Cross-border labour mobility in Europe: migration versus commuting

1. Introduction

The high and persistent unemployment rates in most European countries, the growing economic imbalances and the widening social inequalities in the European Union (EU) have cast doubt on the EU's capacity to reach its goals of promoting stable economic growth as well as economic, social and territorial cohesion and solidarity. By operating as an adjustment and balancing mechanism, increased cross-border labour mobility can represent a viable approach to achieve inclusive growth within the EU, as emphasised by the Europe 2020 strategy.

Cross-border mobility is one of the pillars of the European integration and it is profoundly linked to the four fundamental freedoms set out in the Treaty of Rome: the free movement of people, capital, goods and services (Barslund and Busse, 2016). The right to live, work and study anywhere in the EU territory through the freedom of movement of people can be considered one of the success stories of the European project. Although there might be important challenges and some degrees of scepticism, as per the case of Brexit, the freedom of movement continues to remain popular among the majority of European citizens. The Eurobarometer survey conducted in 2017 showed that, on average, 75 per cent of respondents support the freedom of movement. Moreover, support for intra-EU mobility of EU citizens is steadily increasing from 2014 to 2017 in the majority of Member States, and even in the UK (Batsaikhan et al., 2018). Even though still low compared to inter-state mobility in the US, cross-border mobility in Europe is growing and developing into new shapes and forms. On top of cross-border migration, cross-border commuting has increased considerably over the past decade and especially after the crisis: in 2016 1.4 million Europeans commuted across borders for work, increasing by 8% compared to 2015 (Fries-Tersch et al., 2018). On the other hand, the growing market for specialized and innovative services has pushed towards the diffusion of posted workers, who temporarily work in another country while remaining committed to their employer in the home country. The increased number of posted workers in recent years is evidence of an improved cross-border market integration of services in the European labour market (Mussche, 2018).

The benefits of cross-border labour mobility in all its forms have been proven to be numerous. From a micro-economic perspective, evidence shows that cross-border labour mobility rises the chances to find a job, it improves the workers' economic well-being, it reduces skills mismatch and it increases employment satisfaction. From a macro-economic point of view, cross-border labour mobility is found to boost the demand for goods and services, and it has a positive impact on competitiveness and workers' productivity. From a European perspective, it favors the redistribution of jobs and workers across different European countries, generating a more efficient and integrated market, with positive effects on economic growth (Kahanec and Zimmerman, 2010). While there is no strong evidence of a short-run large negative impact on the employment and wages of native workers, the labour market integration of mobile workers is not always smooth. Indeed, not everyone shares the perception that the benefits of labour mobility are substantial, and not everyone has a share in the benefits (Borjas, 2014). Evidence shows that the effects of immigration are largely asymmetric across groups of individuals, with winners and losers in terms of wages, employment, housing, social benefits. However, in the context of EU mobility the losers are fewer than the winners (Kahanec and Ritzen, 2014) and labour mobility may have reduced income inequality in receiving countries (Kahanec and Zimmermann, 2014). At aggregate level, the positive externalities from labour mobility outweigh the negative externalities, with positive efficiency gains, which justify the objective of further boosting cross-border mobility with the long-term objective of developing a European Single Labour Market (Bonin et al., 2008). Nevertheless, large barriers to cross-border mobility in EU still exist, particularly in terms of lack of information of rights and opportunities, language differences, legal and administrative obstacles, recognition of professional qualifications etc. Reducing these barriers is then a key priority for the EU in order to enhance the integration process. However, this comes with a non-trivial list of challenges and risks. While the freedom of movement is considered among the greatest achievements in modern history (Kahanec and Zimmermann, 2016b), it is also the most controversial in this time of declining public support for labour mobility, as the recent surge of consensus among populist parties and anti-immigrant movements indicates. The severity of the 2009 economic crisis has fueled the fears that immigrants take jobs away from natives and put downward pressure on wages, that immigrants are a burden to the welfare state, that local cultures are declining and taken over by foreign ones and that local neighborhoods are disappearing. All these forces drive the anti-immigrant sentiment across EU countries to high levels and undermine the pillars on which the EU and the free movement of labour are built (Kahanec and Zimmermann, 2016b). The main issue for EU leaders being at this time the striving in handling the pressures between the push for a deeper economic integration as foreseen in the treaties, the preservation of the power to design the welfare state at national level and the presence of large economic disparities across Members. This 'social trilemma' is a great challenge that the EU is currently facing, and the outcome of this debate will surely shape the future of the EU as we know it. Nevertheless, this conversation is emerging in a time in which the need for increased intra-EU mobility is more urgent than ever. By operating like a balancing and harmonising force between countries, cross-border mobility can actually be the solution, and not the problem, to the difficulties that the EU is currently facing.

This chapter is organized as follows. In Section 2 we review the policies that have been implemented to increase internal and external mobility, in Section 3 we describe the taxonomy of different types of cross-border workers, while in Section 4 we provide some statistics about cross-border mobility in Europe. In Section 5 we review the empirical and theoretical literature on the benefits and determinants of cross-border migration and commuting, and in Section 6 we conclude the paper by describing the challenges and risks of cross-border mobility and advancing some policy recommendations.

2. Policies implemented for internal and external mobility

The two core policies that have been implemented in the EU to stimulate labour mobility are the free movement of people and the Schengen agreement. While the first is one of the four principles on which the EU is based and it provides European individuals with the right to work in any other EU country without restrictions, the second one eliminates borders among countries which are members of the Schengen area, by abolishing border checks at the signatories' common borders and introducing a harmonized system of visa policies. These two measures can be thought as two complementary policies, that are effective particularly when they are implemented simultaneously. In fact, the opening of the borders promoted by the Schengen agreement represents the concrete implementation of the freedom of movement which is at the basis of the Single Market (Parenti and Tealdi, 2018).

Free movement principle

The freedom of movement of persons is a keystone of the EU since the Treaty of Maastricht of 1992. By introducing the right of EU citizenship to be retained automatically by every national of a Member State, it allows for the freedom of individuals to move and reside naturally within the territory of the Member States. This includes the rights of movement and residence for workers, the rights of entry and residence for family members, and the right to work in another Member State. The 2009 Lisbon Treaty by confirming this right, also contributed on making the EU an area of freedom, security and justice without internal frontiers, where the free movement of people is guaranteed and appropriate measures with respect to external border controls are implemented. The EU free movement laws identify the intra-EU migration as part of the European Single Market; mobile EU citizens formally have the same rights and duties as native citizens in the Member State of destination, and they should not be treated differently. In contrast, immigrants from third country need to fulfil specific requirements before being allowed to get access to work in the EU, and their rights depend on the type of residence permit granted. Restrictions on the free movement of workers may apply to workers from EU member countries for a transitional period of up to 7 years after they join the EU. This was the case for the eight countries that joined the EU in 2004 (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia) and the two countries that joined the EU in 2007 (Romania and Bulgaria) due to concerns of mass migration from the new members to the old EU-15. Restrictions are currently still in place for workers from Croatia (Fig. 1).

The Schengen Agreement

The key milestone in establishing an internal market with free movement of persons is the implementation of the Schengen Agreement in 1995, which abolished passport and all other types of border controls among participating countries by establishing a common external border and reinforcing control measures. The Schengen Agreement was signed in 1985 by five countries: France, Germany, Belgium, Luxembourg and the Netherlands. Currently, the Schengen Area consists of 26 countries: 22 out of the 28 EU Member States and the four EFTA countries (Iceland, Liechtenstein, Norway, and Switzerland). Of the six EU members that are not part of the Schengen Area, Cyprus, Bulgaria, Romania and Croatia are legally obliged to join the area, while Ireland and UK opted out (Figures 2 and 3). The Schengen Agreement entails the removal of police and custom procedures at the interior borders, the tightening of external border controls, a common visa policy for short stays, the cooperation and coordination in criminal and judicial matters and the establishment and development of the Schengen Information System (SIS), which allows states to exchange data on suspected criminals, on people who may not have the right to enter into or stay in the EU, on missing persons, and on stolen, misappropriated or lost property. The abolition of border controls affected positively the EU Member States in numerous ways and has proved to be highly beneficial for EU citizens. Cross-border commuters, in particular, benefited the most from the absence of border controls (Ademmer et al, 2015; Parenti and Tealdi, 2018): commuting time was significantly reduced given that vehicles could cross internal EU borders without stopping and away from fixed checkpoints (European Commission, 2016).

While the Schengen area is widely looked upon as one of the greatest achievements of the EU, it has been recently put under pressure by the massive influx of refugees and migrants and by terrorist attacks. Starting from September 2015, a number of Member States have temporarily reintroduced border checks. Several studies have tried to quantify the potential cost of reintroducing permanent border controls (EPRS, 2016; France Strategie, 2013, 2016), showing that this would significantly affect the quality of life of almost 1.7 million workers who cross-commute every day across internal EU borders.

3. Taxonomy of different types of cross-border mobility

The definition of cross-border labour mobility refers to the flows of workers moving across national borders within Europe. While conventionally when we refer to cross-border labour mobility we have in mind *cross-border migrants* (mobile workers), there are other forms and shapes of cross-border mobility which are actually evolving quite fast, such as cross-border commuters and posted workers. In the EU, *cross-border migrants* are workers who establish their usual residence in the territory of a Member State for a period of at least 12 months, having previously been residents of another Member State or a third country. *Cross-border commuters* are instead characterized on the basis of two criteria, a political and a temporal one. Based on these principles, cross-border commuters are workers (employed and self-employed) who work within the territory of a Member State while residing in another (neighboring) Member State (political criterion) and return to their main place of residence abroad at least once a week (temporal criterion). While cross-border migrants face a much more fundamental decision, which affects the change of both workplace and residence, and as such migration is undertaken few times during a whole working life, for cross-border commuters the decision is somewhat less complex as the place of residence is unaffected.

As a consequence of the expansion of the service sector, with the diffusion of specialized and innovative services, which require the presence of specialized workers *in situ*, a new type of cross-border workers has emerged: posted workers. *Posted workers* are EU citizens with an employment contract in their home country, who are temporarily posted to a host EU country by their employer who provides a certain service. Posted workers have regular employment relationships in the usual country of work and maintain these employment relationships during the period of posting, hence they do not integrate in the labour market of the host country. The increasing number of posted workers across the EU signals the tighter integration among EU countries for what concerns the service sector, which according to the empirical evidence has had a positive impact on economic growth.

4. Overview of European cross-border labour mobility

The cross-border mobility of EU citizens remains low and well below inter-state mobility within the United States and other large countries, both in terms of cross-border migration and cross-border commuting, as well as in terms of posted workers.

Cross-country migrants

In 2016, approximately 11.8 million EU-28 citizens of working age (20-64 years) were living in an EU Member State other than their country of citizenship, making up 3.9% of the total working-age population across the EU-28 (Table 1). Of those, 9.1 million were active on the labour market (either employed or unemployed), corresponding to approximately 4% of the total EU-28 labour force. The majority of movers lived in Germany and the United Kingdom (UK) (almost 50%), with Germany acquiring considerable importance as a destination country (Fig.4). Italy, Spain and France hosted an additional third of EU-28 movers. Italy and Spain however have not redeemed their attractiveness from the time before the crisis: inflows to Italy in 2016 were only half of the size compared to 2009 while Spain had an overall negative net mobility of EU-28 nationals (Fries-Tersch et al., 2018). Other important destination countries were Belgium, Austria, the Netherlands and Sweden. Among the countries which joined the EU between 2004 and 2013 (i.e., Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia, Bulgaria, Romania and Croatia) Poland and Czech Republic were the primary destinations.

Table 1: Composition of intra-EU mobility by different types, EU-28 citizens in the EU-28, 2016.

Type of mobility	Extent
EU-28 movers of working age (20-64 years) living in EU-28	11.8 million
Share of EU-28 movers of working age on the total EU-28 working-age population	3.9%
EU-28 *active* movers of working age living in EU-28	9.1 million
Share of EU-28 *active* movers of working age living in EU-28 on the total EU-28 labour force	4%
Cross-border workers (20-64 years)	1.4 million
Share of cross-border workers (20-64 years) on total EU-28 employed workers	0.6%
Number of postings	2.3 million

Source: 2017 annual report on intra-EU labour mobility, Fries-Tersch et al. (2018).

Luxembourg, Cyprus, Ireland, Belgium and Austria were the countries with the highest proportion of EU-28 movers compared to the overall population in 2016 (Fig.5). With respect to the countries of origin, around half of all movers across the EU-28 Member States were Romanian, Polish, Italian and Portuguese (Fries-Tersch et al., 2018). When looking at non EU-28 immigrants, the picture is rather different as Italy and France seem to be most chosen host countries, followed by Spain and the UK (Fig.4).

Even though the most commonly presented figure on mobility relates to the stock of people living in an EU country different from their country of birth, the annual flow, i.e., the share of people moving every year from one country to another, is also an informative measure. In Europe the flow of EU-28 cross-border migrants is only one tenth of the stock, at 0.3%. Luxembourg is by far the country with the highest inflow of EU-28 cross-border migrants, followed by Austria, Belgium, Czech Republic and the UK. When compared to the US where 3% of the population move to another state each year, EU rates appear significantly low.

Moreover, in Europe labour mobility is not equally distributed: Eastern European countries have been the major sending countries since they joined the EU, while only 7% of EU mobile citizens reside in Eastern Europe, which corresponds roughly to 1% of the Eastern European population (Barslund and Busse, 2016). Finally, while for the new Member States, mobility rates from EU-15 countries show an increasing trend, the mobility rates within EU-15 countries are relatively stable.

The eastern enlargements of the EU in 2004, 2007 and 2013 increased the potential for East-West mobility within the EU, with Germany and the UK being the main destination countries. Some exceptions are represented by the Romanians who preferred to move to Italy and Spain, while the majority of Estonians moved to Finland because of geographical closeness and cultural similarity. Austria is the second most important destination country for mobile individuals from Croatia and Slovenia, with which they share the border, and the third most important destination for Hungarians. France instead seems to be one of the least chosen destination.

The economic crisis played an important role in reshaping the migration flows in the EU. First, by significantly shrinking the labour market opportunities and the attractiveness of some key Southern destination countries, such as Italy and Spain, the crisis reduced the cross-border mobility from the East to the West. Moreover, the strong contraction of GDP and employment of about 10-20 percentage points in Latvia and Lithuania lead to a massive exodus of people (Darvas, 2013). As a result, the population of these two countries dropped by more than 10% during the period 2008-2012. On the other hand, while from 2000 to 2012, migration from Southern (Greece, Italy, Portugal and Spain) to Northern and Western EU countries showed a declining trend, after 2013 an increasingly large number of citizens of Southern European countries, which were severely hit by the crisis, moved to economically healthier Northern EU countries. Some studies have discussed about a shift in mobility patterns from East-West to South-North (Fries-Tersch and Mabilia, 2015, and Barslung and Busse, 2014), as a consequence of the economic crisis. However, the East-West flows continue to be much larger in terms of number of people, and as a share of source-country population.

Cross-border commuters

The number of cross-border workers in 2016 was much smaller compared to the number of cross-border migrants and close to 1.4 million, accounting for 0.6% of the EU-28 employed population. The share of cross-border commuters on the total number of employed workers in the EU-28 in 2016 was 0.9%, which is rather small compared to the share of employed EU-28 movers which was over five times higher, at 4.1% (Fries-Tersch et al., 2018). However, cross-border commuting has increased considerably over the past decade (Figure 6) and especially after the crisis. In 2016 cross-border commuters as a share of total employment were more than three times higher than in 2007 in Hungary and Denmark, and more than two times higher than in 2007 in Bulgaria, Czech Republic, Ireland, Latvia, Luxembourg, Poland, Romania and Slovenia. Only in few countries (Lithuania, Slovakia, Sweden and UK) the share of cross-border commuters in 2016 was lower compared to 2007.

The total number of EU-28 cross-border commuters working in another EU-28 country in 2016 was 1.4 million, approximately 8% higher compared to 2015 (Fries-Tersch et al., 2018). Of these, the great majority (94%) were employed in an EU-15 Member State, while the remaining 6% in EU-13 countries. Roughly 50% of the cross-border workers were residing in EU-15 Member States (around 688,000) and 50% in EU-13 Member States (around 694,000). The main destination countries were Switzerland and Germany (around 22% and 21% respectively), followed by Luxembourg (9%), Austria (9%), UK (6%) and the Netherlands (6%). The majority of cross-border commuters to Switzerland travelled from France (56%), Germany (21%) and Italy (17%). Cross-border commuters working in Germany primarily resided in Poland (28%), Romania, Bulgaria and Czech Republic (each 9%), while those working in Luxembourg travelled from France (50%), Germany (26%) and Belgium (24%). Finally, of the cross-border commuters to Austria, the largest group resided in Hungary (31%), followed by Slovakia (30%) and Germany (17%).

The share of cross-border commuters on total employment in 2015 was higher for national workers (around 1.2% on average) than for immigrants (around 0.7% on average), with the exception of Finland, Luxembourg, Malta and Slovenia (with 1.2%, 9.6%, 2.1% and 3.1% of immigrant cross-border commuters, respectively). Most of the immigrants residing in Austria (0.5%), Belgium (1.4%), Luxembourg (8.7%) and Malta (2.1%) and working in another EU-28 country were EU-28 citizens, while the majority of those commuting from Finland (0.9%), Latvia (0.2%) and Slovenia (2.7%) had a non EU-28 citizenship (Figure 7). From the perspective of the country of origin, Figure 8 provides a direct comparison between the number of nationals who reside in their country of origin and work in another Member State or EFTA country (cross-border commuters) and the number of nationals who reside and work in another Member State or EFTA country (cross-border migrants). Across all EU-28 countries, the shares of cross-border commuters are much lower than the shares of cross-border migrants, few exceptions being Slovakia, Estonia and Hungary, where the share of cross-border commuters is higher than 2%. Slovakia makes an interesting case as it is the only EU-28 country where the share of cross-border commuters almost equals the share of cross-border migrants (approximately 6%).

Posted workers

Posted workers in the EU increased in absolute terms from 1.05 million in 2010 to 2.3 million in 2016. Around 55% of the posting originated in old Member States (EU-15), of which over 80% stay within the EU-15. Conversely, postings from the new Member States (EU-13) were almost exclusively targeted at the old Member States. Posting is concentrated among few countries: Poland (22.8%), Germany (11.7%) and France (6.9%) are the largest sending countries in absolute terms, while Germany (28%), France (11.9%) and Belgium (10.5%) are the main destination countries. On the other hand, Luxembourg (24.7%) and Slovenia (14.2%) have the highest shares of sent posted workers on total domestic employment. From the receiving countries' perspective, Luxembourg (9%), Belgium (3.8%) and Austria (2.5%) have the highest shares of posted workers relative to domestic employment (Batsaikhan et al., 2018). The dominant sector for posted workers is construction, which accounts for about 42% of total postings, but there are major differences between EU countries. Non-construction industry, finance, and education and social work also account for relatively large shares. The average duration of a posting is only 98 days, so in full-time-equivalent terms, the share of posted workers in total employment is only 0.4% (Darvas, 2017).

5. Review of the theoretical and empirical literature

Benefits and costs of cross-border labour mobility

The emergence of cross-border labour markets has led to the surge of a number of studies on cross-border labour mobility over the past decades. Most researchers agree that the increase in the numbers of cross-border workers has to be attributed to the EU establishment (Zimmermann, 2014). The implementation of the Maastricht Treaty in 1992, according to which all Member State citizens are entitled to unrestricted mobility within the EU (Mau and Verwiebe, 2010) represented the real turning point for cross-border mobility. The free movement of people (see Section 2) indeed is one of the core principles of the EU and it is based on the assumption that borders are barriers to cross-border interaction and their removal is a fundamental step to increase labour mobility. Hence, for the EU-28 as a whole, cross-border labour mobility is likely to offer many advantages, by increasing the possibility of finding employment, by improving economic well-being, by raising motivation and employment satisfaction, by promoting a more efficient matching of workers' skills with job vacancies, by increasing competitiveness and stimulating the general upskilling of European workforces. Moreover, cross-border labour mobility may also inhibit the problems associated with social exclusion due to unemployment and may increase the working age population, the demand for goods and services and raise the productivity of the average worker. Given that the mobility of capital and goods in integrated economies is not sufficient to achieve convergence of employment and real wages, the mobility of labour may work as a balancing mechanism between labour markets and lead to more equalised labour market outcomes (Bonin et al., 2008). In general, geographic mobility has the key positive effect of stimulating economic development in countries with labour shortages while increasing wealth in countries with a labour surplus. As a matter of facts, unemployment rates across EU-28 are largely unbalanced: for instance, Spain's unemployment rate is more than three times larger than the unemployment rate of Germany (Eurostat, 2018 September). Hence, due to the fact that high unemployment rates are partially attributed to the lack of available jobs, cross-border labour mobility might stimulate the redistribution of jobs and workers in the EU, leading to a more balanced and integrated market. Moreover, wage differences across Member States are also very large, particularly between new Member States and the EU-15 countries (Barslund and Busse, 2016). Hence, promoting cross-border mobility may lead to the creation of more efficient labour markets, with positive effects on the returns to human capital formation, thus generating more incentives to invest in education, with a significant impact on economic growth (Batsaikhan et al., 2018). From a macro perspective, cross-border labour mobility may also represent an important adjustment mechanism within European Monetary Union (EMU): as Member States in the EMU are constrained by the lack of country-specific monetary and exchange rate policies, they could use human capital mobility to re-equilibrate national labour markets in case of economic fluctuations and asymmetric shocks (Heinz and Ward-Warmedinger, 2006).

Looking at the potential costs, a frequent argument in the debate about migration based on the standard neo-classical model (Borjas, 1995) is that it increases competition in national labour markets, puts downward pressure on wages in the short-run, and hence reduces the well-being of the native population. However, we agree with Borjas (1999) when he noted that other forces that are usually not modelled in the regression equations could play a large role: the growth in local demand due to immigrant expenditures, the inflow of capital in response to the increase in local demand and the rise in the rate of return to capital, outward migration of natives, a local reallocation of resources across sectors, the adjustment of international trade and the real wage growth of natives due to technological change and economies of scale (Munz et al., 2006, Baas et al., 2009). In the literature, there is consensus on the lack of conclusive evidence that immigrants systematically take jobs from natives or depress their wages (Peri, 2014). Nevertheless, the impact of immigration on the host country's labour market seems to largely depend on two interrelated factors: the migrant characteristics and the host country's economic and institutional factors (Devlin et al., 2014). Immigrant characteristics determine to what extent the education and skills of immigrants are substitutes for, or complements to, those of the natives (Manacorda et al., 2012; Dustmann et al., 2005, Card, 2009, Ottaviano and Peri, 2012): the so-called labour-market assimilation process. Some empirical works find evidence of a negative impact of immigration on native wages (Borjas, 2003; Dustmann, Frattini and Preston, 2013; Dustmann, Schoenberg and Stuhler, 2017), while others find no effect (Ottaviano and Peri, 2012; Peri and Sparber, 2009). There is also some evidence of increases in wages for select groups of natives due to cross-border commuting (Beerli and Peri, 2015). A recent survey of the main findings points to the fact that on average the effect of immigration on wages is close to zero (Peri, 2014). However, particularly among cross-border migrants, working in jobs below their formal level of qualification remains a widespread phenomenon (Kahanec, 2013), known as downgrading, which has been particularly severe after the EU eastern enlargements (Kahanec and Zimmermann, 2016a). The second set of features which relate to the host country's institutional and macroeconomic setting, include factors, such as the unemployment level, the strength of the unions, the wage rigidities and the size of the informal economy.

Another common widespread fear is that immigration may become a burden to the welfare state in case the labour market of the host country is not able to absorb the migrant workers, or in case of increased unemployment among the native population (Bonin et al., 2008). Specifically, migration from Eastern Europe (EU-13) can have negative effects on the economies of the receiving EU-15 countries, in a scenario in which migrants choose their destination on the basis of the generosity of welfare: in such situation the potential benefits of acquiring a more mobile labour force will be lost and the higher social expenditure costs would be unevenly distributed, adding the burden on countries where the financial pressure on welfare is already high. The 2004 and 2007 enlargements which involved countries with younger and growing populations, could have on one side lightened the financial pressure of many countries' public pension systems, however as there is evidence that migrants use the public welfare system relatively more than native citizens (Boeri and Brücker, 2001), they may have also put at risk its sustainability (De Giorgi and Pellizzari, 2006). However, existing evidence for the case of mobile workers originating from Eastern European countries points to the fact that the generosity of welfare provisions in receiving countries did not play a significant or systematic role as a pull factor (Giulietti et al. 2013; Giulietti 2014).

From a social perspective, while the successful integration of cross-border migrants may stimulate socio-cultural integration in the EU, and strengthen the European identity, by celebrating cultural and ethnical diversity, a difficult integration, the decline of local cultures, and the change of local neighbourhoods may lead to social tension, and this is one of the crucial social challenges the EU-28 countries need to face. From a demographic perspective, cross-border mobility within the EU-28 is not enough to mitigate the impact of ageing and population decline. Hence, trying to promote migration in order to counterbalance the low fertility rates would probably be a zero-sum game due to the rapid ageing process which is affecting all European countries (Bonin et al., 2008).

Finally, while these negative costs may arise in receiving countries, sending countries may suffer from "brain drain" in case of permanent out-migration of highly productive and highly educated individuals, the so-called positive selection of migrants, hindering long-term economic growth. The concerns related to the negative impact of brain drain are particularly relevant in circumstances in which the income differentials between destination and origin countries are large, such as the Eastern European new Member States as well as underdeveloped regions in Southern European countries such as Spain and Italy. Moreover, while after the EU Eastern enlargement labour mobility helped sending countries reduce unemployment rates and increase wage levels especially in sectors with the highest out-migration rates (Elsner, 2013), some sectors also experienced labour shortages as a result (Zaiceva, 2014).

In summary, many are the positive externalities of cross-border mobility which mainly originate from positive growth effects of the free movement of labour which reduces labour market imbalances, improves skill matches in an integrated market, stimulates higher investments into education, and promotes a higher level of innovation and entrepreneurship. These positive externalities at aggregate level seem to outweigh the negative externalities, with overall positive efficiency gains (Bonin et al., 2008). However, the effects of immigration are largely asymmetric across groups of individuals, with winners and losers in terms of wages, employment, housing, social benefits. If the social welfare is assessed with no regards to the distribution of income, then the gains of migration are enough to say that labour movements are socially beneficial (Dustman and Preston, 2018). However, if the social welfare is sensitive to distribution, we believe that redistributive policies need to be implemented to reallocate the immigration gains across citizens from those who benefit the most to those who are penalised. This is a fundamental step to prevent the further diffusion of the anti-immigration sentiment, which may lead to the beginning of a reverse process, which may culminate with the termination of the free movement of labour in EU.

Determinants of cross-border migration

Which are the factors that push people to migrate across countries? The main causes of migration, according to the classical literature, are economic in nature. The push-and-pull model has been for many years regarded as the theoretical framework to explain the migration phenomenon (Lee, 1966). The "classic approach" to migration builds on the assumption that the major reasons for migration are to be found in the economy. In the push-and-pull model, it is commonly assumed that migrants follow the principle of economic rationalism, and respond to push-and-pull factors, such as the situation in the employment market and the expected individual income, which in theory are insufficient in the migrants' country of origin and more appealing in the countries of destination (Stark, 1993; Stark and Bloom, 1985; Todaro, 1986). The economic gains from migration are perceived mainly as differences in wages, in working conditions or available social benefits. Much of migration to the United States, Canada, and Australia and the intra-European migration between Mediterranean countries (e.g., Italy, Greece, Turkey) and highly industrialized countries in Central Europe (e.g., Belgium, Germany, France) in the second half of the twentieth century empirically corresponds to these model representations.

Only starting from the mid-1990s, the research on migration shifted its focus towards cross-border migration, relating it to global economic processes (Faist, 2000; Goldring, 1997; Levitt et al., 2003; Pries, 2001; Vertovec, 1999). Within this broader context, mobility decisions are not only determined by differences in employment opportunities or wages, but are also associated with the process of globalization, which embraces economic, cultural, political, and social spheres (Pries, 2001) and are related to other more intangible or 'soft' factors. As a matter of facts, as more recent research indicates, migration is no longer solely defined by the permanent relocation of the main residence: the beginning of the twenty-first century has witnessed a diversification of the different patterns and forms of migration. In some studies, indeed, cross-border mobility within the EU has been found to be only weakly related to regional employment rates (Heinz and Ward-Warmedinger, 2006). It has also been suggested that economic differentials play only a minor role in influencing migration patterns while individual and household-related factors are the most important determinants to mobility (Bonin et al. 2008; Paci et al. 2010). Survey results also show that mobility decisions are not generally driven by the expectation of better welfare or public services in the destination country (Bonin et al. 2008; Heinz and Ward-Warmedinger, 2006; Paci et al. 2010). Many are the factors that affect the decision to migrate and these be classified into micro, meso and macro levels (Friberg, 2013). The micro level relates to individual characteristics such as education and skills, employment situation, income level, income security, social status, and family status, which are part of the economic and social spheres that affect the mobility decision. Empirical evidence shows that young people are more mobile than older people, men are more mobile than women, unmarried people without children are more mobile than families, high-skilled people are more mobile than the low-skilled, the unemployed are more mobile than the employed, and, finally, people who have moved in the past tend to be more mobile than others (Paci et al., 2010). The meso level includes social and cultural determinants of mobility such as cross-border social and family networks, migrant community formation, labour recruitment systems, labour market duality, and employment niche formation. Finally, macro level characteristics include economic and political factors, such as income differentials, economic cycles, unemployment levels, labour market regulation, welfare policy and social rights, and immigration policies. Heitmueller (2005) and Dustman et al. (2017) also consider the effects of individual risk attitudes on migration decisions, while Burda (1993, 1995) examines the effect of uncertainty and 'the option value of waiting' on the migration behaviour.

The importance of cultural relations is also at the centre of the recent literature on networks. The literature often assumes that common origins, shared communities, and family ties are the bases for the creation of migrant networks and the development of path dependence. The presence of a national community in the country of destination could act as a pull factor (Carrington et al. 1996; Castles, 2002) by easing the immigration of their national counterparts. Previously migrated nationals could provide information about job opportunities, social values, etc., and also they could act as a substitute to the social network in the country of origin. Several empirical studies find supporting evidence for the existence of network effects (Mayda 2010; Pedersen et al., 2008). However, it is important to keep in mind that on one side workers living in the same region are likely to share similar characteristics and restrictions affecting the decision to migrate. Second, the migration decision of one or more family members often involves the whole household, as part of a livelihood strategy and not just individuals (White, 2004). Hence, the migration decision of the households will be correlated, even without network effects (Belot and Ederveen, 2012).

Nevertheless, income differences and labour market outcomes continue to be regarded as important determinants of mobility decisions for workers moving from the new to the old EU Member States. In particular, existing wage gaps remain substantial drivers of migration from the new Member States to the EU-15 countries. According to the Special Eurobarometer on geographic and labour market mobility (EC 2010), the motivations to work abroad of Europeans living in the new Member States are mostly economic, while the mobility decision of citizens of EU-15 countries is more likely to be based on lifestyle and cultural factors or amenities. In addition, unemployment remains an important factor motivating mobility for many Europeans and almost half of the EU's population would consider leaving their regions or countries if they were unemployed. However, at the same time, 28% of Europeans are not interested in working abroad no matter how high the wages offered (EC 2010; OECD 2012).

Focusing on the individual characteristics of the movers, it is imperative to cite the important contribution of Roy (1951) in explaining the self-selection of workers. The Roy model, which has been applied by Borjas (1987) and others to the context of international migration, has become quite popular to analyse the composition of workers, specifically in terms of skills, in international migration flows. In this model, migrants self-select both in terms of innate ability and measurable human capital. For instance, positive self-selection in terms of innate ability occurs among migrants who move from countries with a narrow income distribution to a wider one as well as in host countries in which investment in education secures a higher return. Stark (1996) instead stresses the importance of information asymmetry between immigrant workers and host country employers in explaining the skill levels of migrants. The empirical literature on the topic provides evidence that movers to the EU-12 countries differ in many respects from the movers to the EU-15, especially citizens from another EU-15 country. In particular, movers from the EU-12 countries to the EU-15 are mainly low-skilled, particularly among the young; in contrast, movers from another EU-15 country are on average older and more educated. Movers from EU-15 country to the EU-12 tend to be older, mostly males and inactive; in contrast, EU-12 movers in another EU-12 country are younger (50% are between 25-34 years old), with higher employment rates compared to the EU-15 citizens (Bonin et al. 2008, Paci et al., 2010).

Determinants of cross-border commuting

Why do people commute across borders? In the literature on international labour mobility, commuting has been completely overlooked (Borjas, 1999). While there exists a rich theoretical literature on the determinants of commuting, it is mostly focused on commuting within country (e.g. van Ommeren 1997; Rouwendal 1994, 2001), using different modeling strategies (e. g., gravity models and search models) to rationalize the commuting decision and explain the commuting patterns observed in the data. The empirical literature emphasizes the importance of economic factors for the commuting decision such as wage differences and housing costs, the amenities of the place of residence, but also household characteristics such as partnership, children and the employment situation of the partner and individual characteristics such as gender and age (van Ommeren, 1997; Clarke, Huang, and Withers, 2003; Rouwendal, 1999; Van Ommeren, Rietveld, and Nijkamp, 1997; Parenti and Tealdi, 2018). These authors acknowledge the role of borders as potential obstacles to labour mobility, which on top of the costs arising from distance in every spatial interaction, inhibit the transfer of activities and create spatial discontinuities in economic structures (Van Houtum, 1998). Several microeconomics factors such as gender, education, language skills, mental barriers, level of information, contacts have an impact on whether individuals overcome these obstacles and become cross-border commuters (Janssen, 1999). Evidence shows that women tend to be less mobile because they are more frequently on part-time jobs, which increase the commuting costs per working hour and induce a reduction of the commuting distance, and because of their responsibilities within the household (Rouwendal,1999). Van Ommeren et al. (1997), Hazans (2003) and Rouwendal (1999) show empirically that commuting distances increase with the educational level of individuals. The existence of a partner and the presence of children are found to have a negative influence on cross-border commuting since individuals who are restricted by the preferences and workplace of their partner and by the commitments towards the children are less mobile (Janssen,1999). The influence of the employment sector on cross-border commuting depends on the economic structure of the involved regions (Hansen and Nahrstedt, 2000). Living close to a border creates strong incentives to become cross-border workers, as commuting time is shorter and costs are lower (Huang, and Withers 2003; Rowendal 1999; Van Ommeren 1998, Dumeignil et al., 2018). Finally, language barriers seem to play a large role in affecting the decision to take up a job in a different country (Parenti and Tealdi, 2018; Bartz and Fuchs-Schündeln, 2012).

The choice between migration and commuting

While in the theoretical literature a few papers model the choice between commuting and migration (Zax, 1994; Rouwendal, 1998; Van Ommeren et al., 2000, Reitsma and Vergoossen, 1988), the empirical literature on the topic is rather limited (Renkow and Hoover, 2000; Clark and Withers, 1999; Rouwendal, 1999; Van Ommeren et al., 1999; Eliasson et al., 2003). Even the studies which consider the choice between migration and commuting focus on a single country or an urban area. There is no empirical work that studies the interaction of commuting and migration decisions in a cross-border context and only a few papers deem commuting as a possible cross-border choice (Gottholmseder and Theurl, 2007; Buch et al., 2009). In the context of European integration, however, issues of cross-border commuting and migration are becoming increasingly important from both an analytical and a policy perspective. Overman and Puga (2002) found that regional linkages in unemployment rates are equally strong across national borders as within countries. Furthermore, issues of cross-border commuting and migration have received increased attention in the debate prior to the 2004 EU enlargement round. In particular, Austrian and German policy-makers repeatedly argued that due to the vicinity of major metropolitan centers to the new Member States, cross-border commuting flows may be sizeable (Huber and Nowotny, 2013). It is also found that potential cross-border commuters differ from cross-border migrants in a number of aspects. Huber and Nowotny (2013) develop a random utility model where individuals choose between being willing to commute, migrate or stay based on the utility they receive from the expected lifetime income in the region of work and the expected lifetime amenities in the region of residence, which also include the expected lifetime disutility arising from the rental price of housing. If the place of work and the place of residence in the home country do not coincide, the individual incurs pecuniary and non-pecuniary lifetime commuting costs. By estimating the model using data from regions of the new EU Member States bordering Austria, they find that variables measuring the indirect costs of mobility such as previous mobility experience, the presence of networks abroad, being single, and the presence of children in the household have a smaller impact on the probability of being willing to commute than on the willingness to migrate. Interestingly, gender differences in the willingness to commute are larger than in the willingness to migrate (although women are both significantly less willing to commute and to migrate). By contrast, variables associated with potential earnings have relatively little effect, and educational achievement is not significant: potential cross-border commuters and migrants are neither positively nor negatively self-selected on education (Huber and Nowotny, 2013). The willingness to commute, on the other hand, is negatively correlated with distance to the closest workplace abroad, while distance has no effect on the willingness to migrate.

Finally, social deprivation is found to have a positive impact on commuting propensities, but no effect on the willingness to migrate for highly deprived individuals.

As cross-border commuters enjoy the option to consume in their home country where the price level can be assumed to be lower than abroad, the factor that influences the decision to commute across a border is thus not the real wage but the nominal wage abroad in relation to price level differences. Moreover, unlike migration costs that are paid up front, commuting costs accrue for each period and are thus affected by the discount rate. Hence, the probability that migration will be preferred to commuting depends on the relative price levels in the home country and abroad. If the price level in both countries is the same the decision between migrating and commuting depends only on the difference between the migration costs and the discounted commuting costs (Nowotny, 2014). Given mobility costs and relative price levels, a higher expected real wage abroad will increase both the willingness to migrate and the willingness to commute. However, as the price level of the home country is lower than the price level abroad, an increase in the expected real wage abroad will increase the incentives to commute by a larger margin than the incentives to migrate because an increase in the expected real wage abroad raises the individual's purchasing power in her home country. It also implies that a higher level of risk aversion is associated with a higher willingness to migrate than to commute. While a higher risk premium decreases both the willingness to migrate and the propensity to commute, the willingness to commute decreases by a larger margin because the associated decrease in purchasing power has a larger impact on commuting outcomes than it does on migration outcomes (Nowotny, 2014). Moreover, a higher rate of risk aversion decreases the propensity to both migrate and commute. In terms of individual characteristics, age has a negative effect on both types of mobility, but the effect is larger for the willingness to migrate; being in a partnership is associated with higher willingness to migrate but not necessarily to commute, while individuals who are home and car owners are significantly less incline to choose migration over commuting. Finally, knowledge of the English language has a positive effect on the propensity to migrate but a negative effect on the propensity to commute (Nowotny, 2014). The limited literature which compares cross-border mobility and commuting (Huber and Nowotny, 2013; Nowotny, 2014) while clearly highlighting the specificities of commuting, it considers it as an alternative to migration. However, the motivation for choosing cross-border migration over commuting comprises a fundamental aspect, which is not relevant in the case of commuting/mobility within the same country: the willingness to live in a new country, which involves the large psychological cost of familiarising with new institutions, culture, habits, in a potentially different social, cultural, religious and linguistic environment. This leads to a self-selection of workers: individuals who commute across the border share rather different features compared to individuals who move across the border (Huber and Nowotny, 2013). As such, the degree of substitutability between the two mobility decisions may not be as sizeable as for the case of within country inter-regional mobility (Brown et al, 2015; Eliasson et al., 2003).

Obstacles to cross-border mobility

The free movement of workers is guaranteed by the EU treaties and reinforced by the principle of equal treatment and non-discrimination. However, a worker taking up employment in another Member State must still overcome a number of legal, social and infrastructural barriers. The low level of cross-border labour mobility across the EU-28 which exists despite the legal provision for the free movement of labour is ascribable to six main issues. First, the existence of legal and administrative barriers: such barriers include, for example, rules which restrict the creation of a company in another Member State or restrictions on the reallocation of staff and the use of temporary and employment agency staff (European Commission, 2002). Firms and employers face difficulties in recruiting workers from other Member States because of a lack of integration of unemployment services, and due to the fact that recruiting employees outside of the local labour market is costlier as a consequence of administrative and legal barriers, which severely hamper a company's enlargement decision to foreign markets (Barslund and Busse, 2016). Second, the lack of familiarity of EU individuals with other European languages has a strong negative impact on labour mobility, as only half of the EU population speaks any other EU language than their own (European Commission, 2001). Bartz and Fuchs-Schündeln (2012) find that language barriers play a larger role than country borders in explaining the lack of labour market integration across borders in Europe. Third, complications in the international recognition of professional qualifications strongly affect the decision to take up a job in a different Member State. Informal competences and past experience (skills) may also be subject to recognition difficulties and therefore, affect the potential remuneration of a worker in the destination labour market. In a recent study, Bloomfield et al. (2015) find that the EU initiatives to harmonize accounting and auditing standards across EU countries has led to a significant increase of cross-border labour migration in the accounting profession compared to other professions. Fourth, mobile workers' lack of knowledge of rights and opportunities in potential destination countries has also often reported as a challenge to a single labour market. This points toward the necessity to support the transparency of advertising international job vacancies in order to establish an environment able to create opportunities for mobility. Fifth, even though uncertainties with respect to the functioning of social security when moving between countries have, to some extent, been reduced by social security coordination, the imperfect knowledge on how a potential destination country's social security system operates continues to be an issue. The interaction between tax systems of different countries (Barslund and Busse, 2016) and the limited portability of pension rights may also create strong disincentives to cross-border mobility.

Finally, the worker posting is a rather complex phenomenon: posted workers are not represented by national trade union, and a balance between the economic freedom to provided services and the posted workers' social rights ensuring a certain minimum level of protection is still lacking and certainly needed. While the Posting of Workers Directive (Directive 96/71/EC) has been introduced with the intention of create the minimum social protection floor for all Member States, it has been criticized for reducing rights of posted workers and undermining the rights of workers in a home nation. Its revised version approved in 2018 aims at ensuring fair wages and a level playing field between posting and local companies in the host country whilst maintaining the principle of free movement of services, however it will take two years before its full implementation in the EU Member countries.

6. Conclusions and policy implications

The main challenge for the creation of a Single European Labour Market, which has been a European objective for decades is the lack of sufficient labour mobility. Even though it is quite difficult to pinpoint the optimal rate of cross-border mobility assessing all the benefits and costs, the current rate in Europe is believed to be too low, due to the presence of potential economic benefits which are still unexploited (Zimmermann, 2014). It is commonly agreed that even though cross-border labour mobility may have important asymmetric effects, in aggregate the benefits of labour mobility outweigh the costs and an enhanced intra-European labour mobility would improve the welfare of the vast majority of Europeans (Bonin et al., 2008). However, there are several challenges and risks that need to be taken into account when considering policies to promote and enhance cross-border labour mobility across EU countries.
First, there are three main (long-term) EU policy principles and aims, which are acknowledged in the EU treaties, which are crucial for understanding the role of the barriers and for identifying the challenges to labour mobility at the EU and member-state levels. First, the right to free movement of labour; second, the creation of a deeper single market integration, particularly in the service sector, and finally, the development of a competitive social market economy. While the notion of free movement of labour is clear, the social market economy implies the establishment of welfare states with high and universal social protection. A deeper single market integration requires cross-border delivery of services and cross-border labour mobility. However, in a situation of high heterogeneity between the current 28 Member States, national welfare states, deep economic integration and generous social protection cannot be simultaneously achieved. This has been labelled the 'social trilemma', where two of the three objectives can be met at the same time, but not all three. The challenge faced by policy-makers is then which of the two objectives to push for, as this decision has severe implications for either welfare policy or the depth of the single market integration. If the efforts are placed towards the reduction of disparities between national social systems through the implementation of measures of social harmonization and redistributive policies to foster economic convergence, the EU will move towards a decentralized rather than centralized EU social policy. Alternatively, policy-makers could choose to limit the EU economic integration by prioritizing over generous social protection and fully autonomous national welfare states. Finally, by ditching the generous social protection, they may risk social dumping, which entails a downward pressure on social conditions due to the competition from countries with lower social conditions. At this stage, efforts to reduce disparities between national social systems have been undertaken through measures of social harmonization and redistributive policies to foster economic convergence. Moreover, decentralized EU social policy have been adopted, together with measures to

limit the free circulation of posted workers and by accepting some degrees of ‘social dumping’ resulting in European Court of Justice cases. What will be the future moves of the EU in this phase of uncertainty is hard to predict, however the direction which will be chosen will surely shape the future of the EU.

Second, demographic changes are also taking place all over Europe, with critical effects on labour markets and on the structure and membership of the EU. Europe’s native populations are experiencing a severe demographic stagnation. Most new EU Member States suffered natural population decline. In the EU-28, natural growth amounted to +0.07%. Over the last decade, Europe’s old age dependency ratio (population 65+ divided by population 15-65) grew constantly in the EU-28 reaching 30.5% in 2017. Demographic ageing combined with high unemployment rates lead to a situation where taxpayers have to bear growing welfare and social expenditure, putting additional pressure on the social security systems. Future projections estimate that the situation will worsen further in the coming decades when the baby boom generation, born in the 1950’s and 1960’s, will reach retirement age. Relying exclusively on cross-border labour mobility to solve these issues is unrealistic, full control of both net migration and the age structure of in- and outflows of migrants is not conceivable, and hence urgent decisions have to be taken in order to preserve the sustainability of social protection systems and to maintain balance in the EU-28 labour markets (Gragnon, 2014; Muus, 2003). Moreover, with a fast ageing population and the share of young mobile individuals declining rapidly, declining mobility rates are to be expected in the near future. Hence, pro-active geographic mobility increasing individual propensities to move is crucial to offset lower cross-border mobility. Policy interventions in this direction should aim at expanding the expected utility gains of mobility and reducing mobility costs for individuals. The adoption of flexible and transparent labour markets, an environment which facilitates the reallocation of labour, improvements in terms of communication and information, harmonization of the education and qualification standards are few examples of policies which could create incentives for cross-border mobility. Moreover, a larger share of the European Social Fund should be devoted to improving the training and the skilling of mobile workers, the European job mobility portal EURES should be further developed into a true EU-wide job portal, and more investments should be allocated in infrastructure projects to allow easy and affordable cross-border mobility.

Finally, and of high importance due to the current difficulties the EU is facing is the implementation of policies aiming at the labour market and social integration of movers. The effort for the removal of obstacles to mobility has been strengthened particularly after the 2008/2009 economic and financial crisis, who lead to large divergence in opportunities among workers in different Member States. As a result, EU citizens are now more mobile than at any other point in time in the history of the EU. However, the simplifying measures adopted by the European Commission and the intensified efforts at EU-level to boost cross-border mobility, cooperation, and integration have come under pressure, due to specific aspects and possible gaps in the current framework that can be improperly exploited. Policy-makers face nowadays a crucial challenge to reconcile the need for protecting the rights of mobile citizens while limiting the potentially adverse effects on natives and incumbent companies and while taking into consideration the impact of certain policies on public perceptions and opinions (Barslund and Busse, 2016). Across all EU countries, the anti-immigration sentiment is growing strong. This is fuelled by politicians and leaders of populist parties taking advantage of the fears of the weakest segments of the population and use immigrants as scapegoats to increase their political consensus. EU policies aiming at increasing cross-border mobility need to be implemented in order to facilitate the integration and assimilation of movers in the host country. On one side, equal treatment between natives and immigrants needs to be guaranteed and acts of racism and discrimination need to be banned and condemned, with the aim of eliminating second class citizenship in the EU. A stronger enforcement of free movement rights is needed, together with integration measures such as language and orientation courses for mobile workers and their family, and investments on intercultural exchange for students and youth to support mobility-oriented mindsets. On the other side, more policies need to be implemented to redistribute the economic gain from migration from the individuals who benefit the most to the individuals who are negatively affected by migration. Part of the EU structural and cohesion funds should be invested in reallocating the social burden that may derive from the asymmetric geographical effects of mobility. These redistribution policies would limit social tensions, reduce income inequality among the EU-28 countries and lead towards a stronger integration of immigrants, with potential large positive effects for everyone. There is still a long way before the full development of a Single European Labour market (Krause et al., 2014), but unless these fundamental policy interventions are put in place in the near future, the ambition of a deeper integration may become even more unrealistic.

References

Ademmer, E., Barsbai, T., Lucke, M., Stohr, T. 2015. 30 Years of Schengen: Internal Blessing, External Curse? Kiel Institute for the World Economy.

Baas, T., Brücker, H. and Hauptmann, A., 2009. Labor mobility in the enlarged EU: Who wins, who loses?. In EU labor markets after post-enlargement migration (pp. 47-70). Springer, Berlin, Heidelberg.

Barslund, M., and M. Busse. 2016. Labour Mobility in the EU: Addressing challenges and ensuring 'fair mobility'.

Bartz, K., Fuchs-Schündeln, N. 2012. The role of borders, languages, and currencies as obstacles to labor market integration. European Economic Review 56 (6), 1148–1163.

Baruffini, M. 2011. Cross-border commuting in the Swiss-Italian region; labour market effects of progressive integration. In R. H. Christa Larsen, A. Schmid, M. Bittner & F. Clément (Eds.), Measuring geographical mobility in regional labour market monitoring state of the art and perspectives (pp. 29–40). München, Germany: Rainer Hampp.

Batsaikhan, U., Z. Darvas, and I. Gonçalves Raposo. 2018. People on the move: migration and mobility in the EU. Bruegel Blueprint Series 28.

Beerli A. and G. Peri. 2015. The Labor Market Effects of Opening the Border: Evidence from Switzerland, NBER Working Papers 21319, National Bureau of Economic Research.

Bonin H., et al. 2008. Geographic Mobility in the European Union: Optimising its Economic and Social Benefits.

Boeri, T. and H. Brücker. 2001. The Impact of Eastern Enlargement on Employment and Labour Markets in the EU Member States. Report for European Commission, DG Employment and Social Affairs, Brussels.

Borjas, G. J. 1987. Self-selection and the earnings of immigrants.

Borjas, G. J. 1989. Economic theory and international migration. International migration review 23.3. 457-485.

Borjas G. J. 1999. The economic analysis of immigration, in Ashenfelter, O. and Card, D. (Eds) Handbook of Labor Economics, Vol. 3A, pp. 1697–1760. Elsevier, Amsterdam.

Borjas, G.J. 2003. The labor demand curve is downward sloping: reexamining the impact of immigration on the labor market, Quarterly Journal of Economics 118(4), 1335-1374.

Borjas, G. (2014). Immigration economics. Harvard University Press.

Brown, David L., et al. 2015. "The Migration-commuting nexus in rural England. A longitudinal analysis." Journal of Rural Studies 41, 118-128.

Buch, T., Schmidt, T. D. and Niebuhr, A. 2009. Cross-border commuting in the Danish–German border region – integration, institutions and cross-border interaction, Journal of Borderland Studies 24(2), 38–54.

Burda, M. C. 1993. The determinants of East–West German migration: some first results, European Economic Review 37(2–3), 452–461.

Burda, M. C. 1995. Migration and the option value of waiting, Economic and Social Review 27(1), 1–19.

Card, D. 2009. Immigration and Inequality. American Economic Review, 99(2), 1 – 21.

Castles, S., 2002. Migration and community formation under conditions of globalization. International migration review, 36(4), pp.1143-1168.

Clark, W. A. V., Huang, Y. and Withers, S. 2003. Does commuting distance matter? Commuting tolerance and residential change, Regional Science and Urban Economics 33(2), 199–221.

Clark, W. A. V. and Withers, S. 1999. Changing jobs and changing houses: mobility outcomes of employment transitions, Journal of Regional Science 34(4), 653–657.

Darvas, Z. and E. Vaccarino. 2016. "Social dumping" and posted workers: a new clash within the EU, *Bruegel Blog*.

Darvas, Z. 2017. 'Could revising the posted workers directive improve social conditions?', European Parliament.

Decoville, A., Durand, F., Sohn, C., and Walther, O. J. 2010. Spatial integration in European cross-border metropolitan regions: A comparative approach. Luxembourg: CEPS.

Devlin C., Bolt, O., Patel, D., Harding D., and Hussain, I. 2014. Impacts of migration on UK native employment: An analytical review of the evidence. Occasional Paper 109.

De Giorgi, G., and M. Pellizzari. 2006. Welfare migration in Europe and the cost of a harmonised social assistance.

Dustmann, C., F. Fabbri , and I. Preston. 2005. The Impact of Immigration on the UK Labour Market. Economic Journal, 115, F324 – F341.

Dustmann, C., T. Hatton and I. Preston. 2005. The Labor Market Effects of Immigration, The Economic Journal, 115, F297-299.

Dustmann, C. and I. Preston. 2018. Free Movement, Open Borders and the Global Gains from Labor Mobility.

Dustmann, C., U. Schönberg, and J. Stuhler. 2017. Labor supply shocks, native wages, and the adjustment of local employment. *The Quarterly Journal of Economics* 132.1. 435-483.

Eliasson, K., Lindgren, U. and Westerlund, O. 2003. Geographical labour mobility: migration or commuting?, Regional Studies 37(8), 827–837.

Elsner, B. 2013. Does emigration benefit the stayers? Evidence from EU enlargement. Journal of Population Economics, 26(2), 531–553.

European Commission (EC). 2010. Geographical and labour market mobility.

European Commission (EC). 2016. Back to Schengen - A Roadmap.

Eurostat. 2018 September. Unemployment Statistics. Retrieved from Eurostat on November, 5 2018: https://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics. ISSN 2443-8219.

Faist, T. 2000. The volume and dynamics of international migration and transnational social spaces. Oxford, England: Clarendon.

Fries-Tersch, E., Tugran, T., Rossi, L. & Bradley, H. 2018. 2017 Annual Report on intra-EU Labour Mobility. European Commission.

Gagnon, Jason. 2014. "Demographic Change and the Future of the Labour Force in the EU27, other OECD countries and selected large emerging economies." 37-65.

Giulietti C. 2014. The Welfare Magnet Hypothesis and the Welfare Take-up of Migrants. IZA World of Labor 2014:37.

Giulietti C., Guzi M., Kahanec M., Zimmermann K.F. 2013. Unemployment Benefits and Immigration: Evidence from the EU. International Journal of Manpower 34(1): 24–38.

Goldring, L. 1997. Power and status in transnational social spaces. In L. Pries (Ed.), Transnationale Migration. Soziale Welt Sonderband 12 pp. 179–195. Baden-Baden, Germany: Nomos.

Gottholmseder, G., and Theurl, E. 2007. Determinants of cross- border commuting: Do cross- border commuters within the household matter? Journal of Borderlands Studies, 22(2), 97–112.

Hansen, C.L., and B. Nahrstedt. 2000. Cross-Border Commuting: Research Issues, and a Case Study for the Danish – German Border Region. In Borders, Regions and People, eds. M. van der Velde and H. van Houtum, 69-84. London: Pion.

Hazans M., 2003. Commuting in the Baltic States: Patterns, Determinants, and Gains. Working Paper B02/2003, Zentrum für Europäische Integrationsforschung. Bonn.

Heinz, F.F., and M.Ward-Warmedinger. 2006. Cross-border labour mobility within an enlarged EU.

Heitmueller, A. 2005. Unemployment benefits, risk aversion, and migration incentives. Journal of Population Economics, 18 (1), 93–112.

Huber P. and K. Nowotny. 2013. Moving across Borders: Who is Willing to Migrate or to Commute? Regional Studies, 47:9, 1462-1481

Janssen, M. 1999. Obstacles and Willingness for Cross-Border Mobility: The Dutch-German Border Region. In Understanding European Cross-Border Labour Markets, Issues in Economic Cross-Border Relations, eds. P. de Gijsel, M. Janssen, H.J. Wenzel, and M. Woltering, 143-164. Marburg: Metropolis.

Kahanec, M. and Zimmermann, K.F., 2010. EU labor markets after post-enlargement migration. Berlin: Springer.

Kahanec M. 2013. Labor Mobility in an Enlarged European Union. In: Constant A.F., Zimmermann K.F. (eds) International Handbook on the Economics of Migration. Edward Elgar Publishing, p 137–52.

Kahanec M and Zimmermann K.F. (eds). 2016a. Labor Migration, EU Enlargement, and the Great Recession. Springer Berlin Heidelberg.

Kahanec, M. and Zimmermann, K. F., 2016b. Post-Enlargement Migration and the Great Recession in the E(M)U: Lessons and policy implications, MERIT Working Papers 066, United Nations University - Maastricht Economic and Social Research Institute on Innovation and Technology (MERIT).

Krause, A., Rinne, U. and Zimmermann, K., 2014. How Far Away Is a Single European Labor Market?.

Lee, E. S. 1966. A theory of migration. Demography, 3, 47–57.

Levitt, P., DeWind, J., and Vertovec, S. 2003. International perspectives on transnational migration. International Migration Review, 37, 565–575.

Madden, J.F. 1981. Why Women Work Closer to Home. Urban Studies 18(2): 181-194.

Manacorda, M., Manning, A. and Wadsworth, J. 2012. The impact of immigration on the structure of wages: theory and evidence from Britain. Journal of the European Economic Association, 10: 120-151.

Mau, S., and R. Verwiebe. 2010. *European societies: Mapping structure and change*. Policy Press.

Mayda A. M. 2010. International migration: a panel data analysis of the determinants of bilateral flows. Journal of Population Economics, 23(4):1249–1274.

Mussche, N., Corluy, V., and Marx, I. 2018. How posting shapes a hybrid single European labour market. European Journal of Industrial Relations, 24(2), 113–127.

Nowotny, K. 2014. Cross-border commuting and migration intentions: the roles of risk aversion and time preference. Contemporary Economics, vol. 8(2).

Ottaviano, G. I. and Peri, G. 2012. Rethinking the effect of immigration on wages. Journal of the European Economic Association, 10: 152-197.

Overman H. G. and Puga D. 2002. Unemployment clusters across Europe's regions and countries, Economic Policy 17(34), 117–147.

Parenti A. and C. Tealdi. 2018. Does the implementation of the Schengen Agreement boost cross-border commuting? Evidence from Switzerland.

Parenti A. and C. Tealdi. 2019. The role of job uncertainty in inter-inter-regional commuting: the case of Italy. Growth and Change, forthcoming.

Pedersen P, Pytlikova M, Smith N. 2008. Selection and network effects—migration flows into OECD countries, 1990–2000. European Economic Review, 52(6):1160–1186.

Peri, G. Do immigrant workers depress the wages of native workers? IZA World of Labor 2014: 42.

Peri, G., and C. Sparber. 2009. Task specialization, immigration, and wages. *American Economic Journal: Applied Economics* 1.3 135-69.

Pries, L. 2001. New transnational social spaces. London, England: Routledge.

Reitsma, R. F. and Vergoossen, D. 1988. A causal typology of migration: the role of commuting, Regional Studies 22, 331–40.

Rouwendal, J. 1994. Changes in Commuting Distances of Dutch Households. Urban Studies 31(9). 1545-1557.

Stark, O. 1993. The migration of labor. Cambridge, MA: Blackwell.

Stark, O. 1996. Frontier Issues in International Migration, International Regional Science Review, vol. 19 (1-2), 147-177.

Stark, O., & Bloom, D. E. 1985. The new economics of labor migration. American Economic Review, 75, 173–178.

Todaro, M. P. 1986. International migration, domestic unemployment, and urbanization. New York, NY: Center for Policy Studies.

Van Houtum H. and Van Der Velde M. The power of cross-border labour market immobility. Tijdschrift voor economische en sociale geografie 95.1 (2004): 100-107.

Van Ommeren, J., P. Rietveld, and P. Nijkamp. 1997. Commuting: In Search of Jobs and Residences. Journal of Urban Economics 42(3): 402-421.

Van Ommeren, J. 1998. On-the-job Search Behavior: The Importance of Commuting Time. Land Economics 47(4): 526-540.

Vertovec, S. 1999. Conceiving and researching transnationalism. Ethnic and Racial Studies, 22, 447–462.

Verwiebe, R., & Reinprecht, C. 2012-15. Cross-border labour mobility, transnational labour markets and social differentiation in the Central European region.Vienna, Austria: Department of Sociology/University of Vienna.

White, A. 2016. "Family migration from small-town Poland: A livelihood strategy approach." Polish Migration to the UK in the 'New' European Union. Routledge. 67-86.

Zaiceva A. 2014. Post-enlargement emigration and new EU members' labour markets. IZA World of Labor 2014:40.

Zax, J. S. 1994. When is a move a migration? Regional Science and Urban Economics 24, 341–60.

Zimmermann K.F. 2014. Migration, Jobs and Integration in Europe. Migration Policy Practice, 6(4): 4-16.

Glossary

EU-8: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia.
EU-10: EU-8, Cyprus and Malta.
EU-12: EU-10, Bulgaria and Romania.
EU-13: EU-12 and Croatia.
EU-15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.
EU-28: EU-15 and EU-13.
EFTA: Iceland, Liechtenstein, Norway, Switzerland.
EMU: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

Figure 1: Timeline of Freedom of Movements for EU workers.

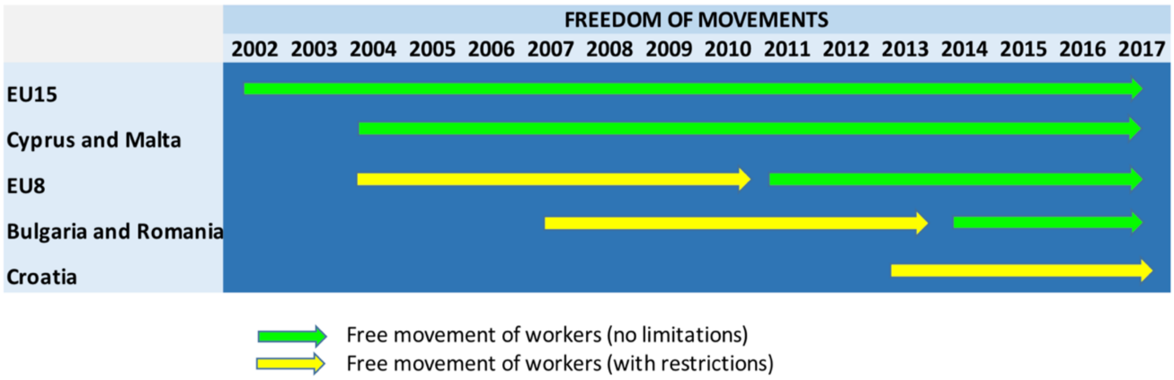


Figure 2: Timeline of Schengen Agreement.

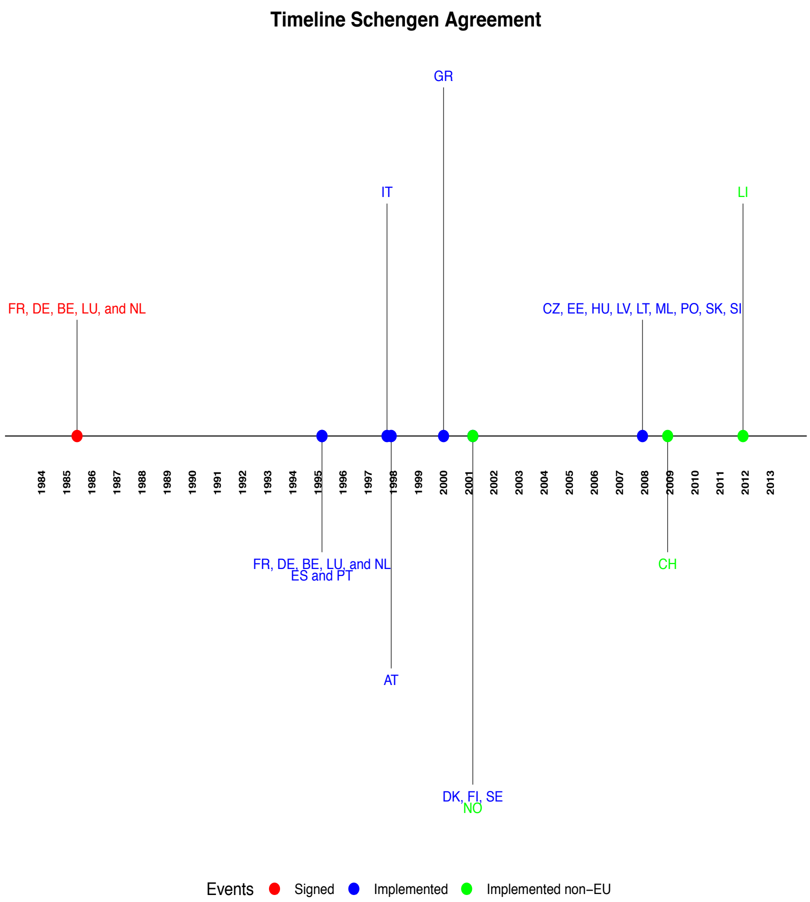


Figure 3: Map of Schengen Area.

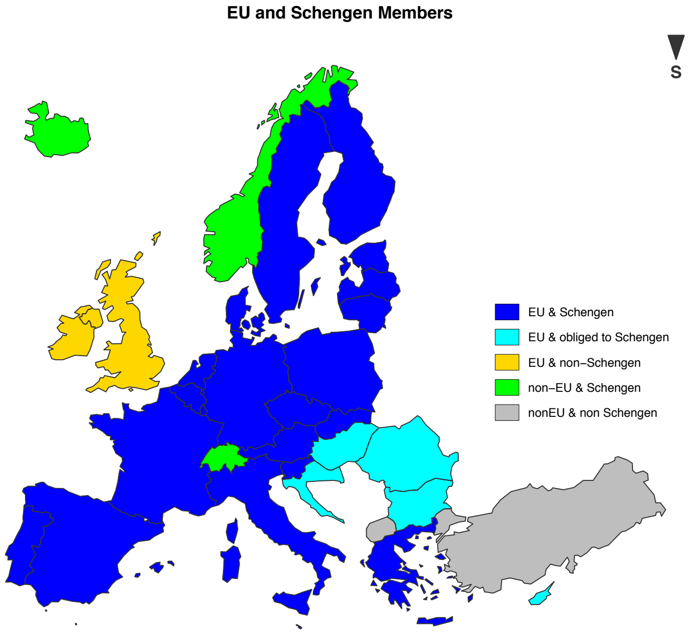
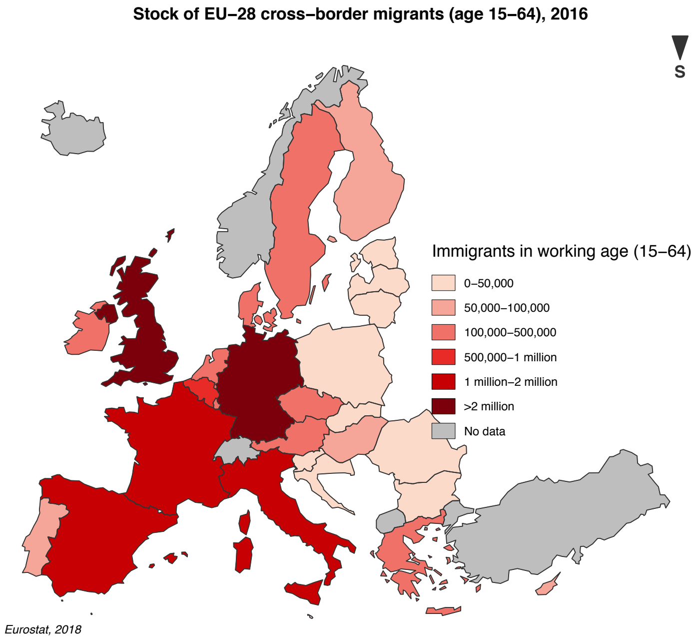


Figure 4: Stock of EU-28 and non EU-28 working age cross-border migrants in Europe by country (2016).



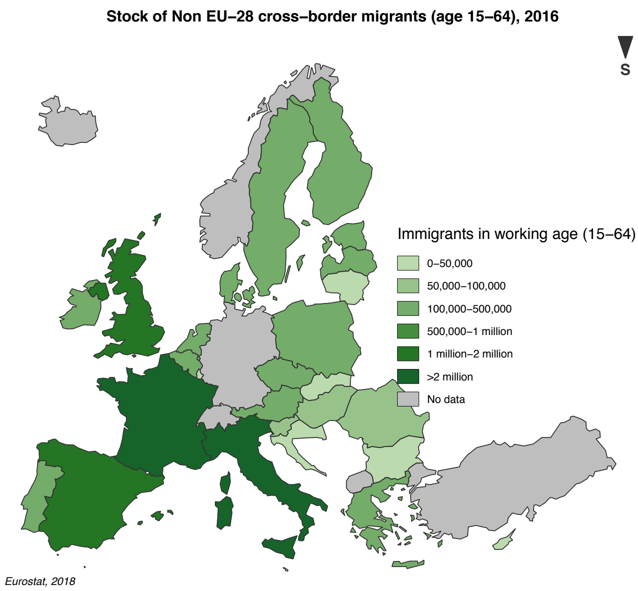
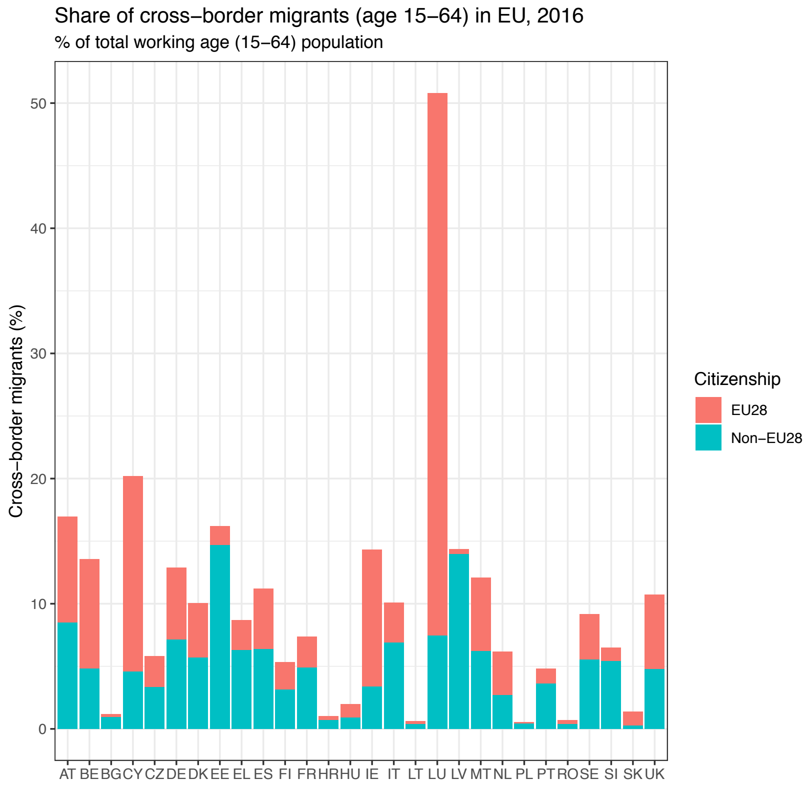


Figure 5: Stock and flow of EU-28 working age cross-border migrants in Europe (2016 and 2015 respectively).



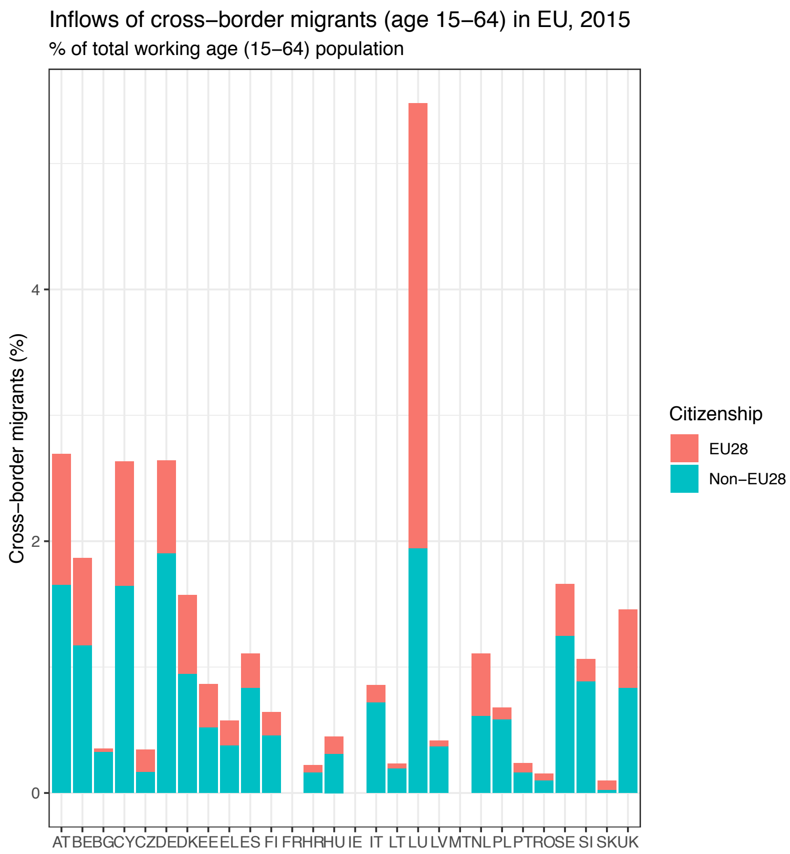
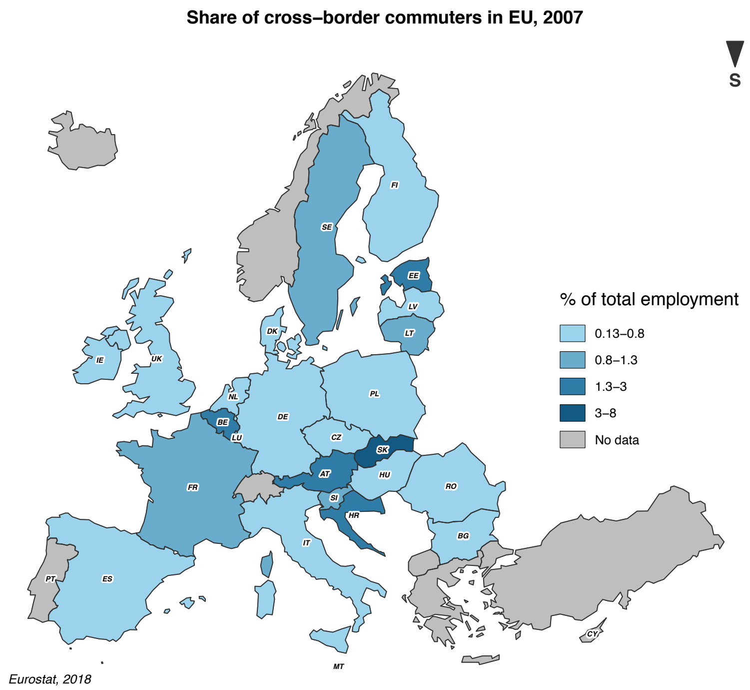


Figure 6: Share of EU-28 working age cross-border commuters in Europe (2007 and 2016).



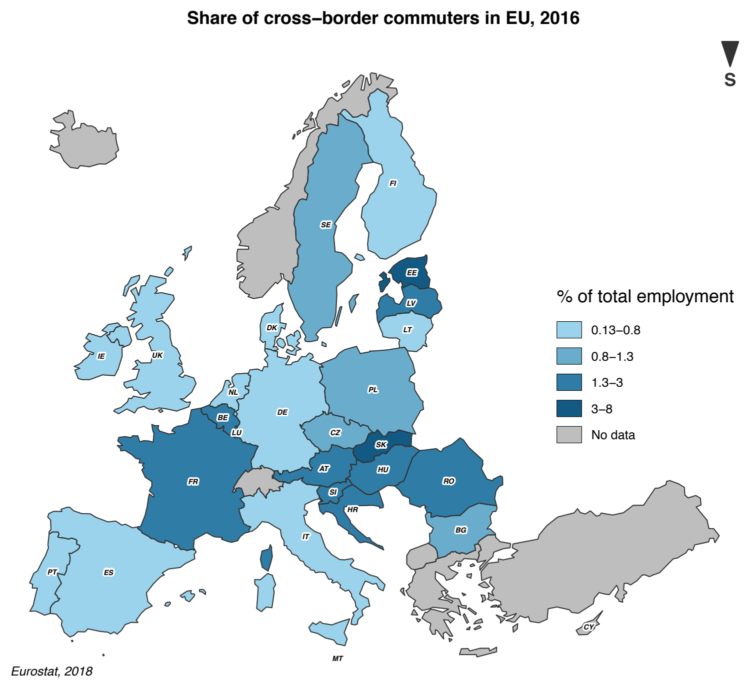
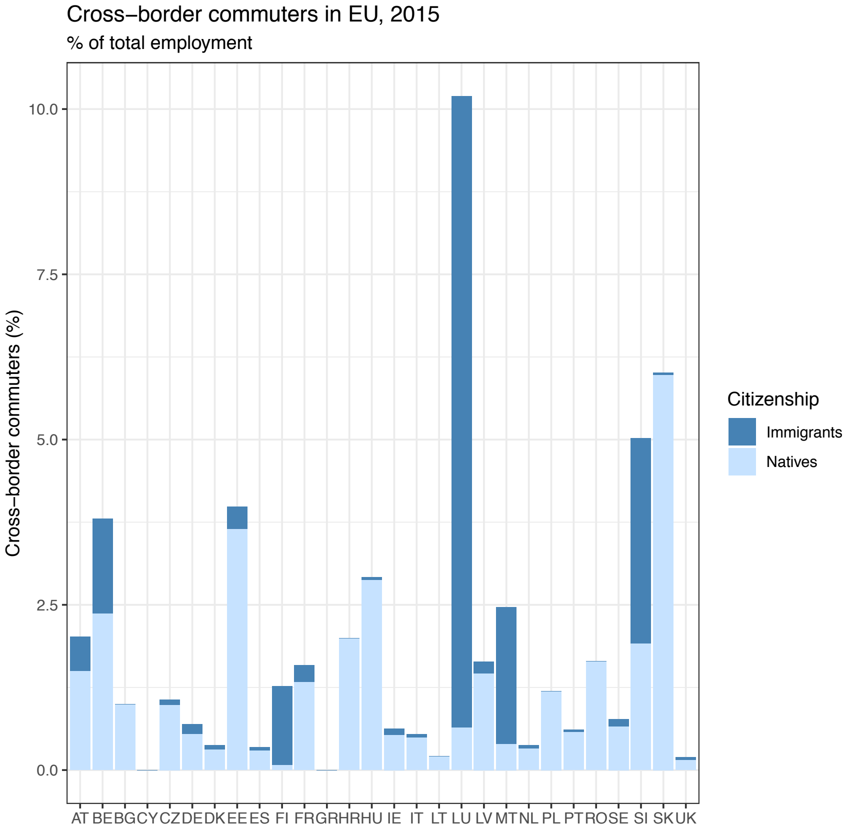


Figure 7: Cross-border commuters in Europe by citizenship (source: EU-LFS 2015).



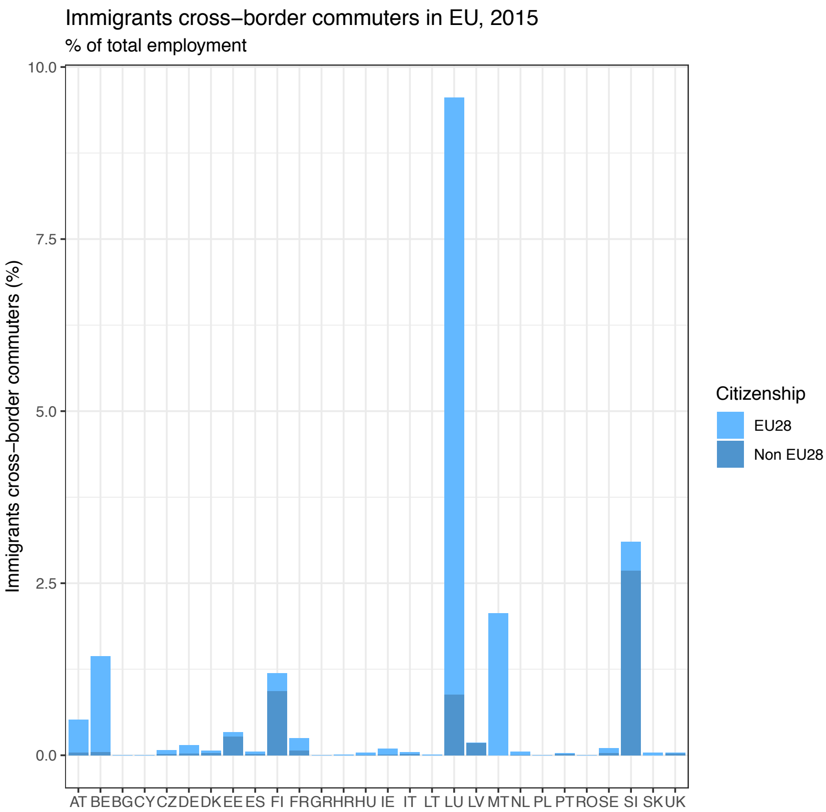


Figure 8: Share of EU-28 cross-border migrants and cross-border commuters from all employed nationals of country of origin, by country of origin citizenship, age 20-64 (source: Fries-Tersch et al., 2018).