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Knowledge for INtegration Governance

The contribution of migration to population change in Europe: 1991–2011

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The KING project's objective is to elaborate a report on the **state of play** of migrant integration in Europe through an interdisciplinary approach and to provide decision- and policy-makers with **evidence-based recommendations** on the design of migrant integration-related policies and on the way they should be articulated between different policy-making levels of governance.

Migrant integration is a truly multi-faceted process. The contribution of the insights offered by different disciplines is thus essential in order better to grasp the various aspects of the presence of migrants in European societies. This is why **multidisciplinarity** is at the core of the KING research project, whose Advisory Board comprises experts of seven different disciplines:
EU Policy – Yves Pascouau
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Economics – Martin Kahanec & Alessandra Venturini
Demography – Gian Carlo Blangiardo
The present paper belongs to the series of contributions produced by the researchers of the "Demography" team directed by Gian Carlo Blangiardo.

The project is coordinated by the **ISMU Foundation.**

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The contribution of migration to population change in Europe: 1991–2011[1]

1. INTRODUCTION

Understanding how and why a population is changing requires a sound knowledge of the intensity and the impact of net migration. In most European countries, low levels of fertility have resulted in negative or negligible natural population increase. Immigration has counterbalanced these negative (or zero) population changes and, as a consequence, many receiving countries recorded a positive demographic balance in the past two decades (OECD 2012). This analysis contains an overview of the net contribution of international migration to the European Union (EU-28) population in the past two decades 1991–2011.
Immigration towards some European countries has drastically increased during the last decades. Overall, 15 per cent of the population in the European Union were foreign-born or had at least one foreign-born parent in 2008 (Lanzieri 2010). This phenomenon has a multi-faceted effect on European populations. Net gains from international migration increase a country's population and thus support population growth. A majority of immigrants is aged 20–30 years upon arrival, mitigating to some extent (and in a short/medium time perspective) the negative effects of population ageing and a declining labour force. In addition, since migrants are often of a different culture, ethnicity and religion, they contribute to changing the social environment in the destination countries: a higher proportion of migrants support cultural, ethnical, and religious diversity in a population. Demographic effects may well interact with societal effects as long as migrants differ from the local population in their fertility behaviour and family formation patterns.

Before World War II, Europe was a key sender of population to overseas countries, especially the US, Canada and Australia, but after the war immigration started to increase. In the late 1940s and during the 1950s, the independence of ex-colonies moved many people towards the motherlands—mainly returning nationals, but also migrant workers from the colonies. The main receiving countries of these flows were the UK, Belgium, the Netherlands and France. This post-colonial migration was followed by the big migration waves—made up mainly of migrant workers—in the 1960s and the 1970s, directed especially towards Germany and Austria. In the late 1980s, east–west European migration emerged as the major flow of people on the continent, particularly caused by the fall of the totalitarian regimes in central and Eastern Europe. The EU declaration for the right of free movement and residence (Directive 2004/38/EC) and free labour markets provided a strong incentive for within Europe (EU) migration flows. In the recent past, several European countries, like Italy and Spain, have gradually transformed themselves from sending to receiving countries and migration has become an important component of their population change besides the natural increase due to vital events.

Today there are more than seven billion people living on our planet. Of them 232 million are international migrants, i.e. people living outside their country of birth. They represent three per cent of the world's population (UN 2012). Most of the international migrants (59%) live in the high-income countries of the

[1] I would like to thank Livia Ortensi and Alessio Menonna for data elaborations and Nikola Sander for the circular plot and the helpful and valuable remarks to a previous version of this paper. I am indebted to Professor Gian Carlo Blangiardo who has conceived and carefully supervised this analysis. An earlier version of this paper has been presented at the KING project meeting held in Milan on 6 February 2014. I am grateful to all the participants of the meeting for their valuable comments. A big thanks goes to Werner Richter for the English editing.

Northern Hemisphere. Migrations are driven by the past and current demographic trends which see an ever-increasing life expectancy combined with below-replacement levels of fertility. Low fertility and improved survival conditions are modifying the shape of the age profile of the population from the well-known and traditional pyramid, with large younger cohorts at the bottom, to an almost reversed pyramid, where the larger cohorts are found among the elderly. For Europe, the process of ageing is expected to be relevant during the next few decades—with the ageing of the baby boom generations—and may be accompanied by a shrinking of the population size with further repercussions on the potential labour force which may no longer be sufficient to sustain economic growth. The demographic solutions envisaged by the countries affected are aimed at increasing fertility levels and/or increasing the flow of immigration. However, any increase in fertility would need at least a couple of decades before becoming 'visible' to the labour market, while the effect of migration can be felt immediately if continuous new flows of people are considered.

This paper examines the contribution of migration to the demography of Europe (EU-28) in the period 1991-2011, by focusing on the following aspects:

1) Spatial patterns of migration flows with emphasis on the countries registering the most positive net migration and the countries registering the most negative net migration
2) Geographical differences in the migration flows occurred in the decade 1991-2001 and the decade 2001-2011
3) Effects of international migrations on population size and population age structure of the different EU countries
4) Contribution of migrations in terms of 'demographic asset' and potential impact of this asset on human capital, labour market and fiscal policies of the receiving and sending countries

The analysis covers the 28 EU countries and two decades: 1991–2001 and 2001–2011. Data were taken from different international data sources (mainly Eurostat) as well as from national official statistics.

The empirical analysis encompasses the following analytical steps: a) estimation of net additional amount of people (due to migration) observed in the two time periods (i.e. 1991–2001 and 2001–2011); b) computation of the contribution of net migration to the changing age structure of the EU hosting populations; c) estimation of gain and loss in the demographic potential of each EU Member State due to migration, i.e. the total number of life-years added or lost by any given EU population due to migration also called demographic asset; d) computation of migration flows occurred within the European Union (EU28) in the period 2001–2011.

The study is mostly focused on cross-country comparisons and does not provide in depth country-specific results; moreover, since it is mainly descriptive, it leaves explanatory reflections for later research. Eventually, by examining past and present migration and their effect on EU populations, this research is functional to the analysis conducted by Kaczmarczyk in the framework of the Demographic Unit of the King Project which examines this impact with regard to the future. Last but not least, this study is not aimed at overcoming limitations in data sources (including inconsistencies in data availability, quality, and collection mechanisms) of international movements in Europe nor does it offer scenarios based on formal estimation model or provide specific assumptions for future population projections.

The paper is organized as follows. First, the conceptual framework of the analysis is described. Second, data and methods used to calculate migration volumes are presented and the findings interpreted and critically discussed. Finally, in the concluding section, some policy implications are derived in terms of potential contribution of migration to the European demography for the years to come.

2. BACKGROUND AND LITERATURE

2.1 International migration: some features

International migration has been increasing in Europe over the past twenty years. Importantly, in this period, the working-age population has also been growing. In the next years the European demographic change with a shrinking and ageing population—especially the working-age population—will most likely cause an increasing demand of migrants. On the other hand, the persistent poor economic conditions in many developing countries will constitute a push factor for many migrants searching for better economic conditions. The effects of demographic factors on migration flows are not very clear-cut, but it can be expected that population ageing will pull more and more people working in the health and care sectors towards the ageing societies, and the shrinking of population will be a factor attracting young workforce willing to fill the widening gaps in the labour markets. This process is not going to affect all European countries in the same way: there are huge cross-country difference in the shape and spatial directions of migration in Europe. In some countries, in which birth levels have remained quite high in the past, the working-age population will not change substantially; these are, for example, the Scandinavian countries as well as France and the United Kingdom. Interestingly, these countries encompass only one-fifth of the European population. In other countries, such as Italy, Spain and Germany, which together with Russia represent almost one-half of the population in Europe, the demographic decline seems to provide a strong pull factor for migration movements (Livi Bacci 2010). Birth levels in these countries have been particularly low in the past years, producing a rapid and pronounced population ageing. In Spain and Italy, the geographic proximity to North Africa is an extremely important pull factor, beyond the presence of well-established migrants' networks and the favourable labour market conditions, which are common to Germany and other typical settlement countries. Moreover, migration can be functional to the welfare regimes of those countries (like the Southern European countries) not very generous in providing public services such as child care and health care for elderly people (Kaczmarczyk 2013; OECD 2013). As such, it can be expected that migration flows will continue in Europe in the years to come.

Another important dimension of international migration is the length of stay of migrants in the receiving countries. The motives for international migration are many: people move for employment, family reunion or amenity reasons. Most of the movements are motivated by economic reasons, often the search for a better job or better economic conditions, but often migrants stay in the receiving countries longer than just the length of their working contract, although circular migrations are quite widespread[2]. Once the integration process has started, people who have moved will most likely offer an incentive for the other members of their family to move to the same destination country as well, activating the so called migration due to family reunification. This process of settlement of migrants in the immigration country was nicely described by Max Frisch—as reported by Livi Bacci in his recent work (2010)—in his aphorism: "Wir riefen Arbeitskräfte, und es kamen Menschen" (We called for a workforce, and human beings came). The reference here is to the Turkish immigrants to Germany in the 1970s and 1980s. Thus, the increasing migration flows call for appropriate integration policies which enable migrants to be not only a suitable workforce but also individuals who take part in the social, cultural and political life of their host countries. One preliminary step in order to conceive appropriate integration measures for migrants living in the EU

[2] Circular migration, i.e. repetitive migration (whether seasonal or temporary) between developed and developing countries, is supported by the European institutions insofar as it is beneficial for both the receiving and the sending countries (Livi Bacci 2010). The major benefits for the sending countries would be the money transfers from migrants to the family members remained in the origin country while the major benefits of the receiving countries would be the circulation of skills and the limitation of losses due to the brain drain. Furthermore, migrants would gain from circular migration more flexibility and a wider range of options. Finally, circular migration is supposed to reduce incentives for irregular migration (Dayton-Johnson 2007).

Member States is knowing the demographic contribution of people moving to the destination countries, i.e. estimating how many people live as immigrants in the different countries, as well as their age and sex and whether they have migrated alone or with their family.

Finally, a relevant question related to international migration is to what extent the immigrants are functional to the labour market of the receiving countries, and consequently, to what extent they contribute to improving the sustainability of pension systems and fiscal policies of these countries. At the beginning of 2000 the United Nations coined the concept of 'replacement migration' which should reflect the amount of migrants—i.e. newcomers—that would be needed to offset the decline in the natural increase (observed or expected) in the populations of the EU countries (UN 2000). The projection exercise performed by the UN in the 1998 Revision of the World Population Prospects (UN 1998b), with the aim of estimating the size of the hypothetical contingent needed to replace the negative natural balance observed (or expected) in the EU countries' populations, indicated extremely large numbers of new migrants (incoming flows) and made clear that migration is not a feasible solution for population ageing and population decline in the developed countries (McDonald and Kippen 2001). While making clear that migration cannot replace negative population changes, the UN publication also provided a stimulus for assessing and discussing alternative measures that could enable governments to cope with these demographic challenges. First of all, given that there is a trade-off between the number of people in the workforce and their productivity, so that a declining number of working people may be compensated by an increased productivity of this reduced contingent of working people, measures aimed at enhancing the productivity of older workers can help to ease the problem of ageing and shrinking of the working-age population. Moreover, some measures, such as shifting the retirement age to older ages and encouraging women's participation in the labour market, could also attenuate a possible reduction in the workforce due to a shrink of the working-age population. In other words, the debate that developed around the issue of replacement migration was very useful to clarify that the question cannot be tackled only looking at figures, i.e. estimates of added or lost population, and that potential benefits of migrants for the labour market, pension systems and fiscal policies in the receiving countries strongly depends, on one hand, on the characteristics of the migrants and the volume of migration (Devlin et al. 2014) and, on the other hand, on the structure of labour market, pension system and fiscal regime existing in these countries.

To sum up, migration has been a prominent component in the European population's change during the last two decades and can be expected to affect the demography of the EU countries in the years to come. This calls for suitable migration and integration policies to be implemented by the European governments, especially if migrants stay in the receiving country for long-term periods. Aim of this analysis is to advance the existing scientific knowledge on the quantitative aspects of migration in Europe, which in turn may serve as a preliminary—though very important—step towards establishing suitable migration integration policies.

2.2 Estimating European migration

Reported statistics on population flows are often complex. Countries use different methods for data collection and usually, migration statistics come from a variety of administrative registers, censuses or surveys. International migration statistics suffer from reliability problems mainly because of different ways of measuring migrants and data gaps due to imperfect data coverage (Nowok et al. 2006). Surveys often do not have sample sizes large enough to adequately capture the details needed for analysing migration. This is because flows of international migration only represent a small fraction of any population and because migrants might be more difficult to capture than the rest of population. Finally, data on flows for certain countries may be missing, either for particularly years or in fact entirely. Most of the work in the area of

estimating international migration flows has been focused on indirect methods for particular countries (see among the most recent examples, Van der Gaag and Van Wissen 2002; Bijak 2010), or on harmonizing migration flow tables (Abel 2010, and De Beer et al. 2010). Abel (2012) developed a method for estimating flows based on birthplace-specific migrant stock data obtained from decennial censuses. Raymer (2007 and 2008) developed methods for estimating missing flows. In a very recent work, Raymer and colleagues (2013) propose a model to estimate European migration based on a Bayesian model which is aimed at overcoming limitations of the migration data sources related to availability, definition and quality. The major innovation of this model has to do with the reported measures of uncertainty for all flow estimates and parameters used in the envisaged model.

The method proposed here is also based on an indirect estimation procedure, because the amount of net migration in each EU country is inferred by a comparison of resident populations observed at two points in time (according to the well-known residual method proposed by the United Nations in 1970). This implies that the estimates are strongly influenced by the conditions under which migrants can be part of the resident population, which vary from country to country. As such, these estimates do not cover undocumented or irregular migration and, furthermore, they do not contain information on the country of origin of migrants; being focused only on the 'net population' contribution, due to migration, they take exclusively the perspective of the receiving countries. On the other side, this approach overcomes problems linked to data availability, because each European country has good and reliable statistics on the resident population in Europe, and moreover, it is innovative and dynamic, insofar it contains information on the future potential life of a population (life-years to be spent in different age groups).

3. CONCEPTS, MEASURES, DATA AND METHODS

3.1 Looking for a definition of international migration

Before entering into details of the methodology used for computing the contribution of migration to the demographic assets of each EU country, it is useful to identify what is meant by 'immigrants'. The concept of a migrant flow between two countries is defined according to available definitions and data and its definitions may differ across countries and times. According to the UN definition of 1998a, which is also accepted in the EU, a migrant is "a person who moves to a country other than that of his or her usual residence for a period of at least a year, so that the country of destination effectively becomes his or her new country of usual residence. From the perspective of the country of departure, the person will be a long-term emigrant and from that of the country of arrival, the person will be a long-term immigrant" (United Nations 1998a, p.18). This definition replaced a previous one in which the term "residence" was excluded as it was too divergent across countries. Place of residence is defined as "The country in which a person lives, that is to say, the country in which he or she has a place to live where he or she normally spends the daily period of rest. Temporary travel abroad for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage does not change a person's country of usual residence " (United Nations 1998a, p.17).

Usually the immigrant population is approximated with the foreign or the foreign-born population. Eurostat defines the foreign population as "all persons who have that country as country of usual residence and who are the citizens of another country" and the foreign-born population as "all persons who have that country as country of usual residence and whose place of birth is located in another country". The former definition

includes persons of other nationality born in the country. The latter definition includes naturalized immigrants, i.e. foreigners who have received the citizenship in their usual country of residence. It also includes nationals born abroad who have moved back to their country of origin.

Haug (2002) discusses an interesting criterion for the definition of immigrant population. In Germany, Switzerland and Portugal it is approximated with the foreign population while in Belgium, the Netherlands and Norway it is defined with reference to the place of birth of a person's parents, which means that in the latter three countries the immigrant population includes foreigners born abroad and persons born in the country with one or both parents being foreigners (persons with migration background). The choice of definition is linked with the naturalization procedure and depends on the naturalisation law: the softer the law, the larger the difference. Currently, the procedure is more demanding in Germany, Switzerland and Portugal and more generous in Belgium the Netherlands and Norway. Naturalization is selective and as such it influences the integration process (Philipov and Schuster 2010). Indeed, if it is less demanding, naturalized persons may find integration not appealing and belong to their original culture for more than one generation. In such cases it makes sense to consider an enlarged definition of an immigrant population.

In this analysis the net demographic contribution, as well as the demographic asset due to migration, is computed by comparing resident populations in the EU countries at different points in time. Thus, the estimations of migrants should be consistent with the United Nations recommendation for long-term international migration.

3.2 Reconstruction of the contribution of migration to the working-age population

The reconstruction of the contribution of migration to the European population is based on data taken from international data sources as well as from national official statistics. The period under consideration encompasses two decades, 1991¬–2001 and 2001–2011, which are considered separately. The geography of international migration in Europe is reconstructed by computing net migration by age and sex in each EU country.

The main idea of the whole estimation procedure is based on the counterfactual assumption that population change occurs in the absence of migration. In short, the net migration flows are estimated by comparing counterfactual outcomes (i.e. population regardless of migration) to the outcomes observed under the real condition of migration flows (i.e. actual population, as registered in the official statistics). Indeed, under the hypothetical situation of zero migration flows, the differences in the size (and age structure) of any given population observed in two different points in time would be due exclusively to the force of mortality, i.e. survivor rates. This statement is true if and only if the observational points considered are relatively close each other (as, for example, ten years) and if and only if only the working-age population is considered in this projection exercise (see residual methods used by the United Nations). In this latter case, the assumptions on fertility rates will not substantially influence the result of the projected population because those people born in the inter-temporal period (i.e. ten years) have not yet entered the working-age population contingent, as measured ten year after the starting point, given that the working-age segment usually encompasses people aged 15–64.

The reconstruction of the net migration profile by age and gender for any given population from time t to time t+1 is made using the following relationship:

$$NM_{x/x+1} = [P_{x+1}(t+1)] - [P_x(t) * s_{x/x+1}] \quad (1)$$

where NM stands for net migration and Px(t), P x+1 (t+1) are the resident population aged x and x+1 (by sex) at time t, t+1, and sx/x+1 are the survival rates from age x to age x+1 as taken from the most recent available life tables. As can be seen, the computation of net migration according to the formula above permits disaggregation by age and sex and is not based on the balance (or difference) between in migration and out-migration flows as taken from suitable official statistical sources. Moreover, this estimation procedure, while is very simple on a computational side, allows us to deal with the shortcomings related to the lack of adequate national and international statistics on migration flows. Following the procedure described above, the net contribution of migration[3] to the EU working-age population (either positive or negative) is computed by taking the resident population in the initial observation year, i.e. 1991, and comparing two different populations, a theoretical and an actual population, at the end of the period, i.e. in 2001. The theoretical (or hypothetical) resident population is derived by applying the survival rates to the 1991 population (which implies the assumption of zero migration in the period), while the actual resident population is just the resident population recorded in 2001. The same procedure has been repeated for the computation of the contribution of migration to the working-age population in the subsequent decade, 2001–2011. It is important to emphasize that the net contribution of migration to the European working-age population does not only consider migration occurring within Europe but also migration towards and from countries outside the EU 28. In order to have a closer look at the movements occurring within Europe, the matrix of intra-European migration flows has been estimated (see Section 2.4).

3.3The approach of potential demography and the definition of demographic asset

The second computational step is based on the same formula (1) described above, but, in this case, the net migration profile obtained is converted into a demographic asset (DA) by applying life expectancies (at different ages depending on the age and gender of migrants) to this contingent of people. The computation is first performed for each single year of the decade considered, and then an average over the ten years is computed. The average value is finally converted into demographic asset by using the so called DemoAsset model (See Box 1 for technical details). The term asset is borrowed from the economic terminology largely used in the potential-demography approach (according to which the future is considered an economic good, and the population an asset) and is not meant to give to migrants a merely material connotation.
The estimate of the demographic asset (DA) relies on the following assumptions: a) life expectancies at different ages do not change over time; b) migrants' life expectancy is according to the life table of the host country residents (as a whole); c) migrants remain definitely in the host countries after their arrival. These conditions may not always apply and the extent to which they are met depends on several structural characteristics of both migrants and settlement countries.

The potential demography methodology, inspired by the approach originally developed by Hersch (1942; 1944; 1948), is not exclusively designed for measuring migration, but is very useful for estimating the global migration's contribution to European demography for several reasons. First, it is very comprehensive because it captures not only the net population due to migration, but also the sum of the life expectancy of all migrants (the so called 'demographic asset'). Not surprisingly, there is a positive correlation between people and life-years to be spent by these people, that is to say that the demographic asset generated by migration will be positive in countries in which immigration prevails and negative in countries in which out-migration prevails. Second, the demographic asset measures have forward looking nature: the method of potential demography permits to estimate the future development of a population by summing up the life expectancies of all its members. As such, the demographic asset are a tools to evaluate the extent to which

[3] Actually, by comparing resident populations at the beginning and the end of different time intervals, the total amount of resident people is taken, not necessarily (only) migrants, added or lost in the interval considered. The assumption seems convincing that these inter-temporal changes in population size, whether positive or negative, are mainly due to past migrations.

international migration contributes to shaping the age structure composition of the population in the receiving countries not only in a static or cross-sectional way (migrant people in education, labour market and retirement, in any given population and at any point in time), but also in a dynamic and prospective way, i.e. future years to be spent in education, labour market and retirement by migrants in any given population given that a certain amount of immigrants has been added will go to stay in this population. Finally, as a consequence of their forward looking dimension, the demographic assets are a very informative measure when it comes to project and/or assess the demographic conditions needed for possible equilibria to be reached in the labour market and the welfare system of the receiving countries.

The concept of potential demography was firstly developed by Hersch (1942 and 1944), who introduced also the idea of vital centre of a population, defined as the age that equally divides the sum of potential years of life of any given population into two parts. According to Hersch (1948), potential demography is an extremely powerful tool for investigating the extent of population ageing and comparing levels of ageing across different population because it combines into one single index, the generalized mean age, the two components/determinants of population ageing, namely age structure and life expectations (Hersch 1948). The potential demography approach has been ignored for a long time, because basic data on life tables and population structure by age and sex and on migration were not available. Thanks to the availability of updated and geographically detailed international data, the method was recently revisited by Blangiardo (2012) and Blangiardo and Rimoldi (2013), who computed the demographic asset (DA)—and the complementary measure of demographic gross domestic product, dGDP[4] —for several European populations (27 EU countries) and compared the results across countries by disentangling the impact of the natural and migration balance on the future European populations.

BOX 1
Computation of life-years to be spent by any given population

The DA is the number of additional potential years of life that any population can spend in the future. DA change in a given year is determined by the positive contribution of new births and improvements in survival conditions, net of the negative contribution of years consumed by living, or lost due to death, and plus or minus the number of potential years of life received from or given to other countries population by migration.

This computation procedure can be formalized in the formula reported below:

$$DA(t_0)=\Sigma_s \Sigma_x P_x^s(t_0)\, e_x^s \qquad s=m, f; \text{ and } x=0, 1, \ldots.\omega-1$$

where $P_x^s(t_0)$ and the e_x^s are, respectively, the population and the life expectancy at time t_0 for each sex *s* and age *x* (ω-1 being, hypothetically, the last birthday of life).

In this paper the potential demography is used to compute the demographic asset—exclusively due to migration—for each EU country. While looking at cross-country comparative results, it should be taken into account that the variation of DA is generally driven to a larger extent by cross-country differences in the age structure of the population than by cross-country variations in survival rates in Europe (Blangiardo and Rimoldi 2013).

[4] For any given time and country, the dGDP can be considered as the gross additive/positive contribution to DA through births and net migration. Hence, the DA and the dGDP can be seen as the stock and the flow measures, respectively, of the time/future years of a certain population.

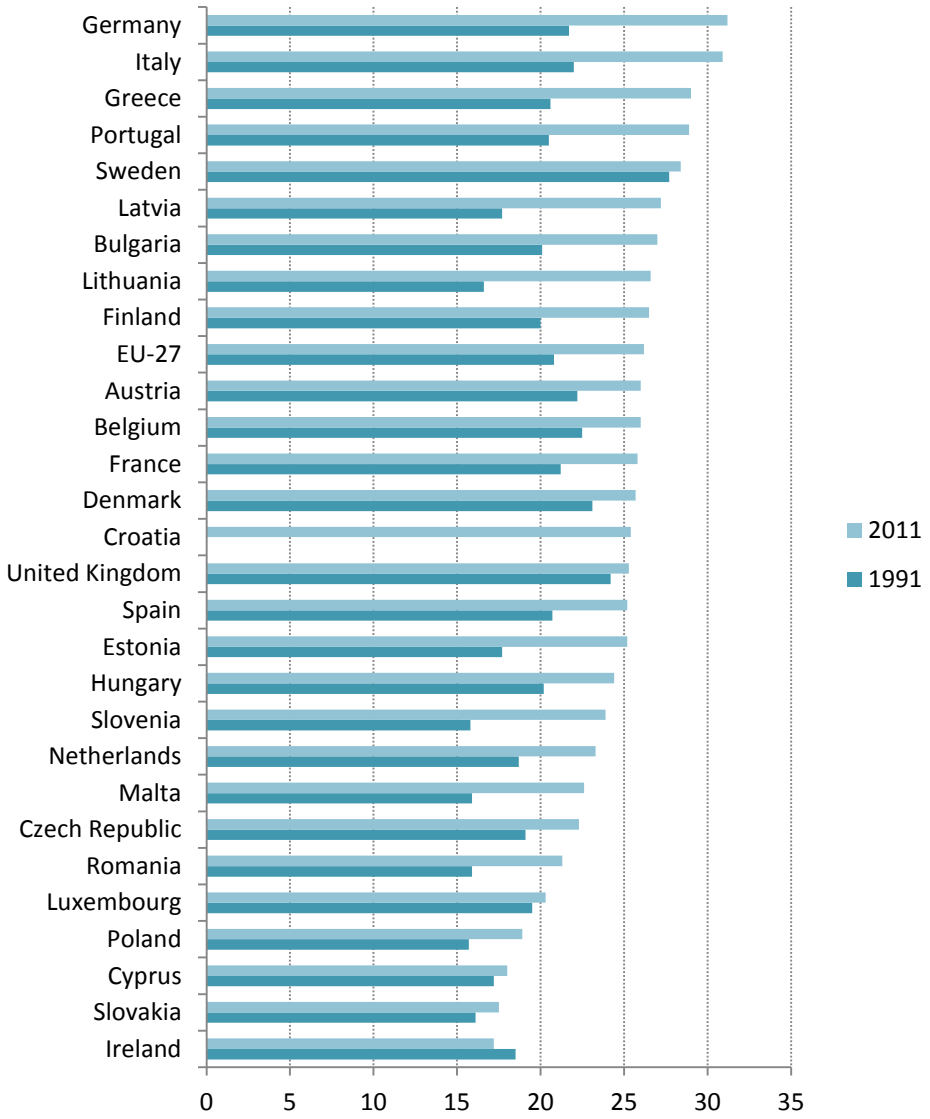
4. RESULTS

4.1 Population ageing

Before moving on to the analysis of migration results, it is worth drawing an outlook on the main demographic challenge faced by the European Union's population, i.e. the dynamics of its ageing process. There are several ways to measure population ageing and one of these—perhaps the most traditional one—is to compare the amount of people in the old ages (65 and above) to the amount of people in working age (15–64). In the twenty years considered (1991–2011), the old-age dependency ratio increased in all the 27 EU countries. But the speed of this ageing process has been remarkably different from country to country; similarly, the levels of population ageing have been also extremely different at the initial and final observation point (Figure 1).

In Figure 1, countries are ranked according to the size of the old-age dependency ratios observed in 2011. As can be seen, there were 26 people of pensionable age for every 100 of working age in the EU 27 as whole in 2011, around five elderly people more for each 100 active people than those registered twenty years before, when the ratio was slightly below 21. Germany and Italy are the two countries at the top of the ranking with the oldest population structure: 31 people of pensionable age for every 100 of working age in 2011. These two countries registered also the biggest increase in the number of elderly persons (65 and above) as compared to that of working-age persons (15–64): eight elderly people more in 2011 than in 1991. The other main settlement countries, France, the United Kingdom and Spain had around 25 people of pensionable age for every 100 of working age in 2011 but experienced a different pace of ageing over the past twenty years: the old-age dependency ratio was constant in the United Kingdom while in France and Spain there were four more elderly persons to each 100 persons in working-age in 2011 than in 1991. The countries whose population has been ageing most rapidly are Lithuania and Latvia: the old-age dependency ratio went from 17 in 1991 to 27 in 2011 in both countries. In some other EU Member States ageing was also faster than in the EU as a whole. In Portugal and Greece the old-age dependency ratios went from 21 in 1991 to 29 in 2011 (+8). Bulgaria, Finland, Estonia and Malta registered an increase of similar magnitude (+7) in their share of elderly persons as compared to working-age persons, although Malta has a population structure clearly younger than the other three countries. Ireland has the youngest population in the EU and was the only country registering a negative change in its old-age dependency ratio over the period: the value went from 19 in 1991 to 17 in 2011. Slovakia, Cyprus and Poland have also quite young population structure and show old-age dependency ratios still below 20 in 2011.

Figure 1 - Old-age dependency ratios (in per cent). 28 EU countries. Years 1991 and 2011.



Note: Aggregate data for EU-27 are reported, instead of EU-28, because the old-age dependency ratio was not available for Croatia in 2011. The old-age dependency ratio is the sum of persons aged 65 and above divided by the sum of persons aged 15–64, in per cent.
Source: Eurostat data

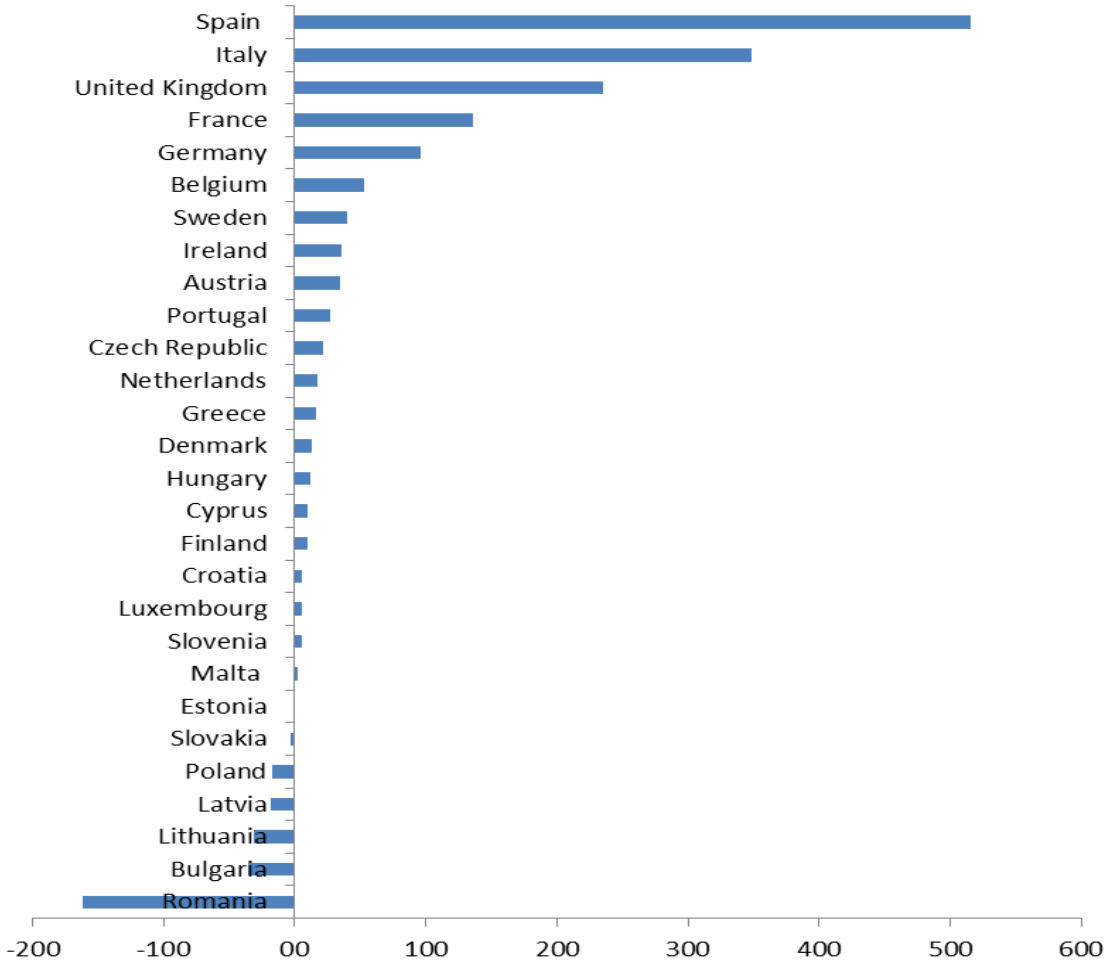
4.2 Net migration flows

The first set of results concerns the simple average of the annual variations in the net migration as occurred in the years 2001–2011. The net migration balance refers to the actual flow of people, who generate the demographic asset due to migration shown in Section 4.4. The annual contribution of migration to the EU

28 population[5] between 2001 and 2011 was equal, on average, to 1,373 thousand people. This amount was the result of a positive contribution of 1,583 thousand people in the EU 15 and a negative contribution of 210 thousand people in the 13 additional EU member states. Looking at Figure 2, three different clusters of countries can be detected according to the size of additional migrants recorded in the period 2001–2011. A first cluster of countries encompasses the five EU countries with the largest positive net migration flows, around 100 thousand people or above, namely: Spain, Italy, the United Kingdom, France and Germany. Within this group Spain was the country with the biggest positive balance (plus 515 thousand people) while Germany was the country with the smallest positive net migration (plus 96 thousand people) (Figure 2). A second group includes countries (16 overall) in which net migration balance in 2001–2011, although positive was not as huge as in the previous group, between one thousand and 50 thousand people, namely: Belgium, Sweden, Ireland, Austria, Portugal, the Netherlands, the Czech Republic, Greece, Denmark, Hungary, Cyprus, Finland, Croatia, Luxembourg, Slovenia and Malta. Within this group Belgium was the country with the biggest positive balance (plus 52 thousand people) while Malta was the country with the smallest positive net migration (plus two thousand people). A third cluster covers countries with a negative migration balance in the decade 2001–2011 which are all belonging to the eastern Europe, namely: Romania, Bulgaria, Lithuania, Latvia, Poland, Slovakia and Estonia (Figure 2). Within this latter group Romania was the country with the biggest negative balance (minus 161 thousand people) while Estonia was the country with the smallest negative net migration (minus one thousand people).

[5] The contribution of migration was computed firstly for each country and year and—within each country and year—for each age group and both genders. Afterwards the average contribution of migration by age and sex obtained for each single year was used to compute the average net migration over the whole period.

Figure 2 - Average net contribution (people added/lost annually, in thousands). 28 EU countries. Years 2001–2011.



Note: Average net contribution includes all migrants irrespective of their age.
Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

4.3 Contribution of migration to the EU working-age population

The second set of results includes the contribution of migration to the EU working-age population and is shown in Figures 3–5 as well as in Table 1 and Table 2. International migration positively influences, above all, the working-age population of receiving countries because migrants often move when they are in their working ages (15–64). Most of them, indeed, migrate because they seek for a job abroad. The EU working-age population has (more than) doubled over the period 1991–2011. Overall, there were almost 13 million people added to the EU 28 working-age population (15–64 years) in the decade 2001–2011 and 5.6 million in the previous decade 1991–2001. Considerable differences can be detected by temporal period, age group, gender and country.

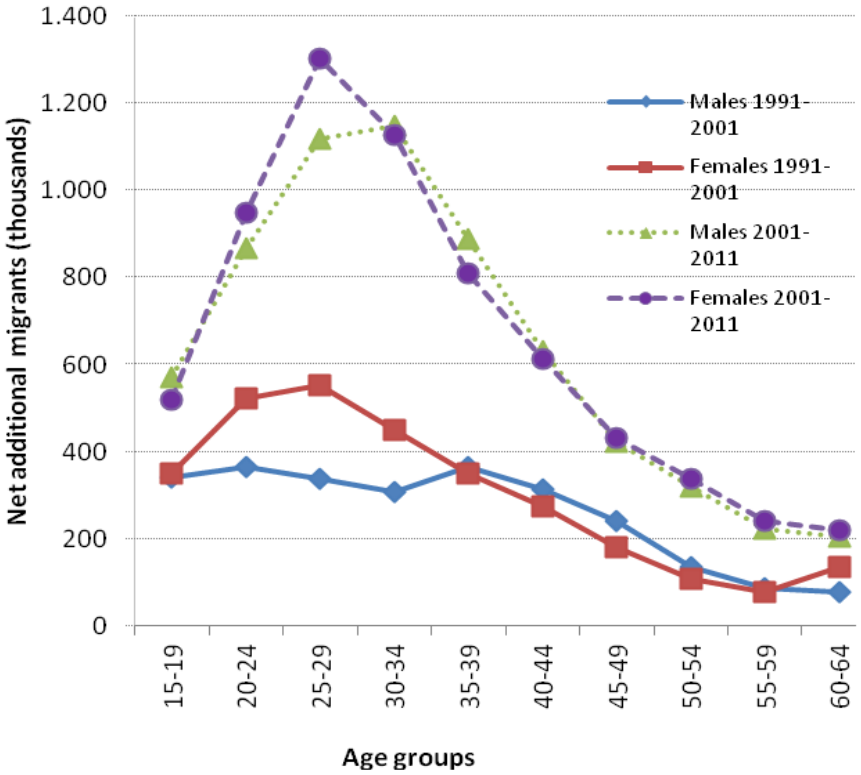
First, migration has been increasing over time. The curves of migration occurred in 2001–2011 are always above those of the corresponding migrants recorded in the previous decade 1991–2001, for each age group

and both women and men. The differences between the two decades become striking at ages 25–29, decline afterwards, and almost disappear at the old ages 60–64 (Figure 3).

Second, migration occurring in the most recent decade was more concentrated in the central age group, 25–35 years, than migration in the decade before. The contribution of migration to the EU working-age population takes a reverse U shape age pattern with a peak in the age group 25–29 years. At these ages there were around 1,304 thousand women and 1,120 thousand men added to the EU population in the period 2001–2011, while there were around 554 thousand women and 337 thousand men added in the former ten years (1991–2001). At old ages 60–64, around 200 thousand women and men were added to the EU population in 2001–2011, while these were around 100 thousand women and slightly less than 100 thousand men in the former decade 1991–2001. In the period 1991–2001 a second peak of migrants is visible in correspondence of the age group 35–39 for men (see Figure 3, and Figure 4, Panel A), which is—for this decade and this gender—more pronounced than that observed at ages 25–29 (plus 364 thousand men). This result seems to suggest that the workforce added in the 1991–2001 was not only of a smaller size than that added in the next decade (2001–2011) but also had an older age structure.

Third, migration was gendered in both decades. The biggest gender differences are between age 20 and age 39: migrants were more often females than males in the central age groups between 20 and 34 years in 1991–2001, and in the narrower age group 25 to 29 in 2001–2011 (Figure 3). As a consequence, the age profile of female migrants is steeper than that of male migrants in the first (1991–2001) as well as in the second decade (2001–2011).

Figure 3 - Additional contribution to the EU working-age population, 1991–2011 (people acquired throughout the decade, in thousands). Age profiles. EU-28.

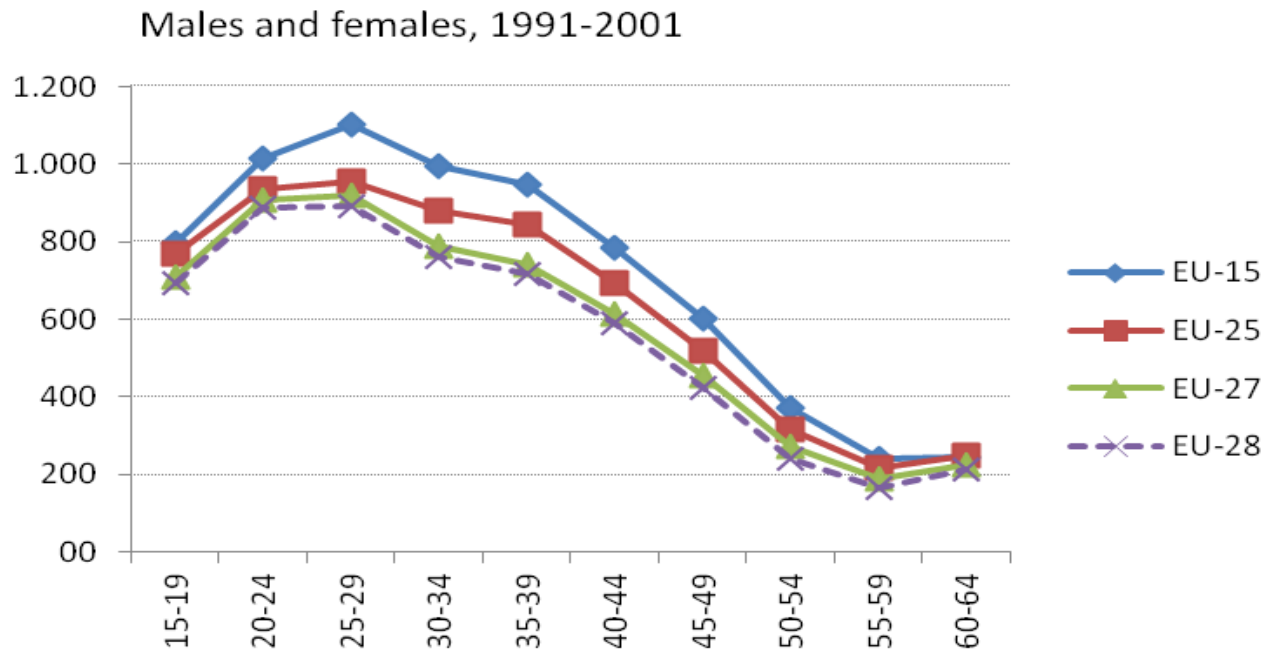


Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

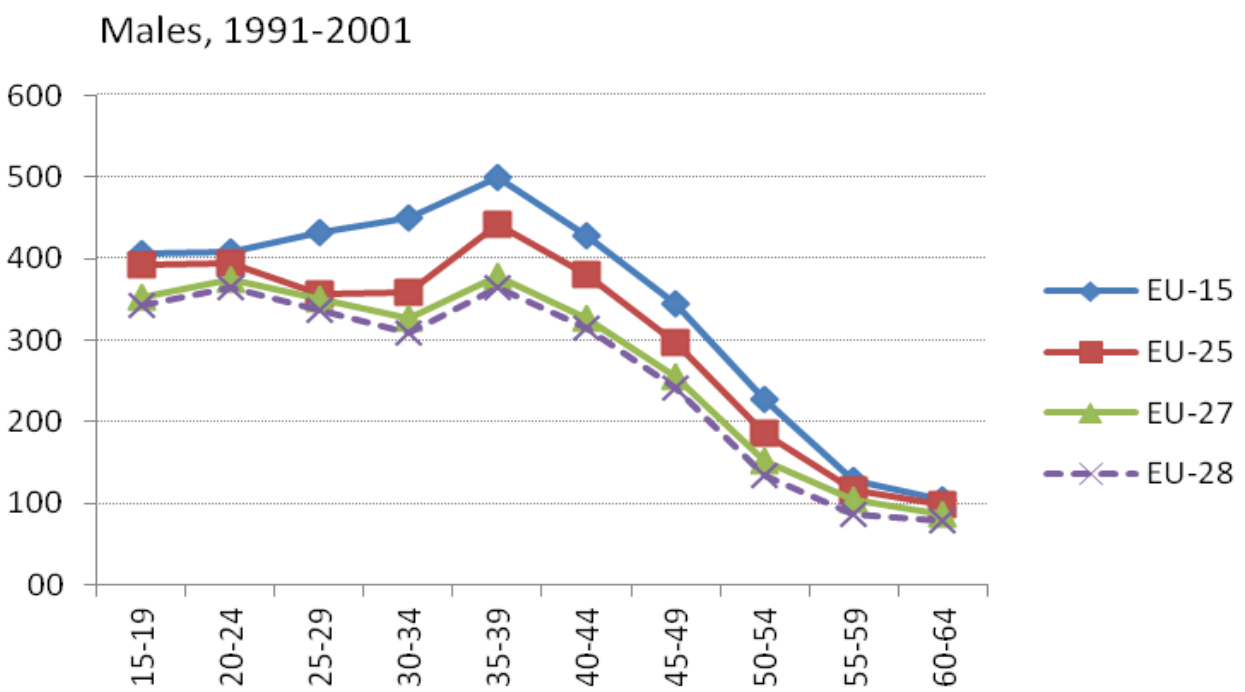
Fourth, migration was very unevenly distributed across the 28 EU countries. Remarkable differences could be observed in the contribution of migrants to the EU working-age population by geographical area (Figure 4). The largest amounts of additional people in the working-age are recorded in the EU 15 which encompasses the traditional settlement countries, such as: France, the United Kingdom and Germany. While the smallest contribution is observed in the enlarged EU 28, which includes some traditional emigrating countries, like the eastern European countries. Gender differences in the age profile of contribution of migration to the working-age population become more visible by looking separately at the different EU geographical areas for each of the two past decades considered (Figure 4). In the decade 1991–2001, for example, the biggest contribution of males was observed for ages 35–39[6] , while the biggest contribution of females was observed at younger ages, 25–29 (Figure 4, Panel A). In the subsequent ten years (2001–2011), the largest contribution was registered in correspondence of ages 30–34 and 25–29 for men and women, respectively (Figure 4, Panel B). In 1991–2001 the EU 15 shows the highest contribution of migration and the EU 28 the lowest one, while the EU 25 takes an intermediate position (Figure 4, Panel A). In the subsequent decade, 2001–2011, the differences between EU 15 and EU 25 almost disappear and the curves of additional people for the EU 15 and EU 28 almost completely overlap at age 40 and above, while the differences between these two geographical areas are still visible in the central ages, 30–39 years (Figure 4, Panel B). This finding suggests that at the end of the last century the positive contribution of migration to the EU population was concerning mainly the original 15 EU countries—most of which did also have a tradition as immigration countries, such as France, Germany, the United Kingdom, and to a lesser extent Italy and Spain—while at the beginning of the 21st century also some additional EU Member States (i.e. Poland) could benefit from a net positive contribution of migration to their working-age population.

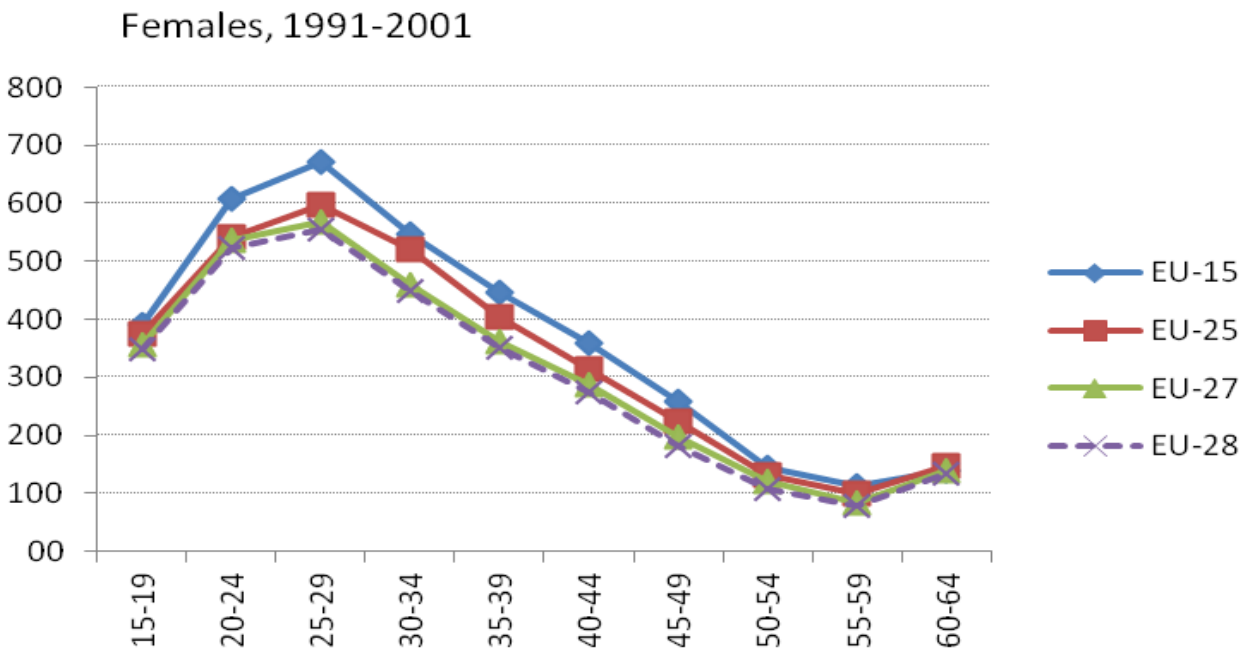
Figure 4 - Additional contribution to the EU working-age population (people acquired throughout the decade, in thousands). Age profiles. Four EU areas.

Panel A -- Years 1991–2001

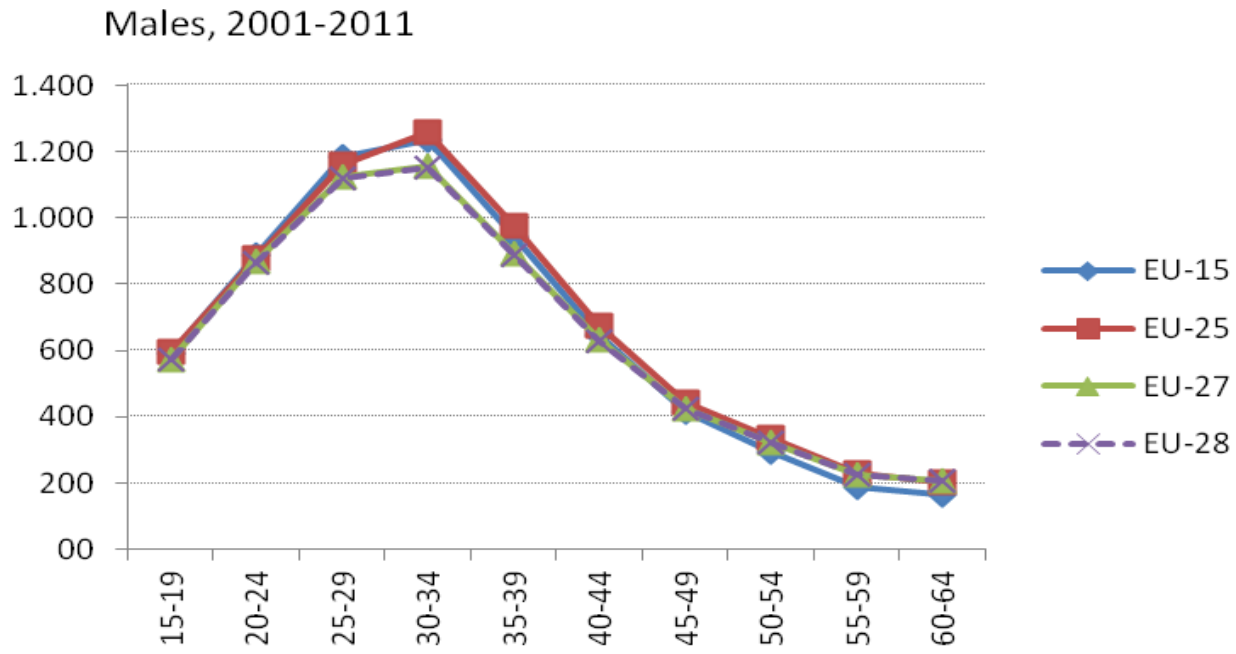


[6] It should be remembered that the age group is related to the final date of each interval considered.


Males, 1991-2001
600
500
400
300
200
100
00
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
EU-15
EU-25
EU-27
EU-28


Females, 1991-2001
800
700
600
500
400
300
200
100
00
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
EU-15
EU-25
EU-27
EU-28

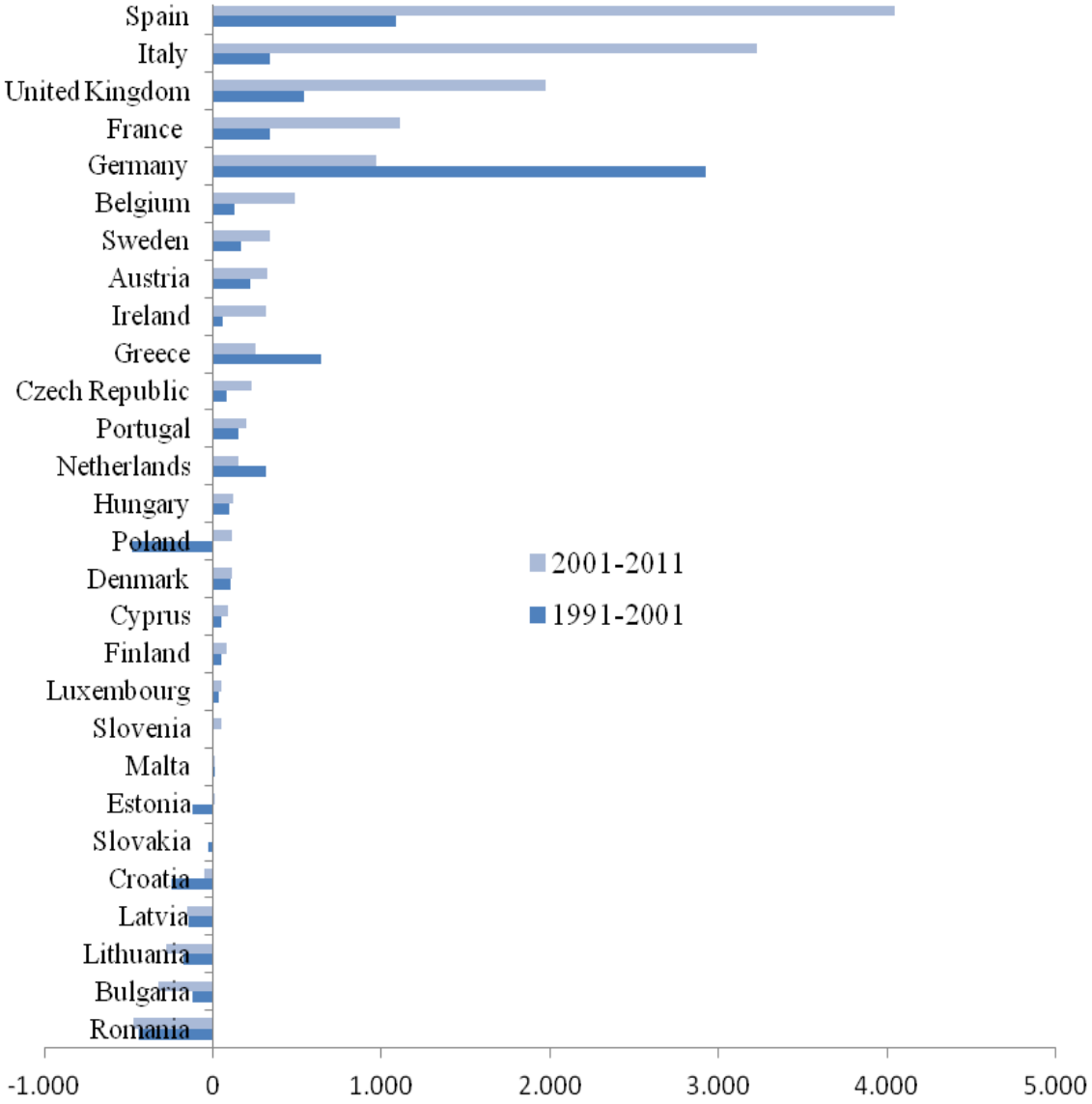
Panel B -- Years 2001–2011



Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

Finally, there are huge cross-country differences in the contribution of migration to the working-age population. In Figure 5, countries are ordered according to the size of contribution of migration recorded in 2001–2011. This ranking largely corresponds to that observed in the previous decade, 1991–2001, although it does not completely match with it (Table 1). In 1991–2001 Germany was the biggest settlement country, while in the next decade, 2001–2011, Spain was the country with the biggest migrant contribution. In both periods, only a few countries could benefit coming from the international migration in terms of labour force, namely: Spain, Italy, the United Kingdom, France and Germany. Spain benefited from more than 4 million migrants, Italy received 3 million and the United Kingdom almost 2 million, while France and Germany each recorded around one million additional migrants in the working ages between 2001 and 2011. In the previous decade, Germany was clearly the first immigration country benefiting from additional working-age population, covering almost 50% of the whole contribution to the EU working-age population, followed by Spain (plus 1100 thousand people), the United Kingdom (plus around 500 thousand people), Italy and France (plus around 300 thousand people). In most of the other EU countries the contribution to the working-age population was still positive but of a much smaller magnitude. Belgium recorded almost 500 thousand additional units in 2001–2011 and Greece 640 thousand in 1991–2001, but in all other cases the figures were between 300 thousand and a few thousand people aged between 15 and 64. Poland experienced a reversal in the sign of additional working-age immigrant population during the observation period: the net contribution was negative (480 thousand people) in the decade 1991–2001 and positive (+115 thousand people) in the subsequent decade 2001–2011. All the eastern European countries recorded a negative balance in the two past decades. The only exception is provided by Hungary which gained 98 and 119 thousand new people in working age in 1991–2001 and 2001–2011, respectively (Figure 5). This result is reasonable, given that the free circulation of people across the European countries and especially within the EU encouraged many people in Eastern Europe to move toward Western Europe where the labour market was more attractive and the conditions and salary levels more favourable than in the east.

Figure 5 - Contribution of migration to the EU working-age population (ages 15–64) (people added/lost throughout the decade, in thousands). 28 countries of the European Union. Decades 1991-2001 and 2001-2011.



Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

Table 1 -Contribution to the EU working-age population (ages 15–64) (people added/lost throughout the decade, in thousands). 28 EU countries.

Countries	Years 1991–2001			Years 2001–2011		
	Men	Women	All	Men	Women	All
Austria	106.8	113.9	220.8	150.4	172.1	322.5
Belgium	58.2	72.3	130.5	240.5	241.8	482.3
Bulgaria	-67.9	-52.0	-119.8	-119.9	-200.4	-320.3
Croatia	-134.8	-109.5	-244.3	-24.2	-25.5	-49.7
Cyprus	17.9	28.8	46.7	39.9	51.2	91.1
Czech Republic	45.1	35.1	80.2	142.8	87.3	230.1
Denmark	51.6	55.2	106.8	48.7	63.2	111.9
Estonia	*-69.0*	*-55.2*	*-124.1*	*3.6*	*1.7*	*5.2*
Finland	28.9	19.0	47.9	46.0	36.0	82.1
France	77.7	256.8	334.5	461.0	646.8	1107.8
Germany	1528.6	1392.5	2921.1	376.0	592.2	968.2
Greece	356.1	284.4	640.5	131.7	117.1	248.8
Hungary	37.0	61.3	98.4	66.7	52.0	118.7
Ireland	29.6	29.1	58.7	145.9	169.1	315.1
Italy	112.2	229.3	341.5	1533.6	1693.7	3227.2
Latvia	-80.7	-63.6	-144.3	-74.2	-78.1	-152.3
Lithuania	-97.6	-80.7	-178.3	-137.5	-143.4	-280.9
Luxembourg	19.3	18.4	37.6	26.1	23.8	49.9
Malta	5.5	5.5	11.0	6.4	5.5	11.9
Netherlands	149.4	166.0	315.4	36.5	113.1	149.6
Poland	*-251.6*	*-229.0*	*-480.7*	*106.7*	*8.1*	*114.8*
Portugal	80.7	71.2	151.8	51.5	145.2	196.7
Romania	-243.9	-193.7	-437.5	-211.3	-260.1	-471.3
Slovakia	*-18.7*	*-7.8*	*-26.5*	*9.0*	*-14.9*	*-5.9*
Slovenia	*4.0*	*-12.0*	*-7.9*	*34.6*	*12.1*	*46.7*
Spain	588.4	501.0	1089.5	2082.3	1962.3	4044.6
Sweden	84.2	85.6	169.8	171.4	168.2	339.6
UK	156.4	381.0	537.4	1052.7	919.2	1971.8
EU-28	2573	3003	5576	6397	6559	12956

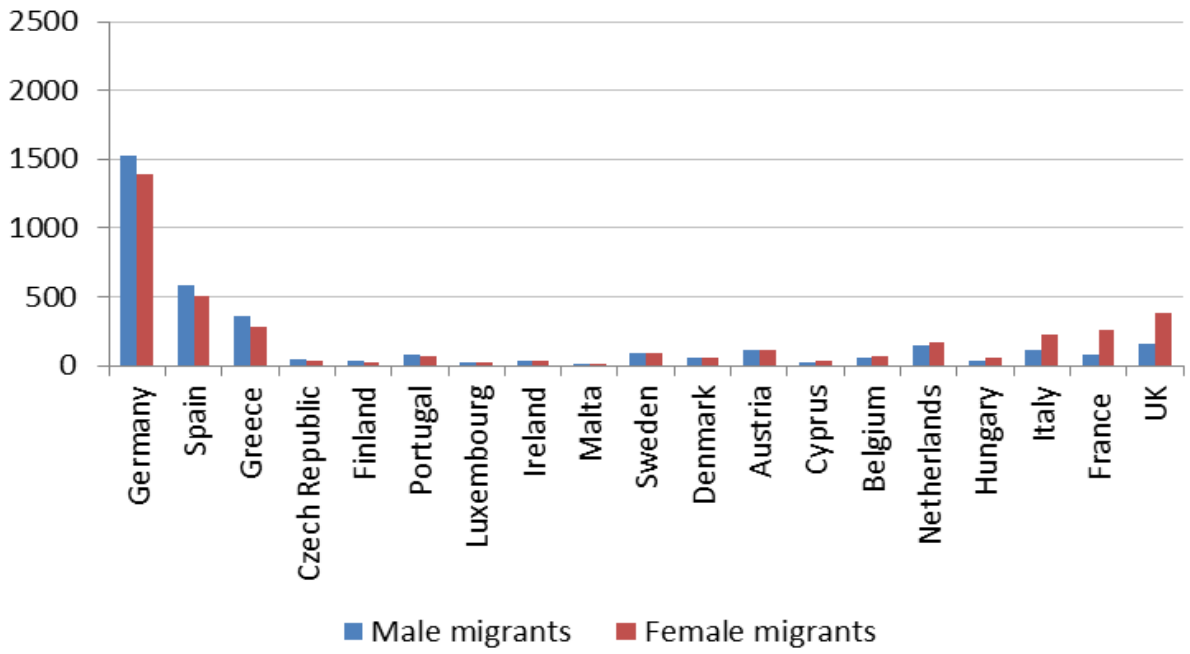
Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data
Note: Marked in grey are the countries with a negative net contribution in both periods considered. In Italics are countries which registered a negative net contribution only in one of the decades considered.

The country-level analysis points out at some relevant gender differences. Looking at the 19 EU countries that registered a positive net contribution of migration to their working-age population in the years 1991–2011, one can see that in half of these countries there were more female than male migrants, in the other half it was the other way around (Figure 6, Panel a). In the group of the five most important settlement countries, Germany and Spain received more men than women while Italy, France and the United Kingdom had more women than men in the years 1991–2001 (Figure 6, Panel a). In the decade 2001–2011 a similar patter can be observed, with the exceptions of Germany that received more women than men and the United Kingdom that hosted more men than women (Figure 6, Panel a). All of the countries with a negative net contribution, with the only exception of Slovakia, did lose more men than women in the decade 1991–2001 (Figure 6, Panel b). In the next ten years, a reversed gender pattern could be observed: in all those countries that were still net losers of their working-age population i.e. Romania, Bulgaria, Croatia, Latvia and Lithuania, the lost population was more often female than male population. Four countries, namely: Estonia, Slovakia, Poland and Slovenia, turned out to be net gainers of international migration by registering a positive net demographic contribution in their working-age population either only among men (Slovakia) or among both the female and male population (Estonia, Poland and Slovenia) (Figure 6, Panel b).

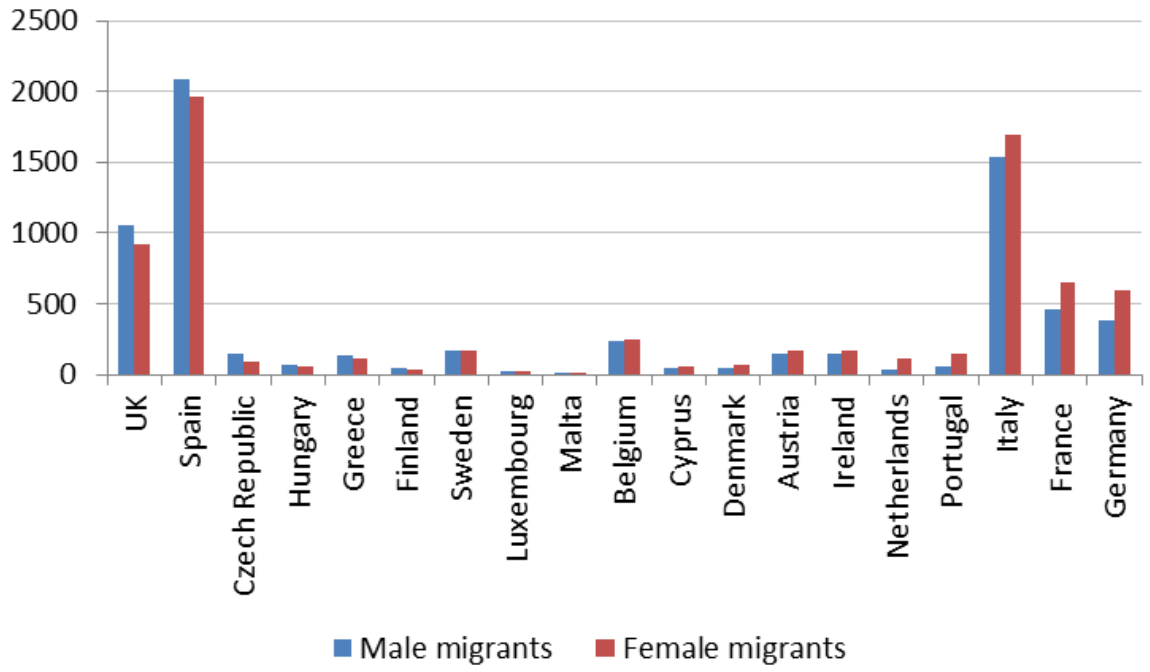
Figure 6 - Additional contribution of migration to the EU working-age population (ages 15–64) (people added/lost throughout the decade, in thousands) by gender.

Panel A) 19 EU countries with a net positive contribution of migration

Years 1991–2001

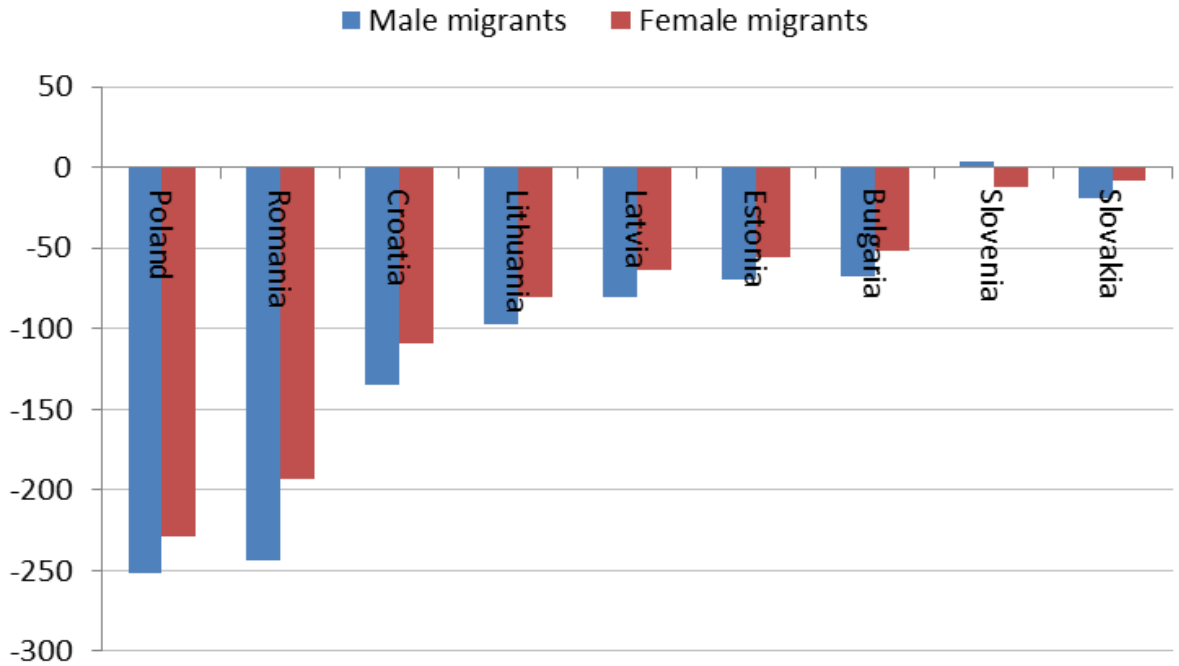


Years 2001–2011

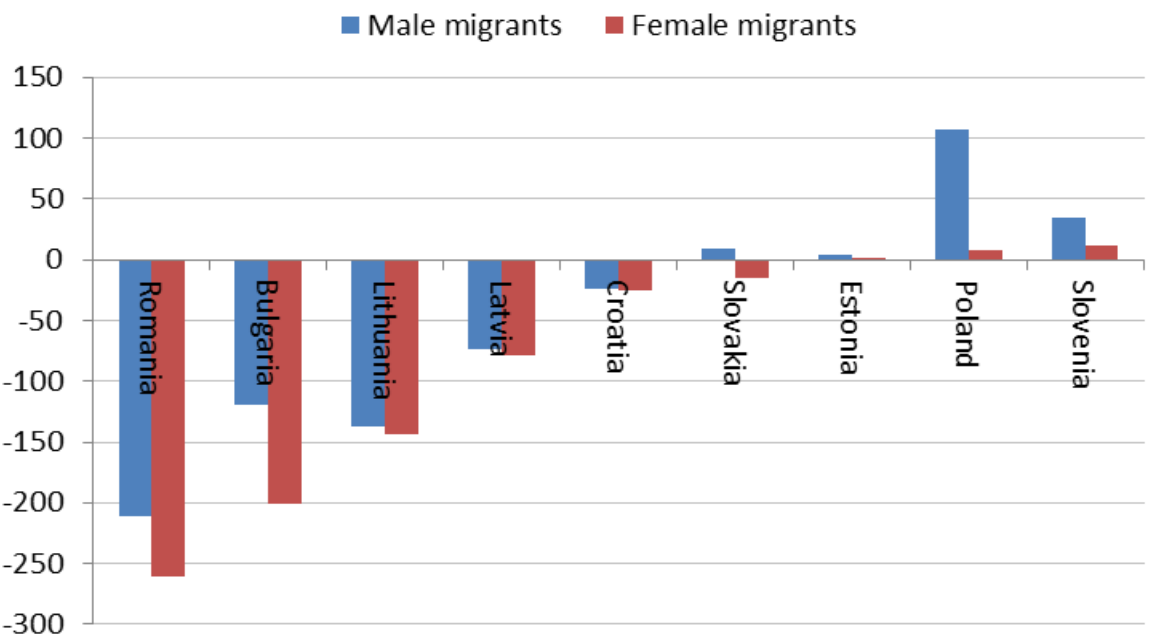


Panel B) 9 EU countries with a net negative contribution of migration or reversal from negative to positive contribution through the selected period

Years 1991 – 2001



Years 2001 – 2011



Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

The country-level analysis allows us to unravel some relevant differences in the temporal trend of migration, which was, on average, in the EU as a whole on the rise. In most of the EU countries the migration rates were on the same levels in both decades (Table 2). Indeed, 16 EU countries are located in the main diagonal of Table 2 which shows the time-invariant rates of net contribution of migration over the period. These cells are marked in grey colour for the sake of clarity. Cyprus and Luxembourg recorded the highest rates, between 10 and 15%, in both decades, Greece registered a lower rate, between 5 to 10%, and a broad group of countries show the smallest rates of up to 5%, namely: United Kingdom, Malta, Czech Republic, Denmark, Portugal, France, Finland, Hungary and the Netherlands. On the negative area of the table, Slovakia and Romania registered a rate of up to 5% in both decades, while Latvia and Lithuania show the highest negative contribution of migration, between 10 and 15% in the two temporal periods, and they are situated in the bottom right corner of Table 2. Germany and Bulgaria are the only two countries which experienced decreasing rates in net contribution of migration between the first and the second decade considered, and for this reason they are displayed above the main diagonal. In particular, in Germany the rates went down from 5–10% to 0–5%, while in Bulgaria the rate, already negative (up to 5%), declined as far as 10%. On the other hand, several EU countries (ten in total) experienced an increase in the net migration over time; and in some of them a reversal in the sign of the net contribution of migration to the working-age population occurred between the two decades, namely: Estonia, Slovenia and Poland. This change was striking in Estonia where the rate was negative (10 to 15%) in 1991–2001 and become positive (up to +5%) in the most recent decade 2001–2011. Spain and Ireland registered the biggest increase in migration rates, from a level of up to 5% in 1991–2001 to a level of 10–15% in 2001–2011. An increase in the rates of net migration was observed also in Italy, Belgium, Austria and Sweden, but at a lower level (from up to 5% to 5–10%). Finally, in Croatia the negative net contribution of migration to the working-age population went down from 5 to -10% in 1991–2001 to 5% in 2001–2011) (Table 2).

Table 2 - Rates of net contribution of migration to the working-age population of 28 EU countries. Decades 1991–2001 and 2001–2011

YEARS 1991–2001			YEARS 2001–2011					
			Positive			Negative		
			10 to 15%	5 to 10%	Up to 5%	Up to -5%	-5 to -10%	-10 to -15%
	Positive	10 to 15%	CY, LU					
		5 to 10%		EL	DE			
		Up to 5%	IE, ES	IT, BE, AT, SE	UK, MT, CZ, DK, PT, FR, FI, HU, NT			
	Negative	Up to -5%			SI, PL	SK, RO	BG	
		-5 to -10%				CR		
		-10 to -15%			EE			LV, LT

Note: Working-age population is the population aged 15–64.
Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

4.4 The demographic asset due to migration: life-years spent in education, work and retirement

Migration can influence not only the population size but also the population structure of the EU countries. Changes in population age structure due to migration can be very beneficial to contrast the EU population ageing and shrinking process and to mitigate its socioeconomic consequences. In the decade 2000–2010, the demographic growth registered by several European countries (such as: Italy, Czech Republic, Austria, Portugal and Greece) was exclusively due to the net migration component, while the natural increase was around zero (OECD 2012; Marcu 2011). This emphasizes that the contribution of migration is extremely important for the European economies, given that the working-age population is also expected to decline and to age in the years to come.

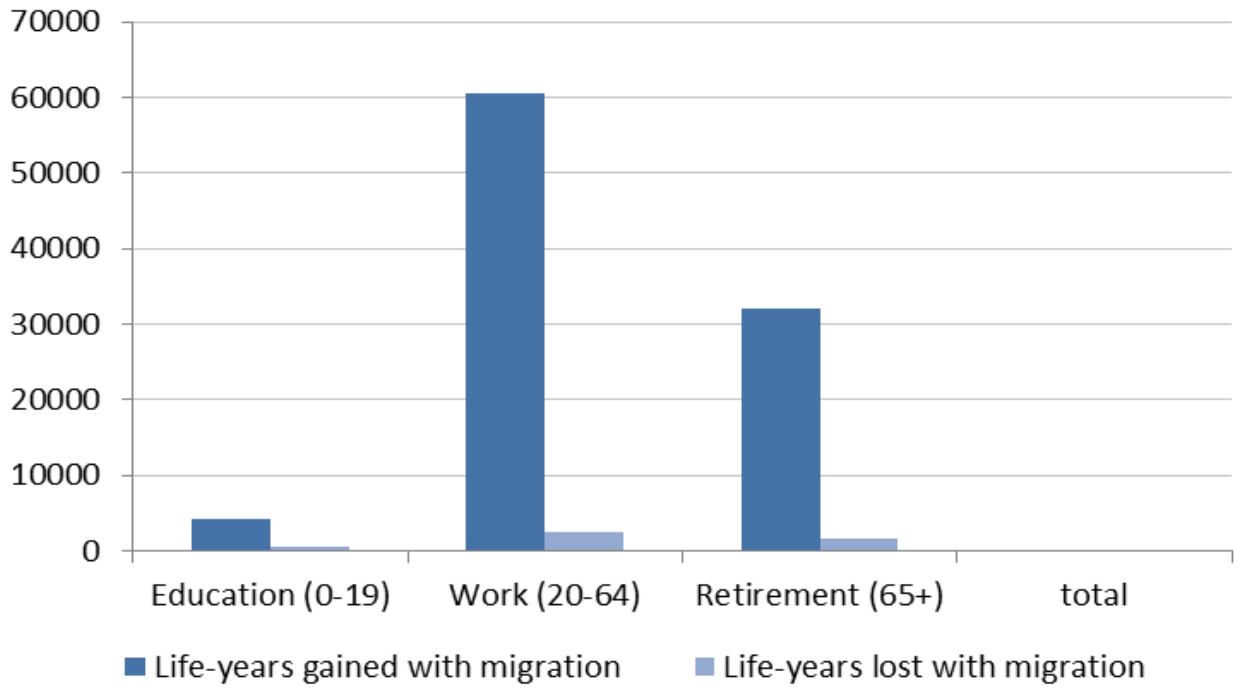
In this section, the demographic asset due to migration are reported. Life-years acquired or lost by each EU country population in 2001–2011 have been computed by applying the life expectancy—for each age and gender—to the net migration population, as distributed by age and sex, and averaging the annual values obtained between 2001 and 2011. Life-years are the years that migrants are expected to live in the destination country under the hypothetical assumption of keeping their permanent residence in the immigration country and experiencing the same life expectancies as the other residents of the host countries. They order of size of demographic assets is extremely large because they do not reflect the size

of a population living at any given point in time, but the potential life that can be attributed to this given population.

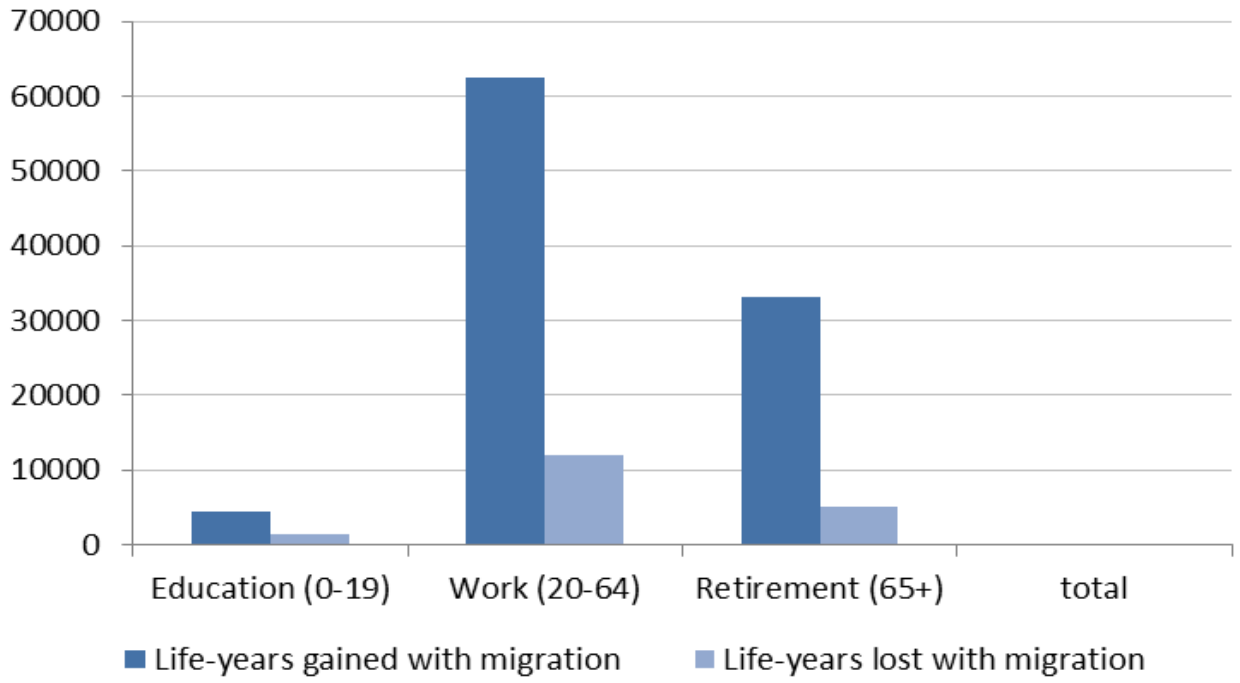
The gains and deficits expressed in total life-years to be spent by net migrants can be decomposed in years of education, work and retirement, which can be computed by dividing the population life in three main age groups 0–19, 20–64 and 65 and above. Results shown in Figure 7 for the EU 28 and EU 15 reveal that the number of life-years added in Europe in 2001–11 because of migration is considerably larger than the number of life-years lost. Moreover, the differences between these two components are more pronounced for the EU 15, which includes the biggest settlement countries, than for the EU 28 which encompasses also some typical out-migration countries. Another important finding coming from Figure 7 is that most of the net life-years due to migration are concentrated in the working-age period (around 50 million in EU 28 and 58 million in EU 15). On the opposite side, the net life-years to be spent in education are less (around 3 million in EU 28 and 3.6 million in EU 15) because the segment of very young population (0 to 19 years) is not as big as that of working age (15–64) population among migrants. For this reason, migration can be seen as a net resource for the receiving countries because migrants arrive often after completion of their studies, thus, they spend their acquired knowledge in the destination countries while having being trained in their origin countries. This gain/loss can be particularly serious in the case of skilled migration (brain drain), which is beneficial not only to the working-age population of the receiving countries but also to the productivity of this workforce (OECD 2012).

Figure 7 - Life-years added and lost because of net migration 2001–2011 (in thousands)

Panel A) EU - 15



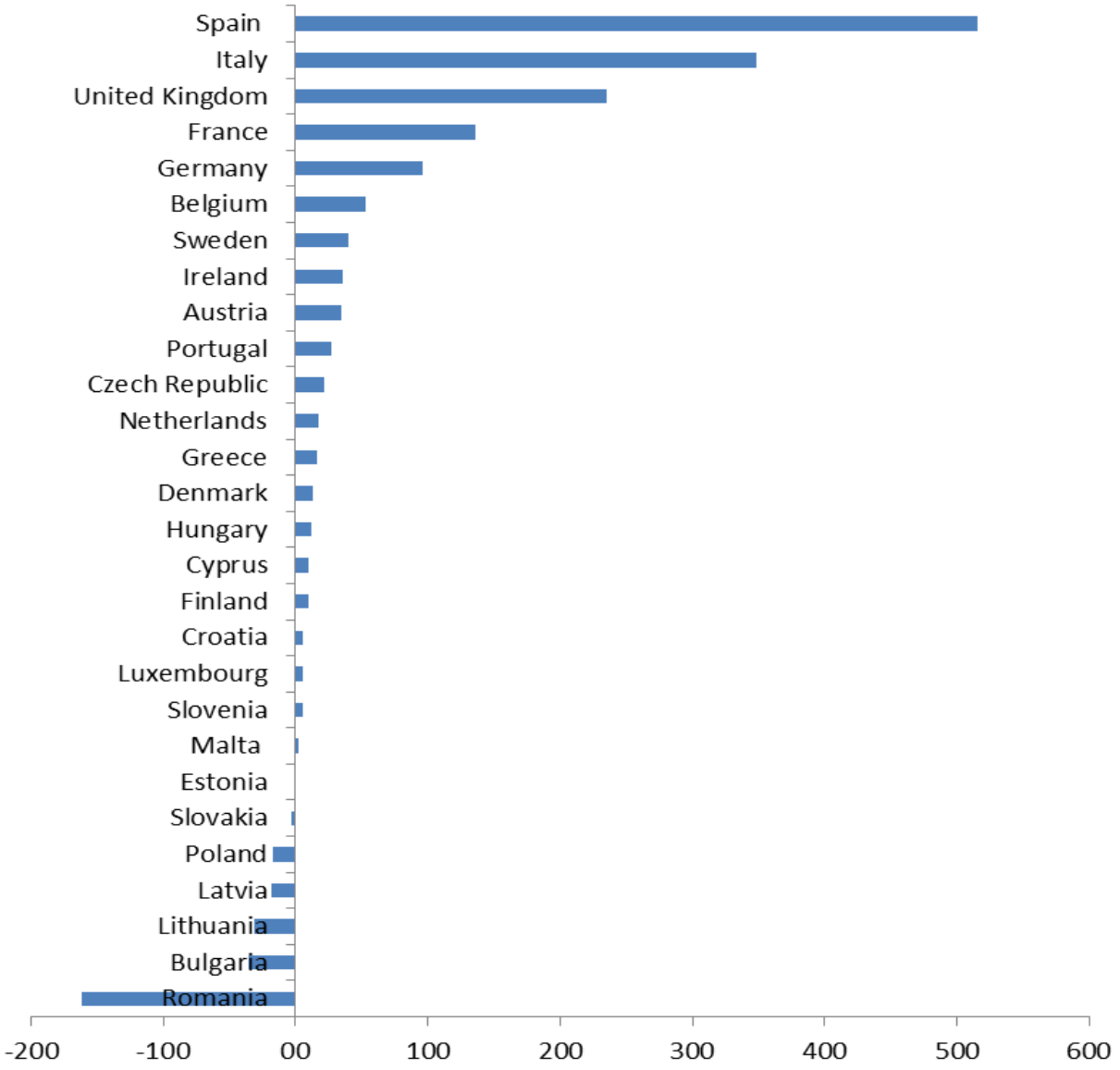
Panel B) EU – 28



Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

Although migration is a resource for the EU, one should not ignore the relevant costs—in terms of welfare system—that could be generated by migrants who are going to age in the receiving countries. Indeed, in the long-term period, migrants represent also a cost for the receiving countries. The net life-years to be spent in retirement (65 and above) are around 28 million in EU 28 and 30 million in EU 15. For some EU countries, such as: Spain, Italy, France and Denmark, the number of life-years to be spent in retirement is more than half of the years to be spent in work (Figure 8).

Figure 8 - Life-years due to the average net contribution of migration 2001–2011 (in thousands of years acquired/lost annually) by the 28 EU Member States



Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

In Table 3, net life-years generated by net migration occurred in 2001–2011 are reported. The five most important receiving countries are examined separately from the five most relevant sending countries. The first group covers almost 80% of the positive net balance in the total life-years due to migration. The second group covers almost whole the negative net balance registered in the total life-years due to migration (97%).

As can be seen (Panel A), Spain is the first EU country benefiting from international migration, followed by Italy, the United Kingdom, France and Germany. Spain gained almost 30% of the life-years acquired by the whole EU 28; the same percentages are clearly lower for Italy (19%), the UK (15%), France (8%) and Germany (7%). In each of these EU countries, life-years are gained more in the central ages deserved to working activities (20–64), than in the other ages deserved either to investments in education (ages 0–19),

or to retirement (ages 65 and above). The corresponding share go from 58% (France) to 70% (Germany) for time spent in work and from 26% (Germany) to 37% (France) for time spent in retirement, while the share of time spent in education is almost constant across countries ranging from 3% (the United Kingdom) to 6% (France) (Table 3, Panel A) .

Romania was the EU country losing most through migration, with its negative annual balance of 380 thousand life-years of education, almost 6 million life-years of working, and almost two million life-years of retirement, it covered more than half of the total loss in terms of life-years registered in the EU 28 as a whole. Romania is followed by Bulgaria, Lithuania, Latvia and Poland. In these four countries the negative contribution of migration in the years 2001–2011 was of a smaller magnitude: Bulgaria and Lithuania recorded a deficit of over one million life-years of working, while in Latvia and Poland the same deficit was of just half a million life-years (Table 3, Panel B). The negative balance was more concentrated in the working ages: the share goes from 72% in Romania to 68% in Poland, and less pronounced in education and retirement: the share of life-years to be spent by migrants in these segments goes from 0 (Poland) to 9% (Bulgaria) for education, and from 22% (Bulgaria) to 32% (Poland) for retirement ages (Table 3).

Table 3 - Life-years added/lost as a result of the average net contribution (in thousands). Years 2001–2011

Panel A. Five most important EU in-migration countries						
	Spain	Italy	U.K.	France	Germany	EU-28
Education	1,051	648	411	423	294	3,057
	4%	4%	3%	6%	4%	4%
Work	16,084	10,790	9,288	4,100	4,559	50,387
	61%	61%	68%	58%	70%	62%
Retirement	9,172	6,248	4,000	2,605	1,702	27,935
	35%	35%	29%	37%	26%	34%
TOTAL	26,307	17,686	13,699	7,128	6,555	81,379
	100%	100%	100%	100%	100%	100%
Panel B. Five most important EU out-migration countries						
	Romania	Bulgaria	Lithuania	Latvia	Poland	EU-28
Education	-382	-167	-96	-28	-2	3,057
	5%	9%	6%	4%	0%	4%
Work	-5,932	-1,342	-1,044	-505	-481	50,387
	72%	69%	70%	69%	68%	62%
Retirement	-1,939	-429	-360	-197	-230	27,935
	23%	22%	24%	27%	32%	34%
TOTAL	-8,253	-1,938	-1,500	-730	-713	81,379
	100%	100%	100%	100%	100%	100%

Note: The figures refer to the net life-years, i.e. the balance between years gained and years lost in the decade due to migration. Years of education encompasses ages 0–19, years in work includes age group 20–64, years in retirement refers to the last and open age group 65+. - *Source*: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

4.5 Intra-European flow of people in 2001–2010

The fourth and last set of results concern the intra-European flows of people occurred in the decade 2001–2011. This is a very crucial piece of information, given that the 13 additional Member States of the EU have been a major source of out-migrant people in the decade, while the original EU 15 has been the main destination for these inflows. Moreover, looking at migrants in a joint perspective of both origin and destination countries is very useful and informative for assessing the impact of these people on the labour market of the host countries.

In Figure 8 (Panels A) and B)) the flow of people within European Union are shown by using two circular plots, separately for the period 2001–2005 (Panel A) and the period 2006–2010 (Panel B). The amounts of intra-European flows of people are computed on the basis of the Eurostat data (i.e., average values of flows are then multiplied by five)[7]. The graphical tool— developed by Sander (2014) —offers a very powerful representation of migration flows by mapping different origin and destination countries in one single plot. In reading the results it should be taken into account that threshold values differ by time period; i.e. only flows with at least 17,000 migrants are shown in 2001–2005, while only flows with at least 22,000 migrants are shown in 2006–2010 for design reasons.

Overall, the intra-European migration flows were on the rise: they involved around 2,172 hundreds people in the first five years considered (2001–2005) and 2,844 hundreds people in the subsequent period (2006–2010). As can be seen in Figure 8 (Panel A)), in 2001–2005, Romania and Poland were the two main sending countries, they accounted for more than one-third of the total volume of out-flows recorded in Europe in this period, with respectively 835 and 740 hundreds people living the country. In Poland, most of the people (more than two-thirds) went to Germany (521 hundred thousand), while most people leaving Romania went to Spain (353 hundred thousand), Italy (258 hundred thousand) and Germany (115 hundred thousand). The United Kingdom was the third most important sending country in Europe, with a total volume of 373 hundred thousand people directed mainly to Spain (47%), and—to a lesser extent—to France (22%) and Germany (12%). In this same period, Germany and Spain were the two main destination countries, registering an inflow of 1,528 and 934 hundred thousand people, respectively. This means that they covered more than 50% of the total in flow of people. Two other important destination countries, the United Kingdom and Italy, together hosted another 20% of the total outflow, the United Kingdom 436 hundred thousand and Italy 392 hundred thousand people.

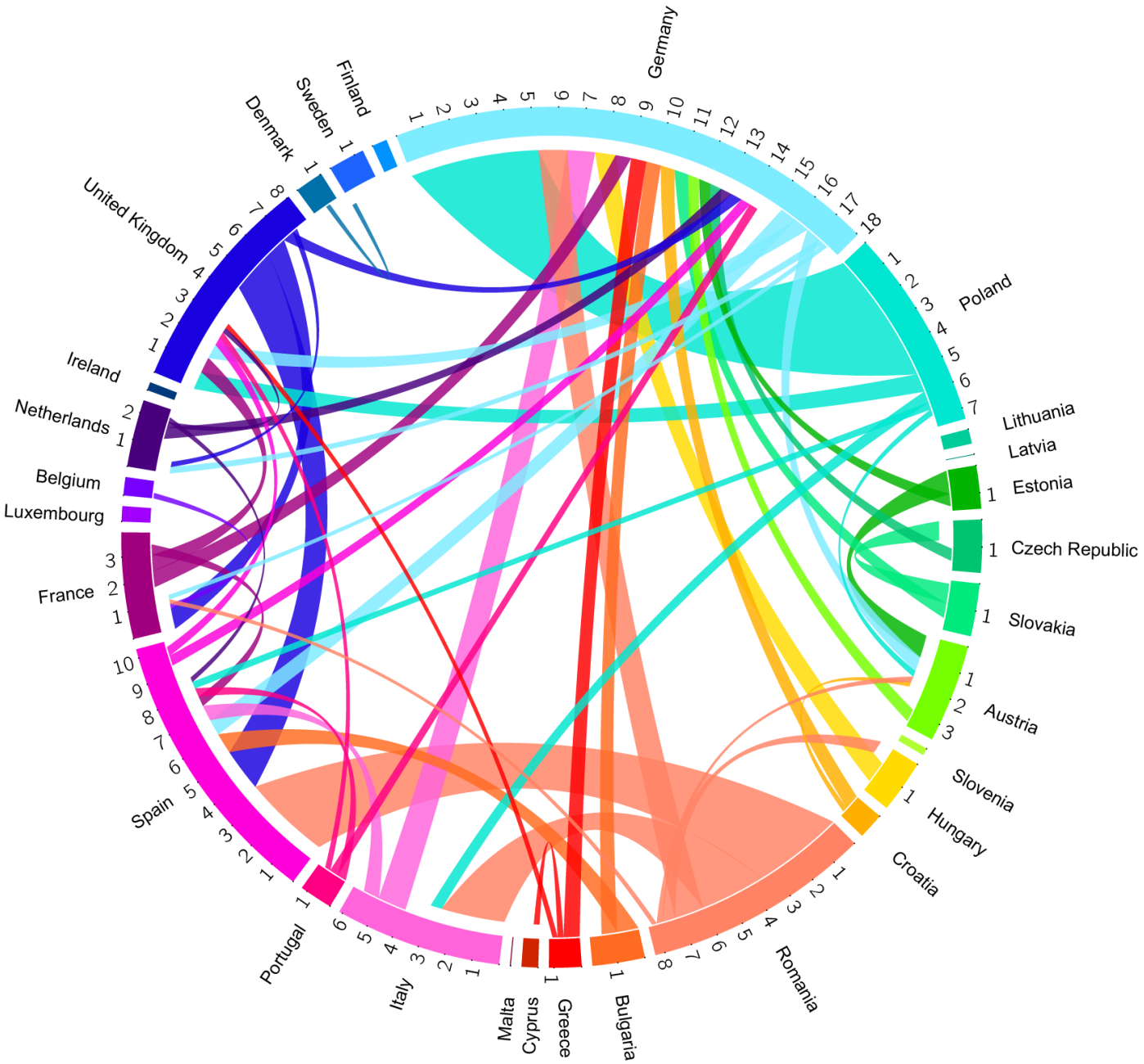
In the subsequent 5 year period, 2006–2010, Romania and Poland sent together 50% of the total volume of out-migrants, with 1,596 and 1,244 hundred thousand people, respectively (Figure 8, Panel B). The other 50% was distributed mostly across five EU countries, namely: Bulgaria, Germany, France, Italy and the United Kingdom that recorded each around 5% of the total European out-flow. As in the previous period, the main destination countries of people moving from Poland were at first place Germany (in 55% of the cases) and, in second place, the United Kingdom (19% of the cases). People moving from Romania were hosted mainly by Italy (43%), Spain (30%) and Germany (12%). The main destination countries were Germany, Italy, Spain and the United Kingdom. These four countries registered an inflow volume of 4,289 hundred thousand people in the years 2006–2010, this amount corresponds to 75% of the total out-flow registered in the EU 28 in this period (Figure 8, Panel B). France, which is another traditional settlement country in Europe, does not appear in this group because data on migration in flow were not available.

[7] By using five times the mean values it has been possible to fill some empty cells due to missing values. Data for France, Portugal, Romania and Croatia were not available. Hence, the values of these countries are derived from computations based on official national statistics.

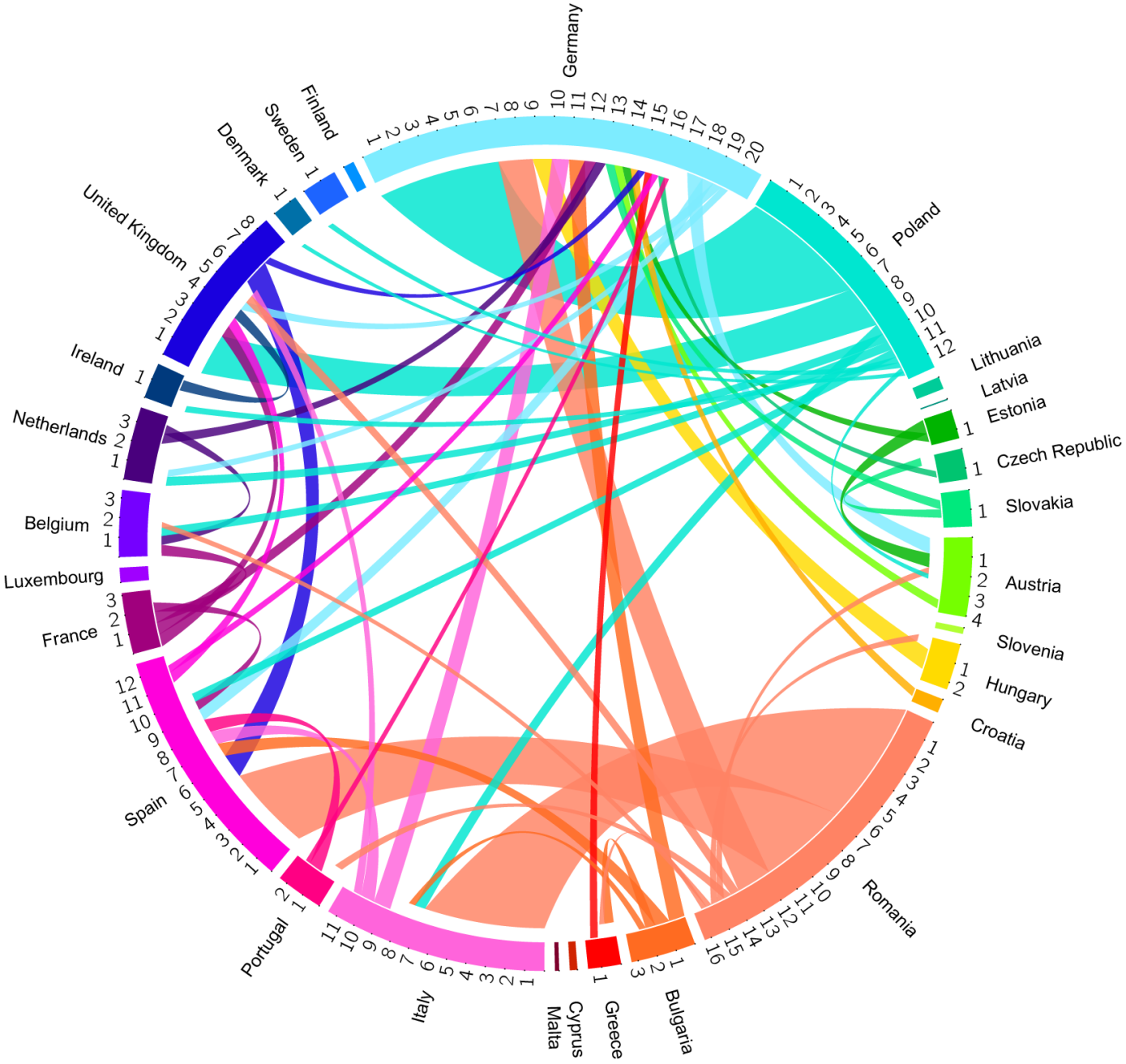
Comparing the two circular plots for the years 2001–2005 and 2006–2010 one can see that the geography of intra-European migration flows did no change substantially: in both periods Poland and Romania were the main out-migration countries, while Germany, Spain, the United Kingdom and Italy were the main destination countries. However, there was an increase in out-flows of Polish to UK and of Romanians to Italy, and a decrease in out-flows from UK to Spain. Moreover, the complexity of the geographical patterns drawn by possible combinations of sending and receiving countries increased. This is evident, for example, when looking at the higher diversification in the destinations chosen by Polish and Romanians in 2006–2010 as compared to those selected in the previous five years (2000–2005). Another important dimension that contributes to enriching the complexity of the geography of intra-European migration flows is that the main destinations are also the origins of many people moving within Europe. In the years 2006¬–2010, for example, out-flows from Romania were directed mainly toward Italy and Spain but, at the same time, Italy sent almost three hundred thousand people to other EU countries of which one third went to Spain (28%), while another third (34%) went to Germany. In 2006–2010, out-flows from Poland were directed mainly towards Germany and the United Kingdom, but at the same time these two receiving countries sent around 3 hundred thousand people to other EU countries (they were 297 hundred people from UK and 355 hundred people from Germany). There are also considerable differences between EU countries in terms of a varying origin of the migrants: in flows to Germany came from a variety of countries, while in Italy most of the inflows were from Romania. An in between position was taken by UK and Spain, where one-half of the inflows came from one single origin (Poland for UK and Romania for Spain), while another half was from a large set of countries in both cases (Figure 8). The different level of diversification in the direction of out or in flows may shed some light on the different forces affecting migration at origin and destination. For instance, countries receiving people from a wide array of origins, like Germany, presumably have a quite diversified demand of labour (job opportunities) as a 'pull factor'. By contrast, countries which receive people mostly from one single origin, like Italy, might be attractive for reasons not merely (and strictly) related to their economic and labour market system. Indeed, one important motivation behind the large flow of Romanians to Italy lies in the language similarities between these two countries.

Figure 8 - Intra-European migration flows in 2001–2010

Panel A) Years 2001–2005



Panel B) Years 2006–2010



Note: The circular migration plots show migration flows between the 28 member states of the European Union over the five-year periods 2001–05 and 2006–10. The direction of a flow is denoted by its colour: the flow has the same colour as its origin country, and there is a white space between flow and destination country. The width of the flow shows the volume of movement. The total volume of the movement is equal to that shown in the whole circle divided by two, given that the flows are counted twice in the plot, as in- and out-flows. The segments in the circle indicate the total in-flows and out-flows for each country (in hundred thousands). Threshold differs by time period: only flows with at least 17,000 migrants are shown in 2001–05, while only flows with at least 22,000 migrants are shown in 2006–10 for design reasons.
Source: Elaborations carried out by Alessio Menonna (KING team) on the basis of Eurostat data. Figure provided by Nikola Sander (see Sander et al. 2014 for details).

5. CONCLUDING DISCUSSION

The increasing ageing of EU population, attributable to the rise of the life expectancy and below-replacement fertility levels, will be accompanied in the future by a shrinking of the population size, with repercussions on the potential labour force, which may no longer be able to support and stimulate economic growth. Under this demographic pressure, a measure like increasing the flow of migration is one of the most immediate solutions, given that alternative measures, such as increasing fertility levels, although relevant, are less immediate, because it takes several decades before they exert their effects. The important positive role of migration in low-fertility populations has been stressed ever since the 1980s (see, among others, Espenshade 1986) when the effects of the decline in fertility after the post-World War II baby boom were becoming clearer. Since then, the demographic concerns and the related attention to the characteristics of the migration phenomenon have been increasingly present in the scientific literature (Bijak et al. 2013). In parallel, a debate on alternative (non-demographic) measures to cope with population ageing and population shrinking has been going on and several policy interventions have been identified for reducing the future demographic pressure on the labour market, such as: increasing labour force participation, exploiting unused labour reserves (such as: young people, women, disabled and elderly persons), shifting retirement to a later age or increasing the productivity of the available reduced workforce (OECD 2013).

The aim of this report was to assess the impact of migration on the size and age structure composition of the EU population in the past twenty years (1991–2001). This is a very important research task, given that several EU countries have become net receiving countries and that migration has been an important component of population change in Europe in the past few decades. Assessing the extent to which migration contributes to the European demography is relevant also for policy makers who aim at developing and implementing adequate migration and integration policies. In the end, migration concerns people who move from origin to destination country, rather than being simply figures on flows. Thus, integration of migrants is a crucial challenge for the future and it should be adapted to the diversity and complexity of the migration phenomenon. For instance, regulations like migrants rights, recognition of education, and access to labour market can be more relevant than life-long integration for short-term labour migrants. Countries were required to provide harmonized migration flow statistics to Eurostat as part of a new regulation passed by the European Parliament in 2007. It is to be hoped that better data on migration—at both micro and macro level—will soon become available at European level and improve the knowledge on migration phenomenon.

Results of this analysis indicate that migration has played an important role in the demographic dynamic of Europe in the past two decades, supporting the population growth of several European countries and postponing or softening the expected population decline and population ageing. The demographic benefits of migration have been concentrated especially in the working-age population segment. In fact, the findings show that while the average net demographic contribution amounted to around one million and 373 people in the EU 28 in the decade 2001–2011, almost 13 million people were added to the EU 28 working-age population because of net migration movements that occurred in the same decade. More than one-third of this new EU workforce due to migration was concentrated in the central ages, 25–34 years, and almost equally made up of female and male migrants. These figures on net contribution of migration to the EU population may include also national people who moved back and forward in the period considered and are based on the survivor condition depicted in the life tables used for the computing/projecting the hypothetical population close to migration.

By translating the additional people coming into EU into life-years to be spent by migrants in the host countries (under the assumption that migrants will keep a permanent residence there), it came up an estimate of more than 50 million net life-years in the working ages (20–64) and almost 28 million net life-

years in the retirement ages (65+), while the time to be spent in education—slightly more than 3 million life-years—was more moderate. Obviously, this scenario holds only under the assumption that immigrants will spend the rest of their life in the destination countries, which is not true for circular migration. The largest positive net contribution to the demography of Europe concerns—once again—the central ages (20–64) which are those reserved to working; hence, migration can be considered a potential resource for the in migration countries which may stimulate positive repercussions on their economic systems. Short-term changes in old-age dependency ratios can be expected to point downwards in countries in which immigration prevails, and upwards in countries in which out-migration prevails, as the majority of migrants are aged 20–35 years. Over a period of twenty years, such changes will depend on the cumulated effect of immigrants as some of them will get older during this period.

The cross-country differences show that the largest part of the gains, in terms of both net additional people as well as net life-years acquired, are concentrated in the five most important settlement countries, namely: Spain, Italy, the United Kingdom, France and Germany. These countries received almost 90% of the net additional EU workforce (new people of working ages, 15–64, due to migration), and similarly, they benefited from almost 80% of the gains in life-years to be spent in the future. On the opposite side, the demographic loss (both in terms of a reduced population and fewer life-years) concerns almost exclusively the eastern European countries and, above all, Romania, which alone accounted for slightly less than 40% of the negative net migration balance in the working-age population and around 60% of the overall negative balance in life-years recorded in the EU 28 as a whole in the years 2001–2011. However, the geography of the origin and destination countries of migration flows has been changing over time. In particular, the results suggest that the differences between the two clusters of the most important in migrating and out-migrating countries tend to diminish over time, as revealed a) by the converging trend in the migration flows observed in the most recent decade 2001–2011 between the original EU 15 countries and the additional 13 EU Member States; b) by the new out-flows originated in some traditional immigration countries in the second half of the decade 2001-2011.

The economic implications of such a contribution of migration to the demography of some EU countries are striking. Because people's economic behaviour varies at different stages of life (mainly three: education, work and retirement), changes in a country's population age structure can have significant effects on its economic performance. More specifically, if most of the population falls within the working ages, the added productivity of this group can produce a "demographic dividend" of economic growth, provided that policies are in place, which take advantage of this. In other words, the combined effect of a large working-age population and health, family, labour, financial and human capital policies can stimulate virtuous cycles of wealth creation (Bloom et al. 2003). As argued by Ogawa and colleagues (2010), there are two demographic dividends connected/created by the demographic transition: the first one, corresponding to the growth rate of economic support ratio, is transitory, while the second one, corresponding to the growth rate of productivity, can be potentially more long-lasting but depends upon the policies implemented by the governments. Bloom et al. (2003) explain the important role of demographic change for economic growth by referring to the demographic dividend delivered by the demographic transition via labour supply, savings and human capital. This work should serve to keep in mind that the challenges posed by declining and ageing populations should not be faced by using demographic options alone like migration. While these clearly remain a strong resource, there are other relevant policy areas which need active intervention, such as employment, productivity and the integration of migrants, as indicated by the European Commission.

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APPENDIX

TABLE A1: Contribution of migration to the working-age population of EU countries, 1991–2001 (women and men)

Country/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
Austria	23,492	30,712	42,351	38,177	30,997	20,716	15,800	10,333	5,170	3,025	220,773
Belgium	14,754	22,373	29,711	27,868	20,404	10,026	4,208	1,108	558	-461	130,548
Bulgaria	-16,664	-11,723	-16,003	-15,484	-12,881	-13,286	-11,879	-8,814	-6,861	-6,242	-119,837
Croatia	-17,185	-22,026	-27,942	-27,743	-24,630	-25,401	-31,651	-32,048	-23,417	-12,256	-244,299
Cyprus	4,556	6,705	5,861	4,445	5,412	5,477	4,470	3,456	3,407	2,913	46,701
Czech Republic	2,525	4,059	7,567	11,327	11,100	9,888	8,349	8,608	9,182	7,553	80,157
Denmark	12,749	16,444	18,537	15,781	13,806	10,345	7,481	4,452	3,494	3,672	106,762
Estonia	-12,390	-13,846	-13,502	-11,501	-16,804	-16,336	-15,213	-12,190	-7,572	-4,793	-124,149
Finland	6,217	4,629	3,993	5,676	6,650	6,578	5,905	3,753	2,142	2,384	47,927
France	102,758	58,213	-37,389	-53,005	59,283	84,612	43,520	23,050	22,499	30,979	334,519
Germany	304,809	436,844	540,592	483,653	380,728	278,536	217,493	142,074	67,615	68,785	2,921,129
Greece	58,677	74,386	93,039	87,919	83,736	74,248	59,786	44,004	34,578	30,093	640,465
Hungary	19,542	15,656	-4,233	-5,579	11,046	13,243	10,196	9,002	12,564	16,913	98,351
Ireland	9,686	-10,796	-31,603	-4,667	26,238	30,703	15,272	8,663	8,112	7,050	58,659
Italy	23,339	60,350	68,317	49,038	43,990	38,543	30,440	7,660	7,255	12,589	341,520
Latvia	-15,469	-9,111	-12,327	-18,351	-28,273	-22,448	-12,777	-5,744	-11,137	-8,639	-144,277
Lithuania	-14,357	-20,160	-24,708	-21,155	-22,209	-23,622	-19,881	-15,352	-9,958	-6,900	-178,302
Luxembourg	2,781	3,806	7,322	9,533	7,624	4,447	2,148	539	-82	-477	37,642
Malta	1,254	1,643	1,271	627	478	802	1,243	1,308	1,386	1,021	11,034
Netherlands	39,168	60,765	68,997	60,982	47,038	26,135	10,889	3,466	-526	-1,544	315,369
Poland	-14,565	-61,676	-103,809	-72,787	-57,803	-54,830	-53,579	-38,391	-18,438	-4,778	-480,655
Portugal	30,340	16,380	-19,740	-20,840	13,463	34,815	32,192	24,106	19,329	21,794	151,839
Romania	-41,380	-15,719	-19,779	-75,918	-92,899	-65,972	-54,709	-33,825	-22,364	-14,964	-437,529
Slovakia	-1,247	-1,258	-5,124	-6,253	-4,836	-3,851	-4,248	-2,887	830	2,399	-26,474
Slovenia	-104	-435	664	827	924	333	-1,139	-2,626	-3,441	-2,940	-7,937

Spain	112,179	121,496	127,209	126,190	143,861	148,435	116,896	82,171	62,179	48,844	1,089,460
Sweden	21,605	24,364	27,577	29,918	26,007	18,138	11,066	5,331	2,974	2,781	169,760
United Kingdom	34,644	94,837	164,271	140,727	42,976	-13	29,303	11,066	5,149	14,397	537,357

TABLE A1: (Continued) Contribution of migration to the working-age population of EU countries, 1991–2001 (women and men)

EU/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
European Union (15 countries)	797,199	1,014,803	1,103,184	996,949	946,799	786,262	602,399	371,775	240,446	243,912	7,103,728
European Union (25 countries)	766,943	936,380	954,844	878,548	845,835	694,917	519,819	316,960	217,270	246,662	6,378,177
European Union (27 countries)	708,899	908,938	919,062	787,146	740,055	615,659	453,230	274,321	188,046	225,456	5,820,811
European Union (28 countries)	691,714	886,911	891,120	759,403	715,425	590,258	421,579	242,272	164,629	213,200	5,576,511

TABLE A1 (Continued): Contribution of migration to the working-age population of EU countries, 1991–2001 (men)

Country/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
Austria	11,740	11,484	14,890	17,528	19,048	12,249	9,446	6,346	3,865	245	106,842
Belgium	7,537	5,839	10,127	15,012	12,635	5,612	1,876	-512	62	48	58,235
Bulgaria	-11,568	-5,375	-6,459	-11,061	-5,741	-7,063	-7,168	-5,362	-4,070	-3,999	-67,866
Croatia	-9,160	-8,750	-14,028	-17,150	-13,551	-12,510	-15,252	-17,713	-18,067	-8,640	-134,820
Cyprus	1,127	2,669	1,596	907	1,010	2,881	2,454	1,711	1,821	1,774	17,948
Czech Republic	1,294	1,358	2,296	5,906	7,411	6,401	5,010	4,612	6,087	4,716	45,091
Denmark	6,627	6,356	7,716	7,838	7,243	5,229	4,388	2,430	1,916	1,831	51,574
Estonia	-5,834	-6,217	-7,445	-6,858	-10,326	-8,869	-8,536	-7,379	-5,086	-2,436	-68,987
Finland	3,547	3,028	2,287	3,593	4,167	3,665	3,561	2,409	1,632	1,047	28,937
France	59,680	28,293	-31,584	-82,046	-1,110	49,537	22,911	10,228	6,470	15,320	77,699
Germany	144,062	170,829	247,389	301,842	245,888	153,439	123,145	85,842	42,819	13,350	1,528,605
Greece	33,933	41,909	51,918	47,362	50,112	42,801	36,649	23,689	16,581	11,112	356,065
Hungary	5,061	14,503	3,197	-11,305	3,271	4,718	4,364	2,602	4,215	6,393	37,018
Ireland	8,481	1,176	-17,242	-18,375	7,771	21,300	11,772	5,299	5,537	3,876	29,595
Italy	4,407	24,723	20,689	9,503	14,880	20,849	13,946	4,213	-2,138	1,120	112,192
Latvia	-12,030	-3,273	-5,181	-10,135	-12,837	-15,534	-5,894	-6,760	820	-9,896	-80,719
Lithuania	-6,483	-7,373	-11,886	-14,878	-14,329	-13,015	-12,044	-8,162	-5,851	-3,564	-97,585
Luxembourg	1,306	1,416	2,252	4,418	4,723	3,048	1,748	434	73	-150	19,269
Malta	742	822	767	459	-69	36	626	682	840	613	5,518
Netherlands	18,532	24,546	26,088	33,308	29,510	14,071	5,227	1,121	-918	-2,106	149,379
Poland	2,131	-15,418	-58,658	-53,888	-29,833	-23,770	-31,889	-27,134	-11,720	-1,448	-251,628
Portugal	13,468	15,078	-1,739	-19,035	-7,116	20,724	20,227	16,519	10,681	11,857	80,663
Romania	-29,058	-15,443	998	-20,462	-57,340	-45,379	-33,217	-26,887	-9,008	-8,059	-243,854
Slovakia	-914	417	-1,433	-3,615	-4,275	-3,269	-3,375	-3,137	-236	1,180	-18,657
Slovenia	148	-238	983	1,662	2,045	1,764	1,525	429	-1,938	-2,344	4,035
Spain	60,630	55,652	71,896	62,206	64,698	81,424	71,626	50,590	38,856	30,845	588,423

TABLE A1 (Continued): Contribution of migration to the working-age population of EU countries, 1991–2001 (men)

Country/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
Sweden	11,452	11,359	10,865	14,899	15,059	10,335	6,144	2,698	1,137	236	84,185
United Kingdom	21,616	5,654	16,618	51,499	31,831	-15,688	11,648	16,157	1,315	15,716	156,366
EU/Age classes											
European Union (15 countries)	407,017	407,343	432,169	449,553	499,340	428,596	344,315	227,464	127,886	104,347	3,428,030
European Union (25 countries)	392,258	394,591	356,404	357,808	441,407	379,939	296,557	184,928	116,837	99,334	3,020,064
European Union (27 countries)	351,632	373,774	350,944	326,285	378,326	327,497	256,172	152,680	103,759	87,276	2,708,345
European Union (28 countries)	342,473	365,024	336,916	309,135	364,775	314,986	240,920	134,967	85,692	78,637	2,573,524

TABLE A1 (Continued): Contribution of migration to the working-age population of EU countries, 1991–2001 (women)

Country/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
Austria	11,752	19,228	27,460	20,649	11,949	8,467	6,354	3,987	1,305	2,780	113,932
Belgium	7,217	16,534	19,584	12,855	7,768	4,414	2,332	1,620	496	-508	72,313
Bulgaria	-5,096	-6,349	-9,545	-4,423	-7,140	-6,222	-4,711	-3,452	-2,790	-2,243	-51,972
Croatia	-8,025	-13,276	-13,914	-10,593	-11,079	-12,890	-16,399	-14,336	-5,350	-3,617	-109,479
Cyprus	3,429	4,037	4,265	3,537	4,402	2,596	2,016	1,746	1,586	1,139	28,753
Czech Republic	1,231	2,701	5,270	5,421	3,689	3,487	3,339	3,996	3,095	2,837	35,066
Denmark	6,122	10,088	10,822	7,943	6,564	5,116	3,092	2,022	1,579	1,841	55,188
Estonia	-6,557	-7,630	-6,057	-4,644	-6,478	-7,467	-6,677	-4,811	-2,486	-2,357	-55,163
Finland	2,670	1,601	1,705	2,082	2,483	2,913	2,345	1,344	510	1,338	18,991
France	43,078	29,919	-5,805	29,041	60,393	35,075	20,609	12,822	16,029	15,659	256,820
Germany	160,747	266,015	293,203	181,811	134,840	125,097	94,348	56,232	24,797	55,435	1,392,524
Greece	24,744	32,477	41,121	40,557	33,624	31,447	23,136	20,315	17,997	18,982	284,399
Hungary	14,481	1,153	-7,429	5,727	7,775	8,525	5,832	6,400	8,349	10,520	61,332
Ireland	1,205	-11,972	-14,361	13,708	18,467	9,403	3,499	3,364	2,575	3,174	29,063
Italy	18,932	35,627	47,628	39,535	29,109	17,693	16,494	3,446	9,393	11,469	229,328
Latvia	-3,439	-5,838	-7,146	-8,217	-15,436	-6,915	-6,883	1,015	-11,957	1,257	-63,558
Lithuania	-7,874	-12,786	-12,822	-6,277	-7,880	-10,608	-7,837	-7,190	-4,106	-3,336	-80,717
Luxembourg	1,475	2,390	5,070	5,115	2,901	1,399	400	105	-155	-327	18,373
Malta	512	822	504	168	547	765	617	626	547	409	5,517
Netherlands	20,636	36,219	42,909	27,674	17,528	12,064	5,661	2,345	393	561	165,990
Poland	-16,696	-46,258	-45,151	-18,899	-27,969	-31,060	-21,690	-11,257	-6,718	-3,330	-229,027
Portugal	16,872	1,302	-18,001	-1,805	20,579	14,091	11,965	7,587	8,649	9,937	71,175
Romania	-12,322	-277	-20,777	-55,456	-35,559	-20,593	-21,492	-6,938	-13,356	-6,905	-193,675
Slovakia	-334	-1,674	-3,690	-2,638	-561	-582	-874	250	1,067	1,219	-7,817
Slovenia	-251	-197	-319	-835	-1,121	-1,430	-2,664	-3,055	-1,503	-596	-11,972
Spain	51,549	65,845	55,314	63,983	79,162	67,011	45,270	31,581	23,323	17,999	501,037
Sweden	10,154	13,005	16,712	15,019	10,948	7,803	4,922	2,632	1,837	2,545	85,575

TABLE A1 (Continued): Contribution of migration to the working-age population of EU countries 1991–2001 (women)

Country/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
United Kingdom	13,028	89,183	147,654	89,228	11,144	15,675	17,655	-5,091	3,834	-1,319	380,991
EU/Age classes											
European Union (15 countries)	390,182	607,460	671,015	547,396	447,459	357,666	258,084	144,311	112,560	139,565	3,675,698
European Union (25 countries)	374,685	541,789	598,440	520,740	404,428	314,978	223,262	132,031	100,433	147,327	3,358,113
European Union (27 countries)	357,267	535,164	568,118	460,861	361,729	288,162	197,058	121,641	84,287	138,179	3,112,466
European Union (28 countries)	349,241	521,887	554,205	450,268	350,649	275,272	180,660	107,305	78,936	134,563	3,002,987

Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

TABLE A2 (Continued): Contribution of migration to the working-age population of EU countries 2001–2011 (men and women)

Country/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
Austria	24,256	53,900	74,769	65,309	41,156	25,178	16,930	11,494	7,078	2,462	322,531
Belgium	39,328	69,525	97,133	91,510	68,790	49,848	30,463	19,697	11,284	4,699	482,278
Bulgaria	-26,539	-24,078	-58,325	-76,410	-53,761	-38,830	-29,978	-17,585	-3,888	9,060	-320,333
Croatia	-5,052	-6,768	-7,954	-9,382	-7,143	-3,846	-2,835	-1,567	-3,569	-1,573	-49,689
Cyprus	9,816	15,119	14,578	13,049	11,724	7,198	5,335	4,363	4,036	5,863	91,082
Czech Republic	8,589	36,564	49,753	37,175	24,349	20,851	20,542	15,955	9,299	7,051	230,129
Denmark	9,025	29,650	33,892	17,689	7,495	5,663	4,036	2,393	797	1,269	111,910
Estonia	74	136	68	-122	133	667	601	1,033	1,121	1,509	5,219
Finland	6,320	10,527	16,545	14,258	10,477	7,357	6,062	4,843	3,479	2,202	82,069
France	226,286	37,256	-9,542	140,933	238,006	164,332	105,372	72,038	62,961	70,154	1,107,795
Germany	73,103	251,104	360,663	219,672	63,558	-4,397	-4,044	11,505	5,604	-8,547	968,221
Greece	15,144	18,516	19,771	27,555	33,829	35,379	27,888	27,283	22,874	20,583	248,822
Hungary	8,604	21,481	20,257	15,566	12,711	11,496	8,230	7,097	6,267	6,944	118,653
Ireland	20,344	11,971	46,571	77,642	66,673	44,673	23,720	12,452	8,888	2,132	315,066
Italy	228,244	359,762	472,434	545,207	475,029	401,731	284,573	219,147	133,272	107,850	3,227,249
Latvia	-8,970	-26,325	-30,348	-23,474	-16,368	-13,091	-12,646	-10,394	-7,240	-3,459	-152,316
Lithuania	-15,310	-52,662	-68,137	-43,855	-28,434	-25,751	-23,072	-12,146	-8,091	-3,429	-280,885
Luxembourg	2,145	4,345	10,655	12,248	8,777	5,264	3,251	1,925	1,099	229	49,937
Malta	803	1,255	1,331	613	910	1,514	1,149	1,297	1,237	1,811	11,920
Netherlands	12,431	56,777	74,547	46,031	9,171	-9,927	-11,573	-9,591	-9,513	-8,789	149,564
Poland	1,195	-19,145	-51,446	26,362	23,114	18,217	18,165	31,939	36,535	29,900	114,835
Portugal	35,841	10,338	-18,171	2,387	25,479	32,109	24,205	23,336	25,651	35,524	196,698
Romania	-15,323	1,730	-30,185	-154,965	-136,309	-60,381	-24,432	-26,127	-19,546	-5,777	-471,314
Slovakia	2,438	1,130	-3,590	-6,487	-3,537	295	388	535	1,786	1,097	-5,945
Slovenia	2,096	6,365	9,800	7,379	5,779	5,445	4,341	2,960	1,501	1,065	46,729
Spain	283,256	413,058	659,402	753,937	597,215	449,877	323,019	239,001	175,455	150,366	4,044,585

TABLE A2 (Continued): Contribution of migration to the working-age population of EU countries 2001–2011 (men and women)

Country/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
Sweden	33,516	46,777	75,676	67,373	44,859	29,490	17,971	11,744	7,043	5,161	339,610
United Kingdom	118,565	488,371	663,403	411,480	175,253	84,079	38,013	13,578	-9,263	-11,641	1,971,838
EU/Age classes											
European Union (15 countries)	1,127,803	1,861,877	2,577,748	2,493,231	1,865,768	1,320,656	889,888	660,843	446,708	373,654	13,618,174
European Union (25 countries)	1,137,137	1,845,796	2,520,014	2,519,437	1,896,148	1,347,496	912,921	703,481	493,160	422,005	13,797,595
European Union (27 countries)	1,095,275	1,823,448	2,431,504	2,288,062	1,706,078	1,248,284	858,512	659,770	469,727	425,288	13,005,949
European Union (28 countries)	1,090,224	1,816,679	2,423,550	2,278,680	1,698,935	1,244,438	855,677	658,203	466,159	423,715	12,956,260

TABLE A2 (Continued): Contribution of migration to the working-age population of EU countries, 2001–2011 (men)

Country/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
Austria	12,934	24,492	33,463	31,217	20,527	12,643	7,742	4,696	2,479	229	150,422
Belgium	20,077	30,286	43,963	47,125	37,098	27,440	16,767	10,188	5,366	2,207	240,516
Bulgaria	-12,872	-10,431	-25,585	-34,996	-21,551	-14,578	-9,206	-2,273	3,862	7,743	-119,887
Croatia	-2,646	-3,402	-4,037	-4,413	-2,861	-1,258	-1,351	-340	-1,350	-2,539	-24,197
Cyprus	4,938	7,179	6,141	5,225	4,566	2,524	2,199	1,872	2,109	3,128	39,881
Czech Republic	4,366	19,513	29,038	23,592	17,422	14,322	13,117	10,454	6,302	4,702	142,827
Denmark	4,646	14,130	15,352	7,442	2,846	1,920	1,107	658	87	534	48,721
Estonia	61	108	58	-129	107	492	522	772	705	853	3,550
Finland	3,448	5,929	9,878	8,891	6,346	3,968	2,953	2,094	1,505	1,031	46,041
France	113,723	-10,448	-57,166	46,690	122,822	82,799	55,136	42,029	32,597	32,851	461,035
Germany	38,180	119,423	165,746	102,720	15,967	-20,774	-19,720	-7,584	-8,576	-9,398	375,986
Greece	8,259	9,515	9,775	13,944	18,296	20,228	15,515	14,762	11,891	9,498	131,683
Hungary	4,588	11,490	10,760	8,360	7,756	7,090	5,395	4,298	3,448	3,501	66,687
Ireland	9,755	1,401	13,721	36,127	33,460	24,420	12,883	7,323	5,191	1,664	145,944
Italy	123,000	179,110	217,799	264,860	236,903	195,723	130,290	88,552	51,490	45,860	1,533,588
Latvia	-4,453	-13,229	-15,026	-12,088	-8,369	-6,436	-5,963	-4,457	-2,966	-1,204	-74,189
Lithuania	-7,779	-26,160	-33,762	-22,713	-14,917	-13,325	-11,065	-4,507	-2,612	-611	-137,453
Luxembourg	1,096	2,177	5,264	6,073	4,518	2,954	2,073	1,123	747	80	26,105
Malta	356	702	744	436	540	804	645	617	609	946	6,398
Netherlands	6,481	23,151	30,058	19,230	-25	-11,033	-11,679	-8,080	-6,433	-5,161	36,509
Poland	448	-15,269	-31,230	17,333	18,416	15,111	17,620	28,217	31,518	24,530	106,695
Portugal	17,611	1,415	-17,793	-9,518	3,752	9,333	8,770	8,636	11,627	17,646	51,480
Romania	-8,238	2,537	-10,377	-70,376	-63,209	-27,505	-11,512	-11,345	-9,338	-1,897	-211,259
Slovakia	1,223	412	-759	-517	339	1,593	1,725	1,479	2,029	1,463	8,988
Slovenia	1,121	4,431	7,235	5,405	4,420	4,294	3,569	2,346	1,181	613	34,615

TABLE A2 (Continued): Contribution of migration to the working-age population of EU countries, 2001–2011 (men)

Country/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
Spain	145,093	201,386	326,176	400,073	327,806	241,552	167,398	118,866	82,799	71,166	2,082,315
Sweden	18,236	22,884	39,496	35,775	22,789	14,380	7,845	5,038	2,859	2,075	171,377
United Kingdom	67,955	263,547	350,661	224,002	91,969	41,543	19,617	5,046	-5,445	-6,235	1,052,662
EU/Age classes											
European Union (15 countries)	590,495	888,399	1,186,393	1,234,650	945,075	647,096	416,696	293,349	188,184	164,045	6,554,383
European Union (25 countries)	595,363	877,577	1,159,590	1,259,556	975,354	673,565	444,461	334,440	230,507	201,967	6,752,381
European Union (27 countries)	574,253	869,684	1,123,627	1,154,184	890,594	631,482	423,744	320,823	225,032	207,812	6,421,235
European Union (28 countries)	571,607	866,281	1,119,590	1,149,771	887,734	630,224	422,393	320,483	223,682	205,274	6,397,038

TABLE A2 (Continued): Contribution of migration to the working-age population of EU countries, 2001–2011 (women)

Country/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
Austria	11,322	29,408	41,305	34,092	20,629	12,535	9,188	6,798	4,599	2,233	172,109
Belgium	19,251	39,239	53,170	44,385	31,693	22,408	13,696	9,509	5,918	2,493	241,762
Bulgaria	-13,667	-13,647	-32,740	-41,414	-32,210	-24,252	-20,772	-15,312	-7,750	1,317	-200,446
Croatia	-2,406	-3,366	-3,917	-4,970	-4,282	-2,589	-1,484	-1,227	-2,218	966	-25,492
Cyprus	4,878	7,939	8,437	7,824	7,158	4,674	3,136	2,491	1,927	2,735	51,201
Czech Republic	4,223	17,052	20,716	13,583	6,927	6,529	7,425	5,501	2,998	2,348	87,302
Denmark	4,380	15,520	18,541	10,247	4,649	3,743	2,930	1,735	710	735	63,189
Estonia	13	28	10	6	26	175	78	261	416	656	1,669
Finland	2,871	4,598	6,667	5,368	4,131	3,389	3,109	2,749	1,974	1,171	36,028
France	112,562	47,704	47,624	94,242	115,183	81,534	50,236	30,009	30,363	37,303	646,760
Germany	34,923	131,681	194,917	116,951	47,591	16,377	15,676	19,088	14,180	851	592,235
Greece	6,886	9,001	9,997	13,611	15,533	15,150	12,373	12,520	10,982	11,086	117,139
Hungary	4,016	9,992	9,497	7,205	4,956	4,406	2,834	2,799	2,819	3,443	51,966
Ireland	10,589	10,570	32,850	41,516	33,213	20,253	10,837	5,129	3,698	468	169,123
Italy	105,244	180,652	254,635	280,347	238,126	206,008	154,283	130,594	81,782	61,989	1,693,660
Latvia	-4,517	-13,097	-15,322	-11,386	-7,999	-6,655	-6,683	-5,938	-4,274	-2,256	-78,126
Lithuania	-7,531	-26,502	-34,375	-21,142	-13,517	-12,426	-12,007	-7,639	-5,478	-2,817	-143,432
Luxembourg	1,049	2,168	5,391	6,175	4,258	2,311	1,179	802	352	149	23,833
Malta	447	553	587	178	370	710	504	681	628	864	5,522
Netherlands	5,949	33,626	44,489	26,801	9,196	1,106	106	-1,511	-3,080	-3,628	113,055
Poland	747	-3,876	-20,216	9,029	4,697	3,106	545	3,722	5,017	5,370	8,140
Portugal	18,229	8,922	-378	11,905	21,726	22,776	15,435	14,700	14,024	17,878	145,218
Romania	-7,085	-808	-19,807	-84,589	-73,100	-32,876	-12,920	-14,782	-10,208	-3,880	-260,055
Slovakia	1,215	718	-2,830	-5,971	-3,876	-1,298	-1,337	-945	-243	-366	-14,933
Slovenia	976	1,934	2,565	1,973	1,359	1,151	771	614	320	452	12,114
Spain	138,163	211,672	333,226	353,864	269,409	208,324	155,622	120,134	92,656	79,200	1,962,270
Sweden	15,280	23,893	36,179	31,598	22,070	15,109	10,127	6,706	4,184	3,086	168,234

TABLE A2 (Continued): Contribution of migration to the working-age population of EU countries, 2001–2011 (women)

Country/Age classes	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	Total
United Kingdom	50,611	224,824	312,741	187,478	83,284	42,535	18,396	8,531	-3,818	-5,406	919,177
EU/Age classes											
European Union (15 countries)	537,308	973,478	1,391,355	1,258,581	920,692	673,560	473,191	367,494	258,523	209,609	7,063,791
European Union (25 countries)	541,774	968,218	1,360,424	1,259,881	920,794	673,931	468,460	369,041	262,653	220,038	7,045,214
European Union (27 countries)	521,022	953,764	1,307,877	1,133,878	815,484	616,803	434,768	338,947	244,695	217,476	6,584,713
European Union (28 countries)	518,616	950,398	1,303,960	1,128,909	811,202	614,214	433,284	337,720	242,477	218,442	6,559,221

Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

TABLE A3: Life-years (acquired/lost annually) due to the average net contribution of migration 2001–2011

	Life-years acquired/lost to be spent in:			Life-years lost to be spent in:			Life-years acquired to be spent in:			Acquired	Lost
	education	activity	retirement	education	activity	retirement	education	activity	retirement		
Austria	102,399	1,299,485	593,603	-4,777	-10,220	-10,240	107,176	1,309,704	603,843	2,020,723	-25,237
Belgium	144,643	1,845,590	874,002	-18,646	-39,905	-17,499	163,289	1,885,495	891,501	2,940,285	-76,050
Bulgaria	-166,628	-1,342,362	-429,059	-168,065	-1,355,493	-481,736	1,437	13,131	52,677	67,245	-2,005,294
Croatia	20,892	205,201	81,569	0	0	-4,562	20,892	205,201	86,131	312,224	-4,562
Cyprus	19,173	312,413	169,565	0	0	-76	19,173	312,413	169,642	501,228	-76
Czech Republic	43,819	737,454	307,180	0	0	-6,115	43,819	737,454	313,294	1,094,567	-6,115
Denmark	241,687	4,861,257	2,622,202	0	0	-6,801	241,687	4,861,257	2,629,003	7,731,947	-6,801
Estonia	-582	-47,053	-16,013	-4,092	-55,020	-22,052	3,510	7,968	6,040	17,518	-81,165
Finland	29,649	305,602	154,012	0	0	-105	29,649	305,602	154,118	489,369	-105
France	423,313	4,099,592	2,605,439	-398,806	-1,584,806	-652,397	822,119	5,684,399	3,257,835	9,764,353	-2,636,009
Germany	294,234	4,558,995	1,701,630	-5,038	-86,407	-229,552	299,271	4,645,402	1,931,181	6,875,855	-320,996
Greece	14,816	742,796	242,133	-21,035	-206,757	-330,861	35,851	949,554	572,994	1,558,399	-558,653
Hungary	24,635	380,009	167,935	-18,994	-39,293	-17,063	43,629	419,303	184,998	647,929	-75,350
Ireland	71,588	1,212,558	587,114	-10,812	-64,727	-36,324	82,400	1,277,284	623,438	1,983,122	-111,863
Italy	648,476	10,789,877	6,247,691	-103,464	-223,603	-89,967	751,939	11,013,480	6,337,659	18,103,078	-417,034
Latvia	-27,983	-504,538	-196,590	-27,983	-504,538	-196,590	0	0	0	0	-729,111
Lithuania	-95,509	-1,043,892	-359,535	-95,509	-1,043,980	-369,517	0	88	9,981	10,069	-1,509,005
Luxembourg	11,480	197,446	88,502	-73	-768	-4,663	11,553	198,214	93,165	302,933	-5,504
Malta	2,588	49,753	35,477	-294	-672	-245	2,882	50,425	35,723	89,030	-1,212
Netherlands	52,964	878,014	300,582	-4,117	-90,027	-105,571	57,081	968,040	406,152	1,431,273	-199,714
Poland*	-1,647	-480,742	-229,850	-16,826	-514,381	-242,201	15,179	33,639	12,351	61,169	-773,408
Portugal	-32,031	365,283	422,271	-57,535	-163,370	-55,763	25,504	528,653	478,034	1,032,191	-276,668
Romania	-381,743	-5,932,118	-1,939,357	-381,743	-5,936,673	-1,970,809	0	4,555	31,453	36,007	-8,289,225
Slovakia	5,525	-72,620	-35,321	-5,962	-126,703	-54,078	11,488	54,084	18,757	84,328	-186,743
Slovenia	13,724	166,630	72,793	0	0	-49	13,724	166,630	72,842	253,196	-49
Spain	1,051,118	16,084,455	9,171,696	0	-11,236	-103,612	1,051,118	16,095,691	9,275,308	26,422,117	-114,848
Sweden	134,850	1,429,567	695,582	0	0	-552	134,850	1,429,567	696,134	2,260,550	-552
United Kingdom	411,121	9,287,874	4,000,137	-21,064	-49,435	-98,866	432,185	9,337,310	4,099,003	13,868,497	-169,366
EU-15	3,600,305	57,958,391	30,306,596	-645,366	-2,531,261	-1,742,772	4,245,672	60,489,652	32,049,369	96,784,692	-4,919,400
EU-25	3,584,049	57,455,805	30,222,237	-815,026	-4,815,850	-2,650,759	4,399,075	62,271,655	32,872,996	99,543,726	-8,281,635
EU-27	3,035,678	50,181,325	27,853,822	-1,364,834	-12,108,016	-5,103,304	4,400,512	62,289,341	32,957,126	99,646,979	-18,576,154
EU-28	3,056,570	50,386,526	27,935,391	-1,364,834	-12,108,016	-5,107,866	4,421,404	62,494,542	33,043,257	99,959,203	-18,580,716

Source: Elaborations carried out by Livia Ortensi and Alessio Menonna (KING team) on the basis of Eurostat data

TABLE A4 Intra-European flows of people. Years 2001–2005

	OUT-MIGRATION COUNTRIES														
IN-MIGRATION COUNTRIES	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Rep	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy
Austria		1,051	7,156	19,386	51	6,429	888	90,422	1,207	3,479	58,266	2,020	15,103	638	7,265
Belgium	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Bulgaria	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Croatia	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Cyprus	193	109	2,558	31		399	132	193	266	600	1,448	22,974	763	534	289
Czech Republic	1,719	333	3,555	703	71		233	1,719	199	1,734	5,495	228	230	239	1,188
Denmark	764	713	621	125	14	898		764	1,877	3,814	8,246	539	855	597	3,081
Estonia	8	13	3	5	0	3	30		808	20	163	0	13	5	75
Finland	151	124	187	100	16	149	382	151		726	1,344	167	365	197	580
France	1,005	20,819	5,207	0	40	1,473	1,615	237	383		17,678	142	388	3,424	353
Germany	48,580	9,935	60,359	58,558	312	47,075	11,104	48,580	10,887	63,270		62,436	83,782	7,625	113,331
Greece	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd	nd	nd
Hungary	1,118	280	310	334	284	204	167	1,118	388	1,372	5,396	205		150	582
Ireland	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd
Italy	1,834	1,943	14,535	7,286	91	3,334	920	1,834	755	10,055	11,843	2,058	2,719	918	
Latvia	19	16	10	8	0	16	156	19	180	61	307	8	7	28	65
Lithuania	51	48	87	10	0	31	272	51	275	191	532	14	10	18	130
Luxembourg	241	5,865	174	33	14	357	721	241	391	10,068	3,627	360	419	439	2,640
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80
Netherlands	1,669	8,212	2,048	587	82	1,729	1,684	1,669	1,871	9,683	26,204	4,048	2,516	2,284	6,920
Poland	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Portugal	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Romania	15	5	0	5	0	0	5	5	0	nd	10	0	0	0	24
Slovakia	898	143	189	179	17	3,628	148	898	52	749	1,765	101	797	71	501
Slovenia	282	71	160	5,481	6	142	44	282	36	295	475	18	152	21	465
Spain	3,495	12,566	84,838	1,081	66	3,309	4,393	3,495	4,305	40,421	65,539	1,964	2,279	7,226	63,910
Sweden	674	493	643	729	35	463	17,160	674	15,624	2,883	8,938	1,552	1,045	757	1,621
United Kingdom	3,982	3,938	9,689	551	4,725	15,010	11,841	3,982	3,676	63,056	60,892	19,838	11,612	4,999	17,034

TABLE A4 (Continued) Intra-European flows of people. Years 2001–2005

	OUT-MIGRATION COUNTRIES												
IN-MIGRATION COUNTRIES	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom
Austria	18	768	264	28	3,470	23,676	1,603	23,393	14,727	2,658	1,942	2,380	5,134
Belgium	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Bulgaria	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Croatia	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Cyprus	0	138	46	36	279	3,008	0	1,647	2,190	27	164	397	16,209
Czech Republic	0	198	13	14	1,251	7,809	101	1,841	77,205	78	309	280	2,345
Denmark	0	4,294	17	26	2,484	5,593	586	1,355	408	158	3,515	6,185	5,047
Estonia	0	120	5	0	25	33	23	28	8	0	43	98	100
Finland	0	284	7	7	449	440	122	306	98	12	483	3,406	1,454
France	0	896	1,797	0	15,040	4,028	0	18,330	1,117	70	0	1,082	81,577
Germany	17	13,417	5,345	137	46,751	521,583	34,803	114,694	56,970	10,753	39,522	12,918	45,568
Greece	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Hungary	1	43	4	5	686	544	55	51,578	3,107	67	129	443	1,655
Ireland	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Italy	20	1,865	158	255	2,838	45,668	1,731	257,858	3,411	1,191	6,826	1,420	8,908
Latvia		832	0	1	36	86	8	11	12	4	17	127	135
Lithuania	0		3	2	95	377	19	13	11	7	67	151	187
Luxembourg	0	224		92	960	830	16,220	301	261	207	825	675	1,753
Malta	0	0	0		0	0	0	0	0	0	0	0	810
Netherlands	6	1,288	76	93		14,695	6,495	3,061	1,618	302	6,609	2,402	21,542
Poland	nd	nd	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd
Portugal	nd	nd	nd	nd	nd	nd		nd	nd	nd	nd	nd	nd
Romania	20	0	0	0	0	10	0		0	0	59	15	0
Slovakia	0	17	2	6	183	1,664	35	246		79	160	83	629
Slovenia	0	30	0	2	125	236	15	572	667		83	61	220
Spain	15	11,988	221	65	19,220	28,195	36,622	353,433	3,052	508		8,951	173,694
Sweden	0	1,835	17	29	2,688	8,769	460	1,669	365	119	1,728		6,186
United Kingdom	0	12,741	0	1,436	20,580	73,220	23,009	4,972	14,731	0	34,952	15,320	

Source: Elaborations carried out by Alessio Menonna (KING team) on the basis of Eurostat data

TABLE A5 Intra-European flows of people. Years 2006–2010

	OUT-MIGRATION COUNTRIES														
IN-MIGRATION COUNTRIES	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy
Austria		1,212	9,750	11,342	95	6,252	808	76,433	1,370	4,582	88,332	1,747	22,090	628	8,380
Belgium	1,310		15,690	608	208	2,238	1,335	1,310	1,843	61,208	16,210	3,025	3,628	1,445	15,833
Bulgaria	3	0		0	0	3	0	3	0	0	10	3	0	0	0
Croatia	nd	nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Cyprus	117	67	4,193	53		498	68	117	207	627	927	7,737	658	67	98
Czech Republic	2,241	285	4,478	749	43		170	2,241	162	1,565	14,530	271	341	347	1,374
Denmark	846	681	2,915	126	27	903		846	1,523	4,151	14,094	693	2,029	538	3,484
Estonia	48	56	54	2	5	79	71		1,447	218	481	18	57	41	244
Finland	202	182	594	71	22	242	300	202		1,005	1,947	210	948	188	830
France	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd	nd	nd	nd	nd
Germany	46,653	9,532	87,935	43,523	630	34,453	10,338	46,653	9,610	64,263		40,745	109,967	5,627	95,007
Greece	345	265	53,245	238	1,790	408	165	345	143	758	2,243		353	133	1,138
Hungary	2,603	435	300	949	109	312	173	2,603	203	1,215	9,748	179		221	1,083
Ireland	440	447	72	187	10	1,907	567	440	937	7,542	7,060	243	1,562		4,453
Italy	1,983	2,094	36,064	3,948	88	3,112	811	1,983	801	11,717	13,961	1,986	5,141	1,135	
Latvia	74	53	601	2	2	128	186	74	198	273	985	19	25	48	217
Lithuania	14	12	97	4	0	17	51	14	34	90	275	19	12	8	96
Luxembourg	320	5,039	657	91	42	514	641	320	425	14,149	5,120	535	659	515	3,488
Malta	285	135	2,220	65	0	350	315	285	130	950	1,105	170	215	240	1,250
Netherlands	1,956	9,075	18,000	488	210	2,718	1,723	1,956	1,980	12,171	39,091	5,726	6,493	2,249	10,476
Poland	208	168	433	70	5	118	125	208	136	622	1,440	71	118	69	595
Portugal	352	720	8,410	20	15	235	157	166	98	2,619	3,818	117	465	343	5,640
Romania	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Slovakia	1,660	319	1,738	455	22	6,780	248	1,660	131	1,234	4,001	279	4,603	158	1,430
Slovenia	528	76	2,498	6,513	4	216	38	528	53	425	969	31	326	56	1,315
Spain	4,359	10,893	79,925	1,048	127	5,070	4,403	4,359	4,228	50,143	63,604	2,525	6,264	7,608	78,706
Sweden	1,012	788	3,640	809	164	1,064	21,561	1,012	12,303	4,173	14,877	2,618	3,919	1,118	3,132
United Kingdom	nd	nd	nd	nd	nd	nd	nd	nd	nd	66,705	50,413	nd	nd	58,200	44,990

TABLE A5 (Continued) Intra-European flows of people. Years 2006–2010

	OUT-MIGRATION COUNTRIES												
IN-MIGRATION COUNTRIES	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom
Austria	22	1,000	342	53	4,403	25,628	1,555	38,432	20,130	3,488	2,487	2,050	5,770
Belgium	0	1,205	1,145	193	49,538	47,580	12,540	29,660	3,533	645	13,598	2,313	9,790
Bulgaria	0	0	0	0	0	0	0	0	0	0	0	0	0
Croatia	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	d	nd	nd
Cyprus	0	313	0	25	323	3,748	205	5,443	1,508	42	73	318	7,518
Czech Republic	0	301	6	8	1,339	6,659	144	3,082	44,956	124	457	298	2,657
Denmark	3	6,483	27	39	2,439	22,169	877	6,202	1,123	279	3,513	6,960	5,095
Estonia	0	246	1	0	78	183	58	30	14	10	124	285	244
Finland	0	469	4	8	498	1,797	222	889	193	62	835	3,881	1,521
France	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Germany	13	20,808	9,992	342	54,822	689,117	27,380	193,103	49,423	5,963	36,853	11,228	40,757
Greece	0	220	8	8	943	2,523	38	28,185	340	48	183	228	5,775
Hungary	1	68	14	17	1,121	670	167	38,279	4,958	149	482	590	1,219
Ireland	2	8,408	12	45	1,788	34,888	1,207	473	3,785	52	5,393	1,663	18,335
Italy	9	3,363	112	338	3,235	59,503	2,399	683,425	6,787	1,397	7,135	1,379	10,205
Latvia		1,238	3	7	120	371	60	340	53	9	177	359	304
Lithuania	0		1	0	35	202	40	22	9	8	108	47	64
Luxembourg	126	362		191	1,170	1,900	20,401	1,297	404	249	1,125	851	2,152
Malta	0	60	0		415	860	75	1,385	315	80	365	875	6,980
Netherlands	15	2,123	163	133		50,519	9,554	9,210	3,739	659	9,391	2,876	20,259
Poland	0	207	8	0	362		170	197	158	20	170	242	592
Portugal	nd	534	73	10	1,787	1,322		44,358	176	78	8,313	514	8,964
Romania	nd	nd	nd	nd	nd	nd	nd		nd	nd	nd	nd	nd
Slovakia	1	93	10	14	409	3,562	121	7,480		173	473	237	1,321
Slovenia	1	71	6	5	147	392	43	815	1,449		129	128	593
Spain	13	9,204	248	154	21,055	46,908	75,838	486,368	4,423	887		8,966	138,669
Sweden	8	5,312	29	62	4,855	30,423	912	9,023	989	295	3,023		7,870
United Kingdom	0	nd	nd	nd	nd	238,501	nd	46,825	nd	nd	58,450	nd	

Source: Elaborations carried out by Alessio Menonna (KING team) on the basis of Eurostat data