macroeconomic effect, immigration had also an impact on regional development. In some rural areas, the development of horticultural activities, which heavily rely on immigrant labour, has had a noticeable effect on overall activity and regional income. It has allowed income per capita in some regions to catch-up with the national average, while other regions have extended their lead. This is also the case in tourist regions with important immigration, such as the Balearic Islands (OECD, 2003).

Regarding the international transfer of human capital, Salt (1997) noted that not all human capital accumulated in the sending country can be transferred offhand to the receiving country. This was often observed in Europe, where highly skilled immigrants took low skilled jobs in the receiving country, e.g. as taxi drivers or hospital staff. This so called brain waste generates resource costs and leaves room for questions about assimilation, integration and the consequences of diversity on the human capital accumulation in the receiving economy. An OECD study on Belgium observes that there integration does not occur, in the sense that initially poor labour market characteristics of quite large groups of immigrants and their descendants do not converge over time with the average for Belgian citizens. This appears to be caused by a combination of unfavourable labour market rigidity, the reciprocal link between low labour market status and relatively poor school performance, and to some extent also due to labour market discrimination against non-European immigrants. Discrimination not only hinders labour market performance of immigrants, but by decreasing returns to human capital lowers their incentive to invest in host-country-specific human capital, which in turn results in lower labour market performance (OECD, 2005d).

5 | Conclusions and Policy Implications

In recent years the European Commission has intensified both research and recommendations in the fields of immigration, migration management and migrant integration. In this context particular emphasis was given to foreseeable demographic change in Europe and the management of international labour migration.[68] In January 2005 it adopted a *Green Paper on an EU approach to managing economic migration*[69] and launched a process of in-depth discussion on the most appropriate Community rules for admitting economic immigrants as well as on the added value of adopting such common measures.

The European Union and its Member States took important steps in building up an EU legislative framework for managing immigration flows. Two Directives were adopted concerning the admission of researchers[70] and students[71] originating from third countries. The European Commission's *Policy Plan on Legal Migration*[72] published in December 2005 further proposed four Directives for the management of entry and residence of highly skilled workers, seasonal workers, intra-corporate transferees, and remunerated trainees. With the communication on *A Common Agenda for Integration*[73], the Commission also puts forward a framework for the integration of third-country nationals in the EU labour market and society. A Directive was adopted as well, concerning the status of third-country nationals who are long-term residents.[74] Finally, the Commission's Communication on *Migration and Development*[75] highlighted the importance of enhancing collaboration with migrant sending countries on economic migration and of developing initiatives offering win-win-win opportunities to both countries of origin and destination as well as to labour migrants themselves. Concrete orientations were given regarding migrants' remittances, collaboration with Diasporas, circular migration, and mitigation of the adverse effect of brain drain.

Free movement of people is a means of creating an integrated European employment. Geographic mobility also avails establishing a more efficient labour market, to the long-term benefit of workers, employers and Member States. Thus, our paper recollects theoretical and empirical arguments on why immigration is so important, to what extent labour mobility allows individuals to improve their job prospects and employers to recruit people with adequate skills. The paper discusses what kind of common European policies should be undertaken to optimise benefits of international migration. All our findings might help understanding the economic impact of immigration. But they also have policy implications for migrant receiving countries in Europe.

Demography and Ageing

Immigration has a positive effect on population and labour force growth. If natural population growth turns negative, immigration can help maintain the total population and the labour force constant. Immigration could also be a remedy to shortages of labour and skills that are unrelated to demographic processes. However, immigration is not a solution for tackling the consequences of demographic ageing in Europe. The level of net migration required to keep the old-age dependency ratio constant would demand increases of inflows well beyond socially desirable and politically sustainable levels.

68 See First Annual Report on Migration and Integration (COM[2004] 508 final); Priority actions for responding to the challenges of migration: First follow-up to Hampton Court (COM[2005] 621 final).

69 COM[2004] 811 final.

70 Council Directive 2005/71/EC.

71 Council Directive 2004/114/EC.

72 COM[2005] 669 final.

73 COM[2005] 389 final.

74 Council Directive 2003/109/EC.

75 COM[2005] 390 final.

Policy implications: In all EU Member States efforts will have to continue in implementing the employment guidelines of the new Lisbon strategy[76] and the Stockholm recommendations[77] vis-à-vis the raise of employment rates of older workers, reducing public debt and reforming the pension systems. Even when allowing for higher net immigration flows, the financial strains generated by the ageing populations in the EU will remain at considerable levels.

76 COM[2005] 330 final.

77 Council of the European Union (2001).

Labour Markets

Empirical evidence shows that the influence on wages and employment is on average negative, but very small. These empirical results are suggesting, that the potential downward effect is offset by creation of additional employment due to economies of scale and spillovers (which increase productivity) as well as higher demand for goods and services (due to population growth through immigration).

Compared to the US, the immigration impact on wages and employment was found to be more negative in EU countries. However, this negative effect is not evenly distributed between EU Member States. In Greece, Italy, Spain and the UK it turned out to be negligible or slightly positive. Immigrants apparently acted as complements to native workers and competition causing downward pressure on wages and job displacement hardly arose. For example, high-skilled immigrants filled in vacancies that went unmet by the native labour supply and thus increased productivity, while low-skilled migrants took jobs avoided by natives (e.g. dirty, difficult and dangerous jobs, low paid household and other service jobs) and jobs in sectors that are traditionally affected by strong seasonal fluctuations (e.g. farming, construction, and tourism).

Negative effects are observed in the case of Belgium, where new immigrants competed with immigrants who had come during earlier periods for available low-skilled jobs, resulting in high unemployment rates among certain foreign-born groups (e.g. Congolese, Moroccans and Turks). In Germany, due to the rigidity of the labour market and the comparatively low mobility of German workers, the labour market effects of immigration were found to be negative as well, in particular in the construction sector. This illustrates, that market regulations that have the scope to protect native workers often have an unintended consequence: in the long run they tend to foster the negative impact of immigration on the labour market situation of the natives.

With respect to labour market efficiency, empirical evidence from several EU countries shows that it could be improved by immigration. Since immigrants move to the most attractive regions, where salaries and employment opportunities are higher, their labour market integration induces a convergence effect on wages and unemployment between regions. While at the same time the labour market shortages are reduced.

Policy implications: Labour market regulations and social standards are often inappropriate instruments for protecting native workers against low-wage competition by immigrants. Minimum wages and dismissal protection, for example, attract more immigrants than it would have been the case in the absence of such regulations. As a result, this may amplify unemployment and/or wage depression. High replacement incomes have the undesired consequences of raising unemployment, creating incentives for the expansion of irregular employment and putting an additional burden on the treasury.

As an alternative, some scholars proposed wage subsidies that would provide supplementary income through government welfare payments if a

person accepts to work in a low paid job (Sinn et al., 2006). Furthermore, temporarily delaying wage subsidies payments to recent immigrants may prevent EU Member States from acting as welfare magnets. Examples therefor are the UK and Ireland. In 2004 with the EU enlargement they opened their labour markets to EU labour migrants from Central Europe and the Baltic States (EU-8). At the same time these EU-8 migrants are not entitled to similar welfare benefits as native workers (see Tamas and Münz, 2006).

Public Finances

The implication of international migration on the welfare systems of EU Member States is diverse. Empirical evidence illustrates that the impact is strongly dependent upon the original "gate of entry" or way of admission, the labour market access and – as a result of the former – the socio-economic characteristics (labour market performance) of the immigrants. Countries with a high share of economic immigration, implying that immigrants have a speedier access to work (e.g. UK, Italy, Greece, Portugal and Spain), experienced a positive contribution of immigrants to the treasury. In countries where immigration flows were dominated by asylum-seekers (who are permitted to work under restrictive conditions) and families reuniting (e.g. Denmark, Sweden) immigrants were more dependent on welfare payments than natives. The same occured in countries were immigrants had a low labour market performance (partly due to discrimination and inappropriate access to schooling and training; e.g. the Netherlands). Germany partly also falls into this category because of the large-scale admission of ethnic Germans and their dependent family members who are characterised by high unemployment and high take-up rates of state pensions. The lowest labour market performance registered in the EU-15 in 2003 was that of immigrant women of Turkish and North African origin, illustrating that migrant women (in particular Muslim women) are more likely than men to remain outside the labour market, which makes it more difficult for them to integrate into the receiving society.

Policy implications: A re-orientation towards a more selective immigration policy based on individual characteristics of the migrants (e.g. age, skills) and particular shortages identified in the receiving country would assure a more rapid labour market integration. As a result the migrant population would make positive net contributions to the public finance. This is clearly demonstrated by the examples of Australia, Canada and New Zealand.

In the short run, however, admission to many EU Member States will be dominated by family reunion and humanitarian protection. In order to reach a lower dependency rate on social transfer payments for these immigrant groups, receiving countries should grant them access to work soon after admission.

EU Member States need to continue their efforts of addressing the challenges of migrants' integration and help improving their labour market performance by providing language training, ameliorate their educational attainment, assure affordable housing and fight against discrimination and racism. Integration policies have to be gender-sensitive and give special attention to the social situation and inclusion of migrant women.

Balance of Payments and International Competitiveness

Immigration has a small but positive impact on trade relations between migrant receiving and migrant sending counties, as shown by empirical re-

sults from the UK and Spain. Though, the overall effect on the balance of payments of the EU Member States is uncertain.

Immigrants (in particular seasonal and temporary workers) remit a significant part of their income to their relatives back home. The sum of remittances' outflows from the 25 EU Member States equalled in 2004 the equivalent of some US$ 49.7 billion. These capital flows represent undoubtedly a drain on the balance of payments, although they might support EU exports of goods and services too. The EU countries could improve their competitiveness relative to the migrant sending countries through the devaluation effect on the exchange rate and through the additional spending capacity generated in the migrant sending countries.

To our knowledge there is no literature on the impact of remittance outflows on the migrant receiving countries balance of payments and their international competitiveness. The direction and size of the effect remains to be explored.

Policy implications: Official data on migrants' remittances are poor and difficult to compare among EU Member States, since they use different methodologies of estimating these capital flows in their respective balances of payments. There is need for more and better data for the EU as a whole as well as for the individual EU Member States, both on an aggregated level and differentiated by country of destination. Moreover, research is necessary to analyse the size and direction of the impact of migrants' remittances on the balance of payments and the international competitiveness of the migrant receiving economies in general and the EU countries in particular.

Growth

The influence of immigration on growth was found to be positive in the case of immigrants endowed with financial or human capital. Immigrants that provide financial capital have a positive effect on consumption and investments. Moreover, high-skilled professionals are complementary to investment flows in the sectors they are employed in and thus attract more investments. Only the low-skilled migrants were estimated to reduce labour productivity in sectors that are employing them. However, low-skilled migrants are mostly taking jobs avoided by natives and in sectors with seasonal labour shortages (e.g. farming, road repairs and construction, tourism-related services). In particular in Southern European countries, which have market shortages for low-skilled labour, they not only helped these sectors to survive, but also contributed to their development.

Similar to the case of welfare systems, the impact of immigration on growth strongly depends on the labour market performance of the migrants. Several European countries experienced high skilled migrants being employed in low skilled jobs. This so called *brain waste* generates resource costs and alerts the questions about recognition of diplomas, assimilation and integration in the migrant receiving economy. Labour market integration often does not occur due to a combination of rigid labour markets, the reciprocal link between low labour market status and relatively poor school performance, and to some extent also because of labour market discrimination against non-European immigrants. Discrimination not only hinders labour market performance of immigrants, but by decreasing returns to human capital lowers their own incentive to invest in host-country-specific human capital, which in turn causes poorer labour market performance.

Policy implications: The EU countries experience market shortages for both high-skilled and low-skilled labour. The admission systems should be flexible and market oriented in order to help ease bottlenecks and long-term employment goals. However, for achieving the renewed Lisbon Strategy's goal to "deliver stronger, lasting growth and create more and better jobs" much more has to be done. The EU Member States could take measures to improve the recognition of professional skills and qualification and to promote labour market performance of immigrants and their dependants through access to language tuition, promotion of "good general basic education and lifelong learning" (as recommended by the Stockholm Council) and non-discrimination in labour markets.

Conclusions for a European Migration Policy Approach

Maximising benefits and minimising costs of immigration means:

– EU Member States need to set-up flexible and market oriented admission systems that help ease labour market bottlenecks and long-term deficits at all qualification levels – from unskilled workers to highly skilled professionals. Attracting highly skilled migrants will be of particular importance as demonstrated by recent legislative changes in France and the UK.

– EU Member States ought to try attracting more high skilled migrants by granting long-term residence permits, facilitating access to the whole EU labour market, improving the recognition of professional skills and qualifications, increasing investment in R&D and a better dissemination of information in the migrant source countries about the conditions and rights granted.

– Non-economic migrants (families reuniting, recognized refugees and quota refugees, co-ethnic resettlers) should be granted speedy access to the labour market. More emphasis should be given to the recognition of degrees and qualifications acquired prior to immigration.

– Foreign nationals with refugee status as well as asylum seekers tolerated to stay for an undefined period of time need to be allowed and encouraged to accept jobs and to seek work at their qualification level.

– Asylum seekers should be given preferred access to temporary or seasonal employment.

– EU Member States ought to continue the efforts addressing the challenges of migrants' integration (in particular non-economic migrants) and help improving the labour market performance of migrants by ensuring recognition of qualifications, fighting against discrimination and racism, providing language training and assuring affordable housing.

– The social and labour market inclusion of migrant women should be actively promoted.

– Labour markets should be granted a higher degree of flexibility so that the growing sectors can take advantage of increased productivity and thus facilitate job creation, while a given level of income for workers should be assured by wage subsidies.

– Certain immigrants may be temporarily excluded from a particular range of welfare benefits to prevent the EU Member States from acting as welfare magnets and avoid the negative effects of the distortion of immigration patterns.

– EU Member States have to consider promoting circulation of high-skilled migrants by facilitating dual-citizenship and improving portability of rights.

Special attention should be given to the integration of children with migrant background (the so-called second generation). This is crucial with regard to the economic benefits and costs of immigration. If EU Member States are able to integrate well second or third generation migrants, positive contributions to the economic performance of the destination areas could be achieved. If failing to do so, they have to carry the financial burden of higher unemployment and lower economic success of people with migration background. As empirical evidence makes clear, language and schooling are the key elements that decide about success or failure. With regard to the conditions of an efficient migration policy this means:

– Promoting school education, job training and higher education of third-country nationals;

– Facilitating acquisition of citizenship for long-term migrants and their descendants.

Finally, it remains an open question what model should be followed with regard to the political and economic integration of immigrants:

– The Anglo-Saxon immigration model (i.e. Canada, Sweden, USA, UK) grants economic rights at entry and political rights after a reasonably short period, facilitating the integration of immigrants into the labour markets and subsequent affiliation into the receiving society;

– The Southern European immigration model (i.e. Greece, Italy, Portugal, Spain) tends to admit or – at least – tolerate economic migrants even if they have no legal access to the labour market. Until recently, Southern European countries have periodically offered regularization to irregular labour migrants. At the same time this opens up a path towards citizenship.

– The Northern continental immigration model (i.e. Belgium, Denmark, France, Germany, the Netherlands) grants rights in several steps: first the right of entry and of residence; later, only after assuring that the immigrant's employment is not unfavourable to domestic labour market participants, economic rights are granted; and finally, when immigrants are considered to be sufficiently acculturated they may claim political rights through naturalisation.

To maximise benefits of immigration and reduce costs of integration, European countries should be encouraged to give migrants legal access to their labour markets. Other alternatives are costly for the public coffer and have the unintended consequence of rather delaying than encouraging the integration of immigrants. However, it remains of course a crucial political question, to what extent European societies are willing to offer not only economic, but also a political inclusion through naturalisation and birthright citizenship for children of immigrants born on their territory.

More sensible quantitative research and provision of factual information to the public is needed on: (a) the way both high-skilled and low-skilled immigrant labour contributes to employment and growth in the EU by helping ease shortages on labour markets and thus improve their efficiency, and (b) the way in which free-mobility of third-country nationals residing in an EU Member State and/or common measures to admit economic migrants would help better integrate the EU labour market, improve its efficiency and the competitiveness of the European economy, thus enhancing welfare gains for all citizens and residents of Europe.

6 | Literature

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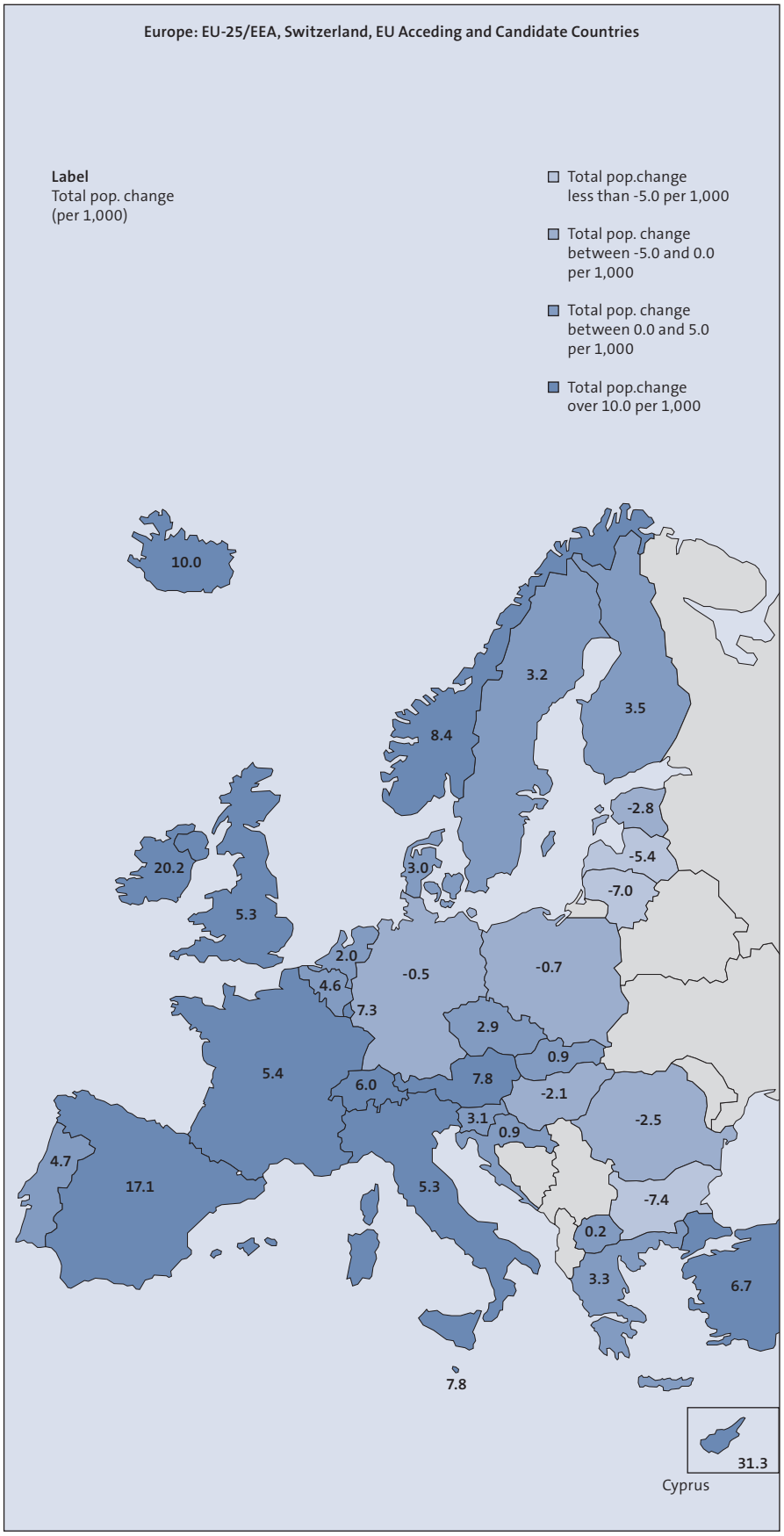
7 | Annexes

Table 1 | Demographic Indicators 2005 in Europe

	Pop. January 2005	births	deaths	Nat. pop. change	Net migration	Total pop. change	Pop. January 2006
	in 1,000	per 1,000 population					in 1,000
EU-25	**459,488**	**10.5**	**9.7**	**0.7**	**3.7**	**4.4**	**461,507**
Austria	8,207	9.4	9.0	0.4	7.4	7.8	8,270
Belgium	10,446	11.4	10.0	1.4	3.2	4.6	10,494
Cyprus[(i)]	749	10.9	6.7	4.1	27.2	31.3	773
Czech Republic	10,221	10.0	10.5	-0.5	3.5	2.9	10,251
Denmark	5,411	11.8	10.3	1.6	1.4	3.0	5,428
Estonia	1,347	10.6	13.1	-2.5	-0.3	-2.8	1,343
Finland	5,237	11.0	9.2	1.8	1.7	3.5	5,255
France	60,561	12.6	8.8	3.7	1.7	5.4	60,892
Germany	82,501	8.4	10.1	-1.7	1.2	-0.5	82,456
Greece	11,076	9.4	9.2	0.2	3.1	3.3	11,112
Hungary	10,098	9.6	13.5	-3.9	1.8	-2.1	10,076
Ireland	4,109	15.3	6.5	8.8	11.4	20.2	4,193
Italy	58,462	9.9	10.4	-0.5	5.8	5.3	58,772
Latvia	2,306	9.3	14.2	-4.9	-0.5	-5.4	2,294
Lithuania	3,425	8.9	12.9	-4.0	-3.0	-7.0	3,401
Luxembourg	455	11.5	7.6	3.9	3.4	7.3	458
Malta	403	9.9	7.2	2.7	5.0	7.8	406
Netherlands	16,306	11.6	8.4	3.1	-1.2	2.0	16,338
Poland	38,174	9.4	9.7	-0.3	-0.3	-0.7	38,148
Portugal	10,529	10.5	9.7	0.8	3.9	4.7	10,579
Slovakia	5,385	10.0	9.8	0.2	0.8	0.9	5,390
Slovenia	1,998	8.8	9.2	-0.5	3.6	3.1	2,004
Spain	43,038	10.9	8.8	2.1	15.0	17.1	43,781
Sweden	9,011	10.4	9.9	0.5	2.7	3.2	9,040
UK	60,035	11.9	9.9	2.0	3.3	5.3	60,354
Acceding Countries							
Bulgaria[(ii)]	7,761	9.0	14.6	-5.6	-1.8	-7.4	7,704
Romania[(ii)]	21,659	10.2	12.3	-2.1	-0.5	-2.5	21,604
Candidate Countries							
Croatia	4,444	9.4	11.1	-1.7	2.6	0.9	4,448
Macedonia, FYR	2,030	:	:	:	:	0.2	2,034
Turkey[(iii)]	71,609	18.9	6.2	12.6	-5.9	6.7	72,520
Other EEA and Switzerland							
Iceland	294	14.2	6.2	7.9	2.0	10.0	297
Liechtenstein	35	10.8	6.4	4.5	3.8	8.3	35
Norway	4,606	12.4	8.8	3.7	4.7	8.4	4,654
Switzerland	7,415	9.6	8.3	1.3	4.7	6.0	7,460

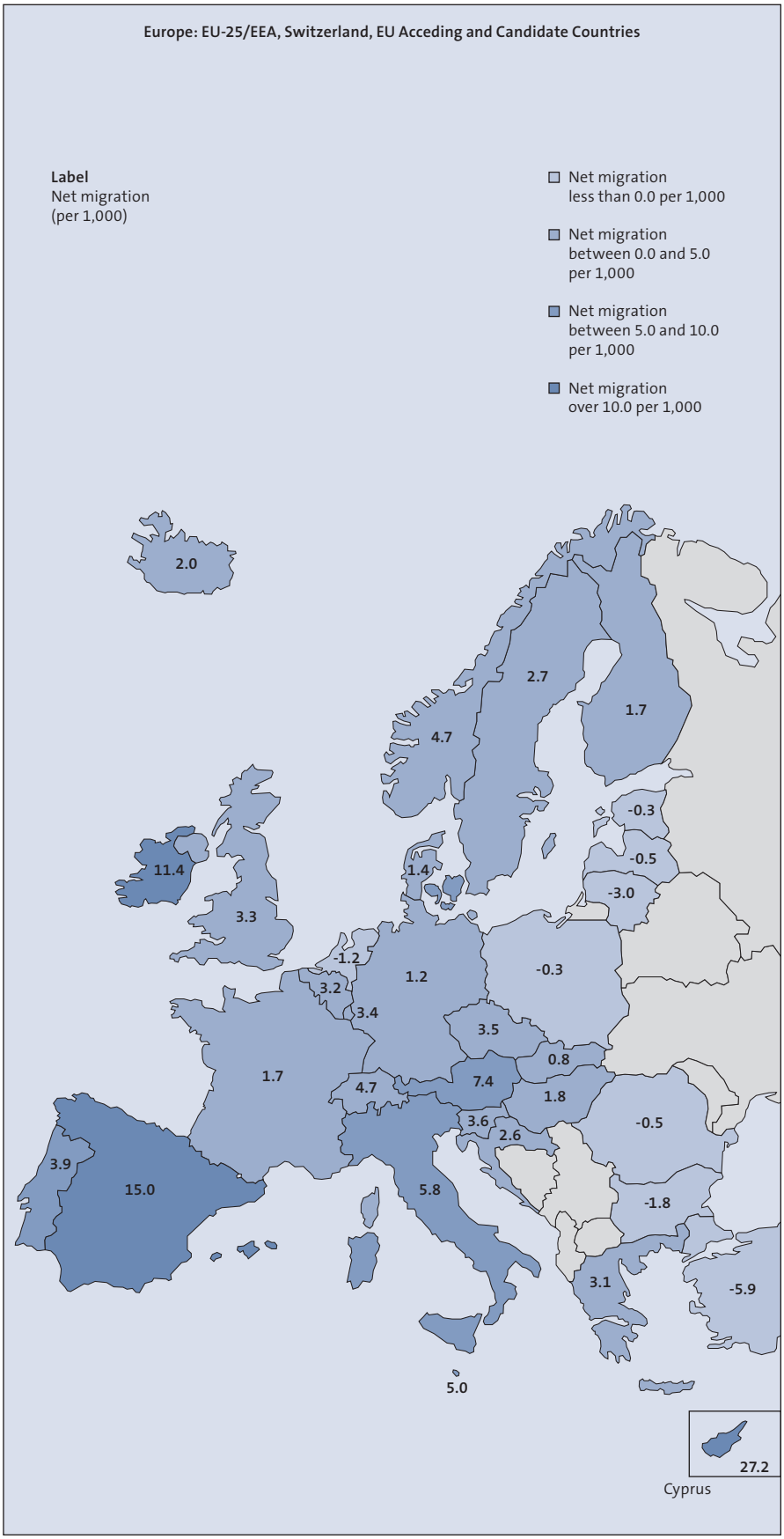
Notes:
(i) Greek part of Cyprus only.
(ii) EU Member State as of January 2007.
(iii) Data for Turkey on net migration are from 2003.
Source: EUROSTAT, Chronos Database; for Macedonia, FYR: World Development Indicators 2006.

Map 1 | Total Population Change in 2005



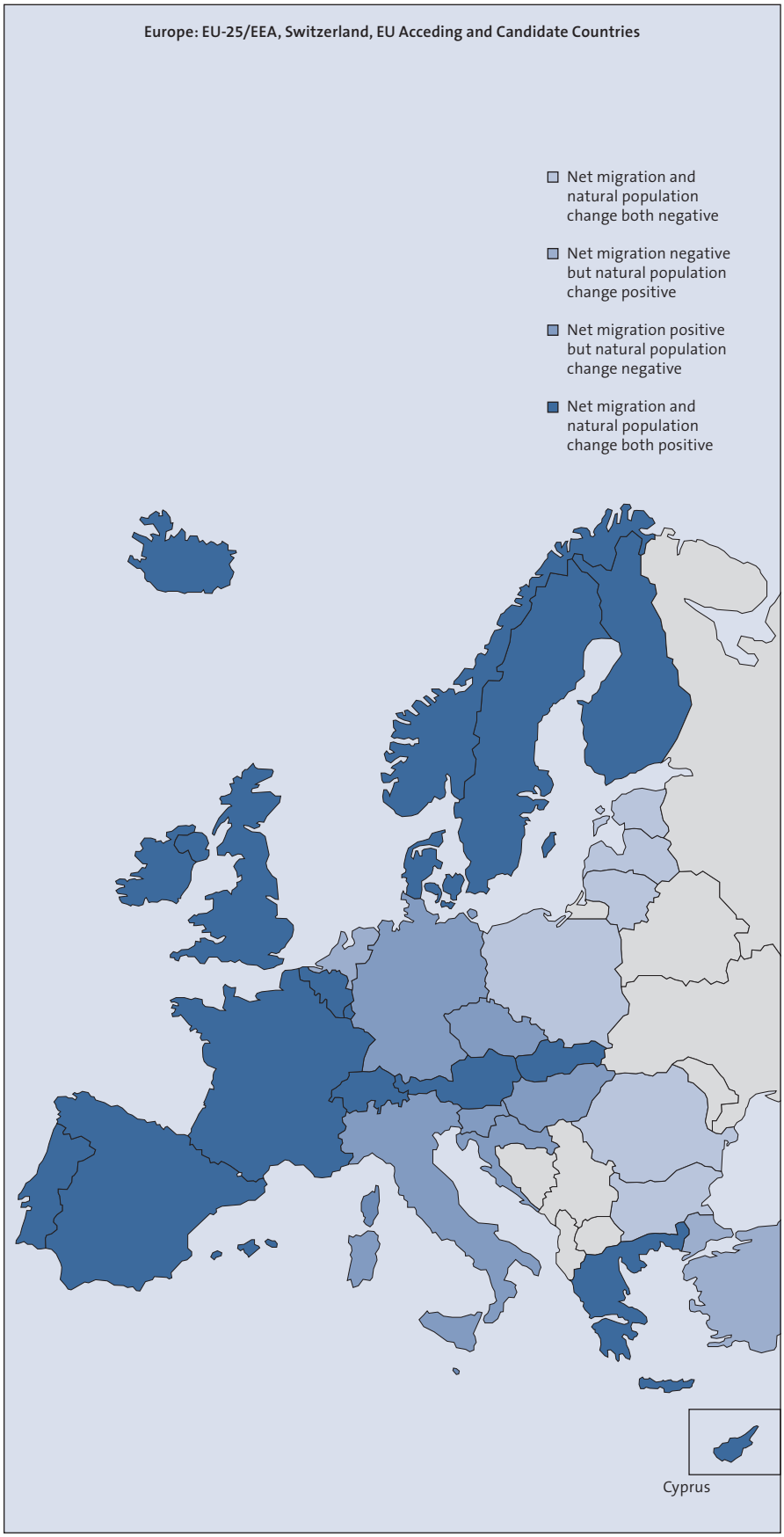
Source: EUROSTAT, Chronos Database (see Table 1).

Map 2 | Net Migration in 2005



Source: EUROSTAT, Chronos Database (see Table 1).

Map 3 | Demographic Change in 2005



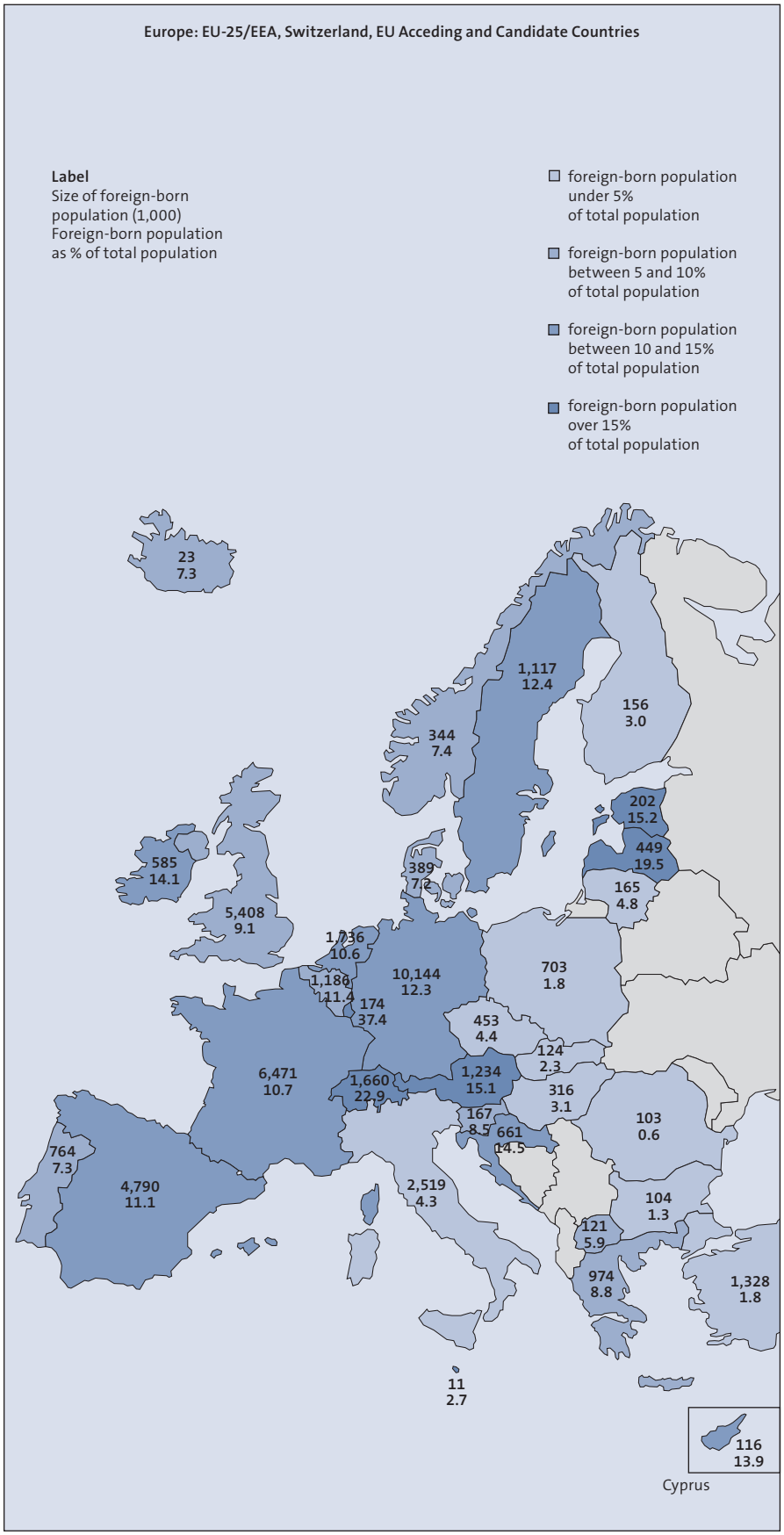
Source: EUROSTAT, Chronos Database (see Table 1).

Table 2 | Foreign-national[(i)] and foreign-born[(ii)] population in EU-25/EEA, Switzerland, EU acceding and candidate countries (2005 or latest available year)

	Foreign nationals		Foreign born	
	in 1,000	%	in 1,000	%
EU-25	**23,837[(iii)]**	**5.2**	**40,501**	**8.8**
Austria	777	9.5	1,234	15.1
Belgium	871	8.4	1,186	11.4
Cyprus [(iv)]	65	9.4	116	13.9
Czech Republic	254	2.5	453	4.4
Denmark	268	4.5	389	7.2
Estonia	95	6.9	202	15.2
Finland	108	2.1	156	3.0
France	3,263	5.6	6,471	10.7
Germany	6,739	8.9	10,144	12.3
Greece	762	7.0	974	8.8
Hungary	142	1.4	316	3.1
Ireland	223	5.5	585	14.1
Italy	2,402	4.1	2,519	4.3
Latvia	103	3.9	449	19.5
Lithuania	21	0.6	165	4.8
Luxembourg	177	39.0	174	37.4
Malta	:	:	11	2.7
Netherlands	699	4.3	1,736	10.6
Poland	49	0.1	703	1.8
Portugal	449	4.3	764	7.3
Slovakia	22	0.4	124	2.3
Slovenia	37	1.9	167	8.5
Spain	1,977	4.6	4,790	11.1
Sweden	463	5.1	1,117	12.4
United Kingdom	2,857	2.9	5,408	9.1
Acceding Countries[(v)]				
Bulgaria	26	0.3	104	1.3
Romania	26	0.1	103	0.6
Candidate Countries				
Croatia	18	0.4	661	14.5
Macedonia, FYR	:	:	121	5.9
Turkey	1,254	1.7	1,328	1.8
Other EEA and Switzerland				
Iceland	:	:	23	7.3
Liechtenstein	:	:	12	33.9
Norway	213	4.6	344	7.4
Switzerland	1,495	20.2	1,660	22.9

Notes:
(i) EU citizens from other Member States and third country nationals.
(ii) EU natives from other Member States and third country foreign-born.
(iii) Without Malta.
(iv) Greek part of Cyprus only.
(v) EU Member States as of January 2007.
Source: OECD (2006), UN (2006) and national statistics.

Map 4 | Foreign-born populations in 2005



Source: OECD (2006), UN (2006) and national statistics (see Table 2).

Table 3 | Medium variant projections: demographic and labour force development in the EU-25[(i)] and other European countries[(ii)] by age group, 2005-2050 (millions)

	2005	2015	2025	2050
Age group 0-14	75.6	71.4	69.6	68.6
Index	*100*	*94*	*92*	*91*
Age group 15-64	317.1	315.3	302.1	261.1
Index	*100*	*99*	*95*	*82*
Age group 65+	78.9	91.0	106.8	132.6
Index	*100*	*115*	*135*	*168*
Total	**471.7**	**477.7**	**478.6**	**462.2**
Index	*100*	*101*	*101*	*98*
Labour force [(iii)]	226.7	223.4	210.5	183.3
Index	*100*	*99*	*93*	*81*
Old-age dependency ration				
Age group 65+/ age group 15-64	0.25	0.29	0.35	0.51
Age group 65+/ labour force	0.35	0.41	0.51	0.72

Notes:
(i) Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom.
(ii) Channel Islands, Iceland, Liechtenstein, Norway and Switzerland.
(iii) Numbers for labour force calculated by aggregating country data, based on national participation rate projections for 2005 and 2010 over age group and sex by the ILO, and population projections for 2005, 2015, 2025, and 2050 over age group and sex by the UN, multiplying population projections for 2015-2050 with participation rate projections of 2010.
Sources: ILO 1997, UN 2005, Koettl 2005, Holzmann and Muenz (2005).

Table 4 | Zero-migration variant: demographic and labour force development in CIS – Caucasus and Eastern Europe[(i)] by age group, 2005-2050 (millions)

	2005	2015	2025	2050
Age group 0-14	34.7	33.2	30.5	26.2
Index	*100*	*96*	*88*	*76*
Age group 15-64	154.2	147.6	132.3	101.3
Index	*100*	*96*	*86*	*66*
Age group 65+	30.7	28.4	34.7	40.0
Index	*100*	*92*	*113*	*131*
Total	**219.5**	**209.2**	**197.5**	**167.5**
Index	*100*	*95*	*90*	*76*
Labour force [(ii)]	119.0	113.0	101.4	74.9
Index	*100*	*95*	*85*	*63*
Old-age dependency ration				
Age group 65+/ age group 15-64	0.20	0.19	0.26	0.40
Age group 65+/ labour force	0.26	0.25	0.34	0.54

Notes:
(i) Armenia, Azerbaijan, Belarus, Georgia, Moldova, Russian Federation, and Ukraine.
(ii) Numbers for labour force calculated by aggregating country data, based on national participation rate projections for 2005 and 2010 over age group and sex by the ILO, and population projections for 2005, 2015, 2025, and 2050 over age group and sex by the UN, multiplying population projections for 2015-2050 wih participation rate projections of 2010.
Sources: ILO 1997, UN 2005, Koettl 2005, Holzmann and Muenz (2005).

Table 5 | Zero-migration variant: demographic and labour force development in CIS – Central Asia[i] by age group, 2005-2050 (millions)

	2005	2015	2025	2050
Age group 0-14	18.0	17.8	17.6	15.1
Index	*100*	*99*	*98*	*84*
Age group 15-64	36.7	44.9	49.9	55.3
Index	*100*	*122*	*136*	*151*
Age group 65+	3.3	3.5	5.5	12.0
Index	*100*	*104*	*165*	*361*
Total	**58.0**	**66.1**	**73.0**	**82.4**
Index	*100*	*114*	*126*	*142*
Labour force [ii]	27.0	33.5	37.5	40.3
Index	*100*	*124*	*139*	*149*
Old-age dependency ration				
Age group 65+/ age group 15-64	0.09	0.08	0.11	0.22
Age group 65+/ labour force	0.12	0.10	0.15	0.30

Notes:
(i) Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.
(ii) Numbers for labour force calculated by aggregating country data, based on national participation rate projections for 2005 and 2010 over age group and sex by the ILO, and population projections for 2005, 2015, 2025, and 2050 over age group and sex by the UN, multiplying population projections for 2015-2050 with participation rate projections of 2010.
Sources: ILO 1997, UN 2005, Koettl 2005 and authors' calculations, Holzmann and Muenz (2005).

Table 6 | Zero-migration variant: demographic and labour force development in the Balkans/South Eastern Europe[i] by age group, 2005-2050 (millions)

	2005	2015	2025	2050
Age group 0-14	8.9	8.0	7.5	6.5
Index	*100*	*90*	*84*	*73*
Age group 15-64	36.8	36.3	33.9	26.7
Index	*100*	*99*	*92*	*72*
Age group 65+	7.8	8.2	9.5	12.0
Index	*100*	*105*	*122*	*153*
Total	**53.6**	**52.5**	**50.9**	**45.1**
Index	*100*	*98*	*95*	*84*
Labour force [ii]	26.1	25.7	24.1	18.4
Index	*100*	*99*	*92*	*70*
Old-age dependency ration				
Age group 65+/ age group 15-64	0.21	0.23	0.28	0.45
Age group 65+/ labour force	0.30	0.32	0.39	0.65

Notes:
(i) Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Romania, and Serbia and Montenegro.
(ii) Numbers for labour force calculated by aggregating country data, based on national participation rate projections for 2005 and 2010 over age group and sex by the ILO, and population projections for 2005, 2015, 2025, and 2050 over age group and sex by the UN, multiplying population projections for 2015-2050 with participation rate projections of 2010.
Sources: ILO 1997, UN 2005, Koettl 2005, Holzmann and Muenz (2005).

Table 7 | Zero-migration variant: demographic and labour force development in Turkey by age group, 2005-2050 (millions)

	2005	2015	2025	2050
Age group 0-14	21.4	21.3	20.7	18.5
Index	*100*	*100*	*97*	*87*
Age group 15-64	47.8	56.3	62.6	66.8
Index	*100*	*118*	*131*	*140*
Age group 65+	4.0	5.1	7.7	17.3
Index	*100*	*129*	*194*	*436*
Total	**73.2**	**82.8**	**91.0**	**102.7**
Index	*100*	*113*	*124*	*140*
Labour force [(i)]	35.3	41.6	46.5	51.1
Index	*100*	*118*	*132*	*145*
Old-age dependency ration				
Age group 65+/ age group 15-64	0.08	0.09	0.12	0.26
Age group 65+/ labour force	0.11	0.12	0.17	0.34

Notes:
(i) Numbers for labour force calculated by aggregating country data, based on national participation rate projections for 2005 and 2010 over age group and sex by the ILO, and population projections for 2005, 2015, 2025, and 2050 over age group and sex by the UN, multiplying population projections for 2015-2050 with participation rate projections of 2010.
Sources: ILO 1997, UN 2005, Koettl 2005, Holzmann and Muenz (2005).

Table 8 | Zero-migration variant: demographic and labour force development in other countries of the Middle East and North Africa[(i)] by age group, 2005-2050 (millions)

	2005	2015	2025	2050
Age group 0-14	104.3	115.0	120.1	116.2
Index	*100*	*110*	*115*	*111*
Age group 15-64	195.2	243.7	289.2	364.8
Index	*100*	*125*	*148*	*187*
Age group 65+	13.7	18.1	28.5	75.6
Index	*100*	*132*	*208*	*551*
Total	**313.2**	**376.8**	**437.8**	**556.6**
Index	*100*	*120*	*140*	*178*
Labour force [(ii)]	118.3	154.7	183.6	236.2
Index	*100*	*131*	*155*	*200*
Old-age dependency ration				
Age group 65+/ age group 15-64	0.07	0.07	0.10	0.21
Age group 65+/ labour force	0.12	0.12	0.16	0.32

Notes:
(i) Algeria, Djibouti, Egypt, Iran, Iraq, Israel, Jordan, Lebanon, Libya, Morocco, Syria, Tunisia, West Bank and Gaza, and Yemen.
(ii) Numbers for labour force calculated by aggregating country data, based on national participation rate projections for 2005 and 2010 over age group and sex by the ILO, and population projections for 2005, 2015, 2025, and 2050 over age group and sex by the UN, multiplying population projections for 2015-2050 with participation rate projections of 2010.
Sources: ILO 1997, UN 2005, Koettl 2005, Holzmann and Muenz (2005).

Table 9 | **Zero-migration variant: demographic and labour force development in the Gulf Cooperation Council Countries[i] by age group, 2005-2050 (millions)**

	2005	2015	2025	2050
Age group 0-14	12.1	12.9	13.1	11.9
Index	*100*	*107*	*109*	*99*
Age group 15-64	22.9	29.1	34.5	40.6
Index	*100*	*127*	*151*	*177*
Age group 65+	0.9	1.4	2.9	10.1
Index	*100*	*157*	*319*	*1.108*
Total	**35.9**	**43.4**	**50.6**	**62.6**
Index	*100*	*121*	*141*	*175*
Labour force [ii]	14.7	18.4	21.4	24.9
Index	*100*	*126*	*146*	*169*
Old-age dependency ration				
Age group 65+/ age group 15-64	0.04	0.05	0.08	0.25
Age group 65+/ labour force	0.06	0.08	0.14	0.41

Notes:
(i) Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.
(ii) Numbers for labour force calculated by aggregating country data, based on national participation rate projections for 2005 and 2010 over age group and sex by the ILO, and population projections for 2005, 2015, 2025, and 2050 over age group and sex by the UN, multiplying population projections for 2015-2050 with participation rate projections of 2010.
Sources: ILO 1997, UN 2005, Koettl 2005, Holzmann and Muenz (2005).

Table 10 | EU-25 population at working age by place of birth and level of education, 2005 (in percent)

	Born in the EU-25			Born in a third country		
	Low	Medium	High	Low	Medium	High
EU-25[(i)]	**28.2**	**47.4**	**24.4**	**36.0**	**38.3**	**25.7**
Austria	16.3	65.3	18.4	44.3	42.4	13.2
Belgium	33.5	35.5	31.1	47.5	25.6	26.9
Cyprus	33.3	39.4	27.2	36.9	31.3	31.8
Czech Republic	10.1	76.9	13.0	16.8	55.1	28.1
Denmark	16.9	50.4	32.7	26.0	35.9	38.0
Estonia	11.0	56.1	33.0	10.5	52.5	37.0
Finland	20.8	44.6	34.6	27.8	44.6	27.6
France	32.2	42.8	25.0	47.5	27.9	24.7
Germany	12.4	62.2	25.4	:	:	:
Greece	40.1	39.0	20.9	43.9	41.3	14.7
Hungary	24.1	59.0	16.9	13.2	62.4	24.4
Ireland	36.0	35.8	28.1	14.3	28.7	56.9
Italy	50.0	38.1	11.9	:	:	:
Latvia	17.0	62.1	20.9	12.1	62.6	25.3
Lithuania	13.1	60.4	26.5	7.7	65.3	27.0
Malta	74.6	13.7	11.7	50.4	26.1	23.5
Netherlands	27.6	41.2	31.3	33.6	44.0	22.3
Poland	15.4	68.1	16.5	(19.9)	58.1	22.0
Portugal	75.2	12.8	12.0	50.2	26.2	23.5
Slovakia	12.4	73.8	13.9	:	(50.7)	:
Slovenia	18.5	60.8	20.8	30.3	57.4	12.3
Spain	52.2	19.3	28.5	42.7	31.3	26.0
Sweden	15.8	54.7	29.5	22.4	46.4	31.3
United Kingdom	14.4	56.2	29.4	19.8	50.2	29.9

Note:
(i) Incomplete EU-25 average: education levels of EU natives do not include data for Luxembourg; education levels of third-country foreign-born do not include data for Germany, Italy and Luxembourg. Data in brackets are of limited reliability due to the small sample size.
Source: European Labour Force Survey (LFS): ad hoc modules, Eurostat; own calculations.

Table 11 | EU-25 population at working age by citizenship and level of education, 2005 (in percent)

	EU-25 nationals			Third-country nationals		
	Low	Medium	High	Low	Medium	High
EU-25[(i)]	**25.5**	**49.8**	**24.7**	**47.0**	**35.1**	**17.9**
Austria	17.2	64.4	18.5	49.7	40.7	9.5
Belgium	34.1	35.0	30.9	54.8	22.6	22.7
Cyprus	33.4	38.8	27.8	38.3	33.6	28.2
Czech Republic	10.1	76.9	13.0	15.4	55.4	29.2
Denmark	17.0	50.0	33.0	32.6	35.0	32.4
Estonia	10.9	55.7	33.3	(10.6)	52.8	36.6
Finland	20.9	44.6	34.5	(23.2)	45.1	31.7
France	32.6	42.1	25.3	65.0	21.4	13.7
Germany	14.7	60.2	25.1	52.3	35.0	12.7
Greece	39.9	39.2	20.9	48.7	38.5	12.8
Hungary	24.0	59.0	17.0	(12.7)	73.7	(13.6)
Ireland	35.5	35.7	28.7	(18.0)	23.8	58.1
Latvia	16.5	62.1	21.5	:	(71.6)	:
Lithuania	12.9	60.6	26.5	:	59.8	:
Malta	73.9	14.0	12.1	64.5	25.2	10.3
Netherlands	27.9	41.5	30.6	42.4	40.0	17.6
Poland	15.4	68.1	16.5	:	(46.5)	(43.5)
Portugal	74.2	13.2	12.6	47.3	36.0	(16.6)
Slovakia	12.4	73.7	13.9	:	:	:
Slovenia	19.5	60.5	20.0	(27.3)	(55.4)	:
Spain	51.4	20.2	28.4	48.7	26.1	25.2
Sweden	16.3	54.4	29.3	27.7	35.2	37.1
United Kingdom	14.8	55.6	29.6	17.1	57.1	25.9

Note:
(i) Incomplete EU-25 average: education levels of EU and third country nationals do not include data for Luxembourg. Data in brackets are of limited reliability due to the small sample size.
Source: European Labour Force Survey (LFS): ad hoc modules; own calculations.

Table 12 | Employment rates by citizenship and gender, 2000 and 2005 (in percent)

	EU-15 nationals			EU-10 and third-country nationals		
	Total	Males	Fem.	Total	Males	Fem.
2005						
EU-15 (pre enlargement countries)(i)	67.0	73.6	60.4	55.6	66.0	45.4
Austria	69.1	75.6	62.7	60.6	70.6	50.9
Belgium	61.9	68.3	55.4	37.0	50.7	23.5
Denmark	76.3	80.5	72.0	50.3	61.1	43.4
Finland	69.5	71.1	67.8	47.5	54.9	42.1
France	64.0	69.2	59.0	44.5	59.0	30.6
Germany	66.6	72.0	61.2	48.2	58.7	37.7
Greece	59.8	73.8	46.0	68.7	85.4	50.6
Ireland	67.0	75.9	58.1	68.6	78.2	56.0
Italy	:	:	:	:	:	:
Luxembourg	60.9	70.5	51.0	56.9	74.3	43.7
Netherlands	74.1	80.7	67.4	42.0	54.1	30.9
Portugal	67.5	73.3	61.8	72.7	79.5	66.2
Spain	62.5	74.5	50.2	70.7	80.1	61.3
Sweden	73.5	75.3	71.6	46.3	50.3	42.8
United Kingdom	72.1	77.8	66.5	59.6	67.4	52.4
2000						
EU-15(i)	65.6	73.8	57.4	50.8	62.6	38.9
Austria	68.3	77.3	59.3	70.7	82.7	57.8
Belgium	62.1	70.6	53.6	33.7	47.8	18.8
Denmark	77.1	81.3	72.9	50.0	55.3	45.3
Finland	68.4	71.3	65.4	48.1	54.2	41.8
France	:	:	:	:	:	:
Germany	66.3	73.4	59.2	51.2	62.1	39,.4
Greece	56.4	71.3	41.7	65.0	84.0	46.2
Ireland	64.7	76.0	53.4	49.7	56.4	41.4
Italy	:	:	:	:	:	:
Luxembourg	61.6	75.0	46.7	53.3	68.3	40.8
Netherlands	73.8	82.9	64.5	44.7	59.1	30.7
Portugal	68.2	76.2	60.4	72.3	76.2	67.8
Spain	56.0	71.0	41.1	60.3	75.5	46.1
Sweden	72.3	73.7	70.8	42.7	45.7	39.5
United Kingdom	71.6	78.2	65.2	54.2	64.0	46.0

Note:
(i) Incomplete EU-15 average: employment rates (2005) do not include data for Italy; employment rates (2000) do not include data for France and Italy.
Source: European Labour Force Survey (LFS), 2005; Eurostat.

Table 13 | Employment rates by place of birth and gender, 2005 (in percent)

	Born in the EU-25			Born in a third-country		
	Total	Males	Fem.	Total	Males	Fem.
EU-25[(i)]	**64.0**	**71.2**	**56.8**	**61.0**	**70.4**	**52.0**
Austria	68.6	74.3	62.9	59.5	66.5	52.8
Belgium	62.4	68.7	56.0	43.6	55.7	31.9
Cyprus	67.8	79.7	56.0	75.3	77.7	73.7
Czech Republic	64.7	73.2	56.1	67.3	84.7	46.7
Denmark	76.5	80.6	72.3	57.3	68.2	49.7
Estonia	64.4	65.6	63.3	68.7	73.6	64.8
Finland	69.5	71.2	67.9	48.6	55.0	43.0
France	63.7	68.8	58.6	53.7	63.4	44.2
Germany	67.0	72.2	61.8	:	:	:
Greece	59.8	73.8	45.9	67.7	84.1	50.5
Hungary	56.7	62.8	50.8	64.0	73.4	55.9
Ireland	67.4	76.4	58.3	59.3	69.2	48.7
Italy	57.3	69.4	45.3	:	:	:
Latvia	62.3	65.6	59.3	69.1	79.3	60.4
Lithuania	62.3	65.8	59.0	73.0	82.7	64.5
Malta	53.3	73.5	33.1	61.6	73.1	48.2
Netherlands	75.0	81.4	68.4	58.7	67.6	49.7
Poland	52.3	58.2	46.5	29.4	(36.5)	(22.5)
Portugal	67.2	73.1	61.4	75.0	80.1	70.4
Slovakia	57.4	64.1	50.8	67.8	:	:
Slovenia	65.8	69.8	61.7	68.1	75.5	60.8
Spain	62.4	74.4	50.1	70.5	80.3	60.9
Sweden	74.5	76.2	72.7	55.3	58.8	51.9
United Kingdom	72.3	77.9	67.0	61.5	71.0	52.6

Note:
(i) Incomplete EU-25 average: employment rates of EU natives do not include data for Luxembourg; employment rates of third-country foreign-born do not include data for Germany, Italy and Luxembourg. Data in brackets are of limited reliability due to the small sample size.
Source: European Labour Force Survey (LFS): ad hoc modules, Eurostat; own calculations.

Table 14 | Unemployment rates by citizenship and gender, 2000 and 2005 (in percent)

	EU-15 nationals			EU-10 and third-country nationals		
	Total	Males	Fem.	Total	Males	Fem.
2005						
EU-15 (pre enlargement countries)(i)	7.9	7.5	8.4	17.2	16.8	17.8
Austria	4.4	4.2	4.6	13.5	13.2	13.9
Belgium	7.4	6.6	8.3	31.5	30.3	33.9
Denmark	4.7	4.1	5.3	12.8	:	:
Finland	9.5	9.4	9.5	27.4	29.8	24.9
France	8.2	7.4	9.0	24.1	20.3	30.3
Germany	10.6	10.7	10.4	23.5	24.1	22.5
Greece	9.9	6.0	15.4	7.8	4.4	13.5
Ireland	4.1	4.5	3.6	6.8	6.5	7.5
Italy	:	:	:	:	:	:
Luxembourg	3.3	2.6	4.2	11.3	:	:
Malta	7.8	7.2	9.0	6.6	5.3	8.5
Netherlands	4.5	4.2	4.9	18.1	19.8	15.3
Portugal	7.5	6.8	8.3	12.6	10.7	14.7
Spain	9.1	7.0	12.1	11.8	10.1	14.0
Sweden	8.4	8.4	8.4	24.5	27.5	21.1
United Kingdom	4.3	4.8	3.8	9.5	9.8	9.1
2000						
EU-15(i)	7.7	6.7	9.1	17.0	16.9	17.3
Austria	2.9	2.4	3.5	5.5	5.3	5.8
Belgium	5.8	4.3	7.8	30.7	30.6	31.2
Denmark	4.3	3.7	5.0	13.5	:	:
Finland	11.0	10.2	11.8	33.3	34.0	32.3
France	:	:	:	:	:	:
Germany	7.5	7.1	8.1	15.5	16.6	13.5
Greece	11.5	7.6	17.3	11.4	7.4	17.9
Ireland	4.3	4.4	4.2	:	:	:
Italy	:	:	:	:	:	:
Luxembourg	1.6	1.1	2.4	8.4	:	:
Malta	6.1	6.1	6.2	17.0	18.2	15.4
Netherlands	2.6	2.0	3.3	10.1	7.9	14.0
Portugal	3.9	3.1	4.9	:	:	:
Spain	13.8	9.5	20.5	17.3	14.6	21.1
Sweden	5.1	5.5	4.6	22.0	20.8	23.4
United Kingdom	5.4	6.0	4.8	11.9	14.2	9.1

Note:
(i) Incomplete EU-15 average: unemployment rates (2005) do not include data for Italy; unemployment rates (2000) for EU-15 nationals do not include data for France and Italy, unemployment rates (2000) for third country nationals and do not include data for France, Ireland, Italy and Portugal.
Source: European Labour Force Survey (LFS), 2005; Eurostat.

Table 15 | Unemployment rates by place of birth and gender, 2005 (in percent)

	Born in the EU-25			Born in a third-country		
	Total	Males	Fem.	Total	Males	Fem.
EU-25[(i)]	**6.1**	**6.3**	**5.9**	**8.9**	**9.3**	**8.5**
Austria	3.1	3.3	3.0	8.7	10.6	6.8
Belgium	4.7	4.6	4.8	14.3	16.3	12.5
Cyprus	4.0	3.6	4.4	3.5	(4.4)	(2.9)
Czech Republic	5.5	4.9	6.1	7.2	:	12.2
Denmark	3.6	3.4	3.9	7.7	(6.7)	8.4
Estonia	5.6	7.2	4.0	(7.9)	:	:
Finland	7.2	7.3	7.1	19.0	22.7	15.9
France	5.9	6.0	5.9	11.8	12.2	11.3
Germany	7.8	8.5	7.0	:	:	:
Greece	6.5	4.6	8.3	7.3	5.4	9.3
Hungary	4.4	4.7	4.0	(3.3)	:	(4.7)
Ireland	3.0	3.7	2.3	(4.6)	(5.6)	:
Italy	4.6	4.6	4.6	:	:	:
Latvia	6.5	7.5	5.5	5.6	:	(7.3)
Lithuania	5.8	6.2	5.4	9.1	:	:
Malta	4.5	5.6	3.4	7.7	9.3	5.8
Netherlands	3.2	3.1	3.2	8.1	10.1	6.0
Poland	11.7	12.3	11.2	(5.5)	:	:
Portugal	5.5	5.3	5.7	7.2	(7.8)	(6.7)
Slovakia	11.2	12.0	10.5	:	:	:
Slovenia	4.0	4.2	3.8	(5.5)	(3.4)	(7.7)
Spain	6.2	5.6	6.8	9.3	8.7	10.0
Sweden	6.3	6.5	6.1	13.6	15.0	12.3
United Kingdom	3.3	3.9	2.6	5.3	6.0	4.5

Note:
(i) Incomplete EU-25 average: unemployment rates of EU natives do not include data for Luxembourg; unemployment rates of third-country foreign-born do not include data for Germany, Italy and Luxembourg. Data in brackets are of limited reliability due to the small sample size.
Source: European Labour Force Survey (LFS): ad hoc modules, Eurostat; own calculations.

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