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The Effects of Immigration in Developed Countries: Insights from Recent Economic Research[1]

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Abstract

Immigrants currently account for 3.3% of the world's population. We know that migration is demographically important, but what are its implications for the labour market, public finance and political landscape? To answer these questions, this report draws on recent literature on the economic and cultural effects of immigration on host societies, with a focus on evidence for European countries. Although the average effects of immigration on labour markets and public finance are marginal, immigration can create winners and losers in the native workforce. By affecting the skill composition of receiving economies, an immigration-induced increase in the labour supply can impact wage dispersion in host countries. It is cultural concerns, however, that tend to fuel scepticism towards immigration, with fiscal or labour market playing only a secondary role. A deeper understanding of these concerns is a precondition for designing policies that foster a positive atmosphere and combat negative attitudes towards immigrants and extreme voting.

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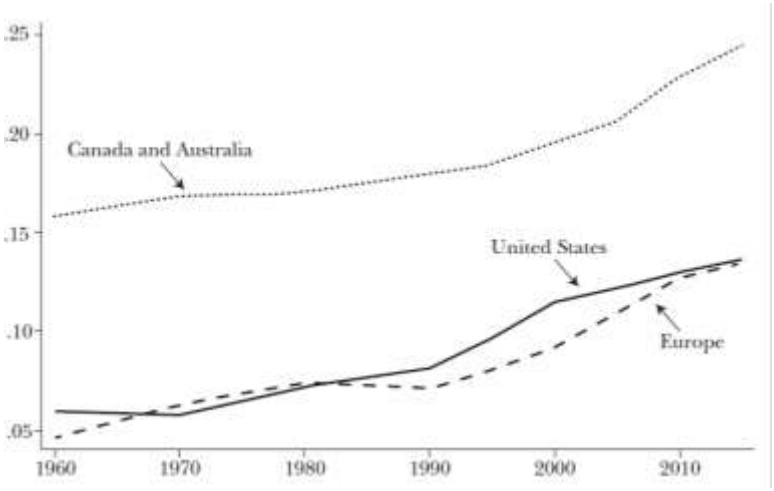
1 Introduction

Today, over 243 million people reside in a country that is not their place of birth. Immigrants thus account for 3.3% of the world's population. The population share of foreign-born individuals in developed countries increased from 7% in 1990 to over 10% in 2015 (see Figure 1). "Much of the developed world is now increasingly composed of nations of immigrants" (Borjas, 2014). Nearly 11.5% of the population in France, 13% in Germany and the United States, and 20% in Canada is foreign-born. We thus know that migration is demographically important but what are its consequences for the labour market, public finance and political landscape in destination countries? To answer these questions, this report draws from the recent literature on the economic and cultural effects of immigration on host societies. While a significant amount of empirical studies deals with the United States (US), this report mostly focuses on evidence for European countries.

Figure 1: Foreign-born as share of population



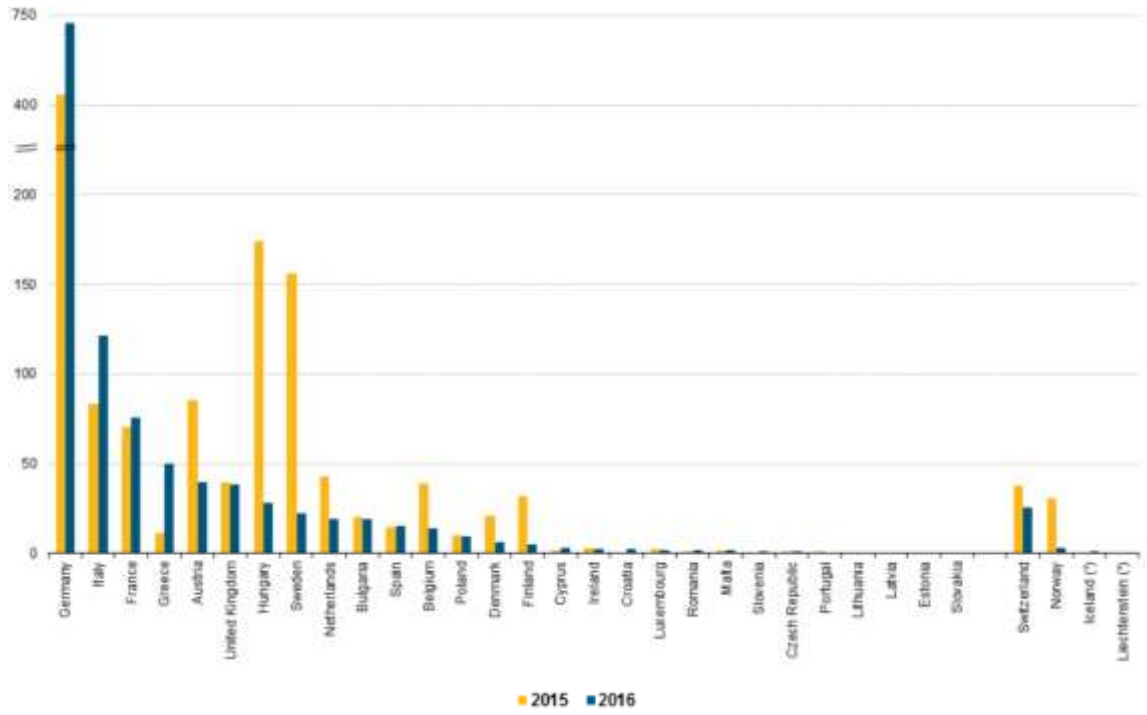
(Source: Peri, 2016)

The above figure depicts the increase in foreign-born individuals as a share of the overall population in Western countries based on smoothed census data. Since 1990 Europe has experienced an increase in the inflow of migrants that can partly be attributed to intra-European migration (expansion of the Schengen Area to Eastern Europe) and migration from Northern Africa (Peri, 2016). The increase in migration to Europe has turned countries that have traditionally very little experience with immigration, like Germany or Sweden, into primary destination countries. This trend started back in the 1990s (Balkan war refugees), but intensified during the recent refugee crisis. Figure 2 depicts the number of asylum seekers to the European Union (EU) in 2015 and 2016 and illustrates that Germany, Sweden, and Hungary accounted for two thirds of all asylum applications in 2015. While the latter countries experienced a substantial decrease in asylum applications in the following year, Germany's numbers remain high.

In the months following the 2015 wave of asylum seekers, the European Commission (EC) announced a quota system in an attempt to fairly distribute asylum seekers across member states. The political backlash, particularly in some Eastern European countries, has made the implementation of the mandatory quota system practically infeasible. In October 2017, the EC has changed its approach and now backs voluntary refugee admissions, financially supporting admissions with a €10,000 lump sum from the EU budget for each resettled person. The success of the EC's policy hinges on two conditions: firstly, that the lump sum is meaningfully high; and secondly, that cultural amenities do not play a major role. The first condition, a meaningfully high lump sum, is crucial to creating an incentive for member states to host refugees by decreasing accommodation costs. However, even if the lump-sum is high enough to compensate for the costs of accommodation, the EC's policy presupposes that a political or social opposition to the accommodation refugees would dissipate in the presence of a meaningfully high financial compensation (which is the second condition).

This report will shed light on both of these questions. On the one hand, what is the net economic impact of refugees (or, more generally, immigrants) on the labour market and the fiscal balance of a country? On the other hand, what are the cultural and political effects of immigration? In the context of the EC policy, it remains unclear whether this financial aid will incentivise countries previously opposed to accepting more refugees, to open their borders up to asylum seekers.

Figure 2: Number of (non-EU) asylum seekers in the EU and EFTA member states, 2015 and 2016, thousands of first time applicants



(Source: Eurostat)

Overall, the rise in international migration in recent decades, and particularly the recent influx of refugees to the European Union, has given more audience to the economic and political consequences of immigration. Host countries' immigration policies are now in the spotlight of public debate and a battery of often opposing propositions are competing in the political arena. One of the public's major concerns is that immigrants could take away natives' jobs, reduce their wages and negatively contribute to public finances. At the same time, the rise of right-wing populist movements has highlighted that the scepticism towards immigration may not only be based only on economic, but also on cultural considerations. The lack of decisive and systematic policy responses at both a national as well as an EU-level may have given rise to parties at the political extremes who were able to profit from the uncertainty that comes with the influx of migrants. Anti-immigration sentiments build the basis of many right-wing party platforms, propagating a narrative of economic competition between natives and immigrants, as well as concerns about the cultural compatibility of immigrants and host populations.

It is therefore crucial to carefully study the economic literature on the effects of immigration on the labour market and welfare system in host societies, to promote an evidence-based approach and to debunk myths whenever necessary. However, the analysis of academic studies on the economic effects of migration cannot happen in isolation from studies that deal with the cultural, societal, and political dimensions of migration. This is why this report pays attention to both of these aspects in the following manner: in reviewing the recent economic literature on the topic, this report approaches the debate around the socio-economic consequences of migration in three steps.

In section 2, we study the labour market effects of immigration. In particular, we look at how immigration affects the wages and employment of native workers. We present the theoretical frameworks in economics that allow us to think systematically about the mechanisms through which migration can affect labour markets. We subsequently highlight various empirical methodologies used to measure these effects and discuss the empirical results in that literature.

In section 3, we study the net fiscal effects of immigration and see whether immigrants are net contributors or net receivers of social welfare. We first outline the so-called "Welfare Magnet" hypothesis and then turn to static and dynamic approaches to analysing the fiscal impact of immigrants.

In section 4, we analyse the attitudinal and political consequences of immigration. Specifically, we report recent studies that try to disentangle the economic from the cultural dimension. We then look at the link between ethnic diversity and preferences for redistribution, voting behaviour, and social capital. We also pay attention to how asylum seekers may be perceived differently from other types of immigrants.

While the first two parts of the analysis (section 2 and 3) focus on outcomes that are economically quantifiable, such as the average wage of natives or total fiscal revenue, the last part of our

analysis (section 4) is concerned with the effects of immigration as perceived by natives. This distinction is crucial both from an analytical and a policy perspective. The first step is to establish the empirical link between immigration and the economy, then to observe how this deviates from the public perception of that link, and then separately address the actual economic consequences and the perceived consequences of migration. While policy measures absorbing downward wage pressure for low-skilled workers or introducing safeguards to overburdening of the welfare system can alleviate fear of economic decline, core preferences for cultural homogeneity are more difficult to address. A careful assessment of how cultural versus economic concerns play into voting decisions is thus of great importance.

2 The Labour Market Effects of Immigration

This section is composed of three main sections. Firstly, we describe the theoretical mechanisms through which a labour supply shock induced by immigration can affect the labour market. Secondly, we discuss the methodological approaches used in the literature to quantify the labour market impact of immigration; and thirdly, we present the empirical results.

2.1 Theoretical Insights

According to standard economic models, the main mechanism through which immigration can affect the labour market is by increasing the number of workers. This increase mechanically reduces the level of physical capital per worker, which negatively affects the productivity of labour. In response to an immigration-induced increase in labour supply, the average wage of workers therefore declines. An important assumption underlying these preliminary results is that the capital stock in the economy is fixed. From a theoretical viewpoint, it is important to distinguish the impact of immigration on wages in the “short run” (the instant after the immigrants arrive) and the “long run” (after capital has fully adjusted to their entry). In the long-run, firms respond to the increased number of workers through capital accumulation. The reason is that the fall in the wage and the rise in employment increases the return to the complementary factor, capital. By making capital more productive and by increasing the income of capital’s owners, immigration provides an incentive for capital to either flow from abroad or to accumulate domestically. The rise in the capital stock increases labour productivity and labour demand, thereby mitigating the initial detrimental wage effects induced by the labour supply shock.

Immigration not only increases the aggregate number of workers, it can also change the skill composition of the workforce; and thus the wage structure in receiving economies. Standard economic theory predicts that immigration should reduce the wages of competing workers (who have skills similar to those of the migrants), and increase those of complementary workers (who

have skills that complement those of immigrants, meaning that their productivity rises from working with them). This implies that an inflow of low-skilled immigrants should decrease the wages of low-skilled workers and increase those of highly skilled workers. According to standard economic theory, neither the process of capital accumulation nor the free flow of capital from abroad is sufficient for the wages of the hardest hit groups (in this case low-skilled workers) to fully recover.

Although the capital-labour ratio and the average wage are restored in the long-run, the relative wage of low-skilled workers does not return to its pre-immigration level. By affecting the relative supply of skills, standard economic theory therefore predicts that immigration will have a persistent effect on the structure of wages across skill groups.

Some recent models have extended the previous theoretical framework to improve our understanding of the labour market effects of immigration. These models show that labour markets are able to fully absorb immigration in a short period of time without experiencing any persistent changes in relative wages. The ability of firms to change their technology is the first important factor that can mitigate the initial negative wage effects of immigration. The idea is that firms adjust technology to absorb workers who become more abundant through immigration. This extension is due to Lewis (2011, 2013) who allow for capital-skill complementarity, implying that capital and highly skilled labour are complements *and* capital and low-skilled labour are substitutes. Under this assumption, once capital has fully adjusted, all wages return to their pre-immigration levels and immigration thus has no distributional consequences.

Another determinant of how immigration affects wages and employment is related to the degree of substitutability between immigrants and natives. In theory, if immigrants and natives of similar education differ in terms of their language abilities, quantitative and relational skills, they will specialise in differentiated production tasks. Peri and Sparber (2009) show for the United States that immigrants specialise in manual-intensive jobs for which they have comparative advantages, while natives with a similar level of education pursue jobs more communication-intensive tasks. As a result, immigration can push some native workers of comparable education into more cognitive and communication-intensive jobs that are relatively better paid and more suited for their skills.

Immigration, particularly highly skilled workers, can also affect productivity and wages through its contribution to human capital formation and innovation in receiving economies. If highly skilled immigrants invent new technologies or bring new ideas from their home countries, immigration is expected to exert a positive impact on the productivity and wages of all native workers. Immigrant innovators may also have a positive externality on native innovators, which could magnify the externality due to their own innovation. The positive impact of immigration on innovation is an additional channel that can dampen the initial labour market effects of

immigration. Highly skilled immigration can even positively affect long-run economic growth and generate net gains for the whole economy.

2.2 Empirical Methods

Given all the potential channels through which immigration can affect wages and employment, it is difficult to determine the net theoretical labour market impact of immigration. Empirical investigations are therefore needed to measure the labour market impact of immigration. There are two main families of empirical studies on the labour market effects of immigration: structural and non-structural studies.

Structural methods build on theoretical relationships to simulate the impact of changes in labour supply due to immigration on the wages of natives. Before any simulation exercise, one needs to characterise the production function, choose a number of skill groups and define how they interact with each other and with capital. Borjas (2003) made an important contribution by using this type of framework in his analysis of the wage impact of immigration.

An important set of non-structural studies exploits the fact that immigrants tend to cluster in a limited number of geographical areas (*i.e.* cities, states, regions) to investigate their effects on local labour markets. These studies compare changes in wage or employment levels for areas with high and low levels of immigrant penetration, controlling for various factors that make some areas more attractive than others. The spatial correlation approach, however, is subject to one main limitation. Immigrants tend to cluster in geographical areas with thriving economies. One can thus observe more immigrants living in areas with high economic opportunities and fewer immigrants living in areas with low economic opportunities. If immigrants settle predominantly in areas that experience the highest wage growth, this will create a spurious positive correlation between immigration and local economic opportunities. Thus, a positive estimated impact will not necessarily imply that immigration causes higher wages or better employment levels. This problem can be addressed by using an instrumental variable in order to isolate the variation in immigrant inflows across areas that is not determined by wages or other factors that influence wages. Another way to deal with this problem is to exploit a large, sudden and unanticipated increase in immigration, which is not driven by economic concerns (what economists call a *natural experiment*).

The main advantage of natural experiment is that political migrants often base their location decisions on non-economic factors, reducing the bias arising from the selection of high-wage destinations. However, as noted by Peri (2016), these migration episodes are rare and probably not representative of typical patterns of migration to high-income countries. They do indeed occur at slower and more predictable rates and are largely driven by economic motivations. As a result, these unexpected episodes often allow less time for adjustment on the margins. The short-run effects derived from these episodes may thus be larger than for expected ones. Examples include the influx of over 100,000 Cuban refugees from the port of Mariel in Miami (Card, 1990;

Borjas, 2017; Peri and Yasenov, 2017), the repatriation from Algeria to France in 1962 after the end of the Algerian independence war (Hunt, 1992: Edo, 2017), the wave of Portuguese repatriates from Angola and Mozambique in the mid-1970s (Carrington and De Lima, 1996; Mäkelä, 2017), the lifting of emigration restrictions in the Soviet Union that led to huge immigrant flows of Russian Jews into Israel in the early 1990s (Friedberg, 2001; Cohen-Goldner and Paserman, 2013), the massive inflow of Syrian refugees into Turkey in response to the Syrian war (Tumen, 2016).

2.3 Empirical Evidence from Structural Studies

Structural studies have been implemented for various countries, including Canada (Aydemir and Borjas, 2007), Denmark (Brücker and al., 2014), France (Edo and Toubal, 2015), Germany (D'amuri and al., 2010), United Kingdom (Manacorda and al., 2012), the United States (Aydemir and Borjas, 2007; Ottaviano and Peri, 2012) and Switzerland (Gerfin and Kayser, 2010). The aim of these studies is to quantify the wage changes for natives resulting from the inflow of immigrants in recent decades.

Two key findings emerged from these studies. In the long-run (after capital has fully adjusted to the labour supply shock caused by immigration), the average effect of immigration on native wages is either null or positive, depending on the degree of substitution between natives and immigrants. If immigrants and natives of similar education and experience are imperfect substitutes (e.g., due to language skill differences), immigration is predicted to have a slightly positive impact on the average wage of native workers.

The studies by Ottaviano and Peri (2012), Manacorda and al. (2012), D'amuri and al. (2010) and Brücker and al. (2014) find evidence of an imperfect degree of substitutability between natives and immigrants. Ottaviano and Peri (2012) thus find that immigration to the United States between 1990 and 2006 increased the native wage by 0.6% in the long run. In their study, they also show that incoming immigrants has decreased the average wage of the previous waves of migrants who are usually the closest substitutes for new immigrants. The study by Borjas (2014) and Edo and Toubal (2015) find that immigrants and natives with a similar level of education and experience tend to be perfect substitutes. Their long-run simulations thus indicate that immigration has no effect on the average wage of native workers.

Secondly, the skill composition of immigrants matters in determining their impact on the wages of domestic workers in the long-run. By increasing the relative supply of some groups of workers, immigration will affect their relative wages, creating winners and losers among the native-born via changes in the wage structure. In Canada, France, Germany and Switzerland, immigration has disproportionately increased the number of highly skilled workers since the 1990s, contributing to a reduction in wage inequality between highly and poorly educated native workers. For the United Kingdom, the wage effects are very modest, but they tend to be negative and larger for university workers. This is explained by the fact that incoming migrants in the United Kingdom

were relatively more educated than the natives. The positive impact of immigration on the reduction of wage inequality is also found by Docquier and al. (2014), who focus their analysis on OECD countries. In particular, they show that less educated native workers experienced particularly large wage and employment gains in response to immigration between 1990 and 2000. This was due to higher education levels among OECD immigrants relative to natives.

In Denmark and the US, however, immigration has increased the supply of low-skilled workers by more than it has increased the supply of highly skilled workers. As a result, immigration to these countries has helped to increase the wage gap between highly and poorly educated native workers in recent decades.

In sum, structural studies indicate that the wage effects of immigration depend on the skill structure of the immigrant workforce.

2.4 Empirical Evidence from Spatial Correlation Approaches

Spatial studies correlate wages and some measure of immigrant penetration across geographical areas (*i.e.* cities, states, regions). As shown in the literature reviews by Friedberg and Hunt (1995), Okkerse (2008) and Kerr and kerr (2011), they have been implemented for various countries and they generally document negligible or small average wage and employment effects. For instance, the studies by Winter-Ebmer and Zweimüller (1996) for Austria, Pischke and Velling (1997) for Germany, Dustmann and al. (2012) for Great Britain, Zorlu and Hartog (2005) for the Netherlands, Norway and the United Kingdom, Basso and Peri (2015) for the United States do not detect any negative or positive impact of immigration at the local level.

Some studies even find that immigration has a positive impact on the average wage of native workers. For the United Kingdom, Dustmann and al. (2012) show that immigrants work in occupations requiring lower levels of education than they have – *i.e.*, immigrants considerably downgrade their skills. By accounting for this downgrading, they estimate the wage effects of immigration along the distribution of native wages. They find that immigration exerts downward wage pressure below the 20th percentile of the wage distribution (where the density of immigrants is the highest). However, they find that immigration leads to a slight wage increase in the upper part of the wage distribution (where the density of immigrants is the lowest). These two effects combined lead to a slight overall positive wage effect due to immigration.

For France, Mitaritonna and al. (2017) show that immigration tends to increase local productivity. An increase in the immigrant share in a given department has a positive effect on the average wage of natives. Immigrant workers could affect local productivity through two main channels. Firstly, the specialisation of natives and immigrants in different and complementary tasks may increase the production efficiency and labour productivity of firms (Peri and Sparber 2009). Secondly, as immigrants were relatively more skilled than the native population over the period

considered, they may disproportionately contribute to innovation and economic growth within a given geographic area. Similar results are found by D'amuri and Peri (2014) who show for a panel of European countries that immigrants often supply manual skills, pushing native workers towards jobs that require more complex skills: immigrants actually replace "tasks", not workers. Their results thus indicate that immigration tends to increase native employment at the country level.

The fact that immigration has a positive or zero effect on native wages at the local level is consistent with the long-run simulation results. The spatial estimates and the long-run structural simulations, however, are not conceptually comparable. In particular, it is not possible to be sure that those spatial estimates describe a medium- or a long-run correlation between immigration and worker outcomes. As shown recently by Ruist and al. (2017), it is very likely that the spatial correlation approach tends to conflate the (presumably negative) short-run wage impact of recent immigrant inflows with the (presumably positive) movement towards equilibrium in response to previous immigrant supply shocks. The fact that some studies find no detrimental or positive effects of immigration suggests that immigration should not have a persistent negative effect on the *relative* local wage level. Immigration may thus have little, if any, adverse effect on local wages in the long-run. These findings are consistent with a simple competitive model: a shock in the supply of one factor depresses the returns to that input temporarily, but factor adjustments wash out the effect over time. This is confirmed by Ruist and al. (2017): although they find a negative average impact of immigration between 1970 and 1980 for the US, they report evidence of a stronger detrimental wage impact in the short-run (just after the entry of immigrants) and a full recovery of local wages within a decade. The fact that host economies can often absorb migrants over a short period of time is consistent with Peri (2010, p. 4): "in the short-run, immigration may slightly reduce native employment and average income at first, because the economic adjustment process is not immediate."

Other spatial studies tend to find that some specific groups of native workers can be affected negatively by immigration. This is the case for the very influential study by Altonji and Card (1991) who estimated the link between the share of immigrants in the population and the wages and employment of less-skilled natives, finding that an increase in the immigrant share of the population reduces the wages of low-skilled native-born workers (while employment and participation effects are negligible). This is also the case in the study by Ortega and Verdugo (2016) for France. They exploit panel data to study the effects of immigration on the labour market outcomes of blue-collar native workers across locations. They find that an increase in the workforce due to the entry of immigrants at the local level lowers the average wage of natives. They also find a stronger negative impact for blue collar native workers from the construction sector. These results suggest that immigration mostly affects the wages of native workers who have the same skills as migrants, which is in line with the distributional effects highlighted by structural studies.

Although the average wage effect of immigration is modest, immigration seems to redistribute the income of native workers by lowering the wages of competing workers (who have skills similar to those of the migrants) and increasing the wages of complementary workers (who have skills that complement those of immigrants).

2.5 Empirical Evidence from Natural Experiments

The influx of immigrants into a country or an area is not independent of economic conditions and, therefore, should undermine our ability to identify the causal impact of immigration on the labour market. In order to capture this impact, some studies exploit migration episodes induced by political and historical factors in the sending country. The fact that they are independent of the economic activity of the receiving country means that these real-world situations (or natural experiments) can be viewed as exogenous to local conditions. Thus, they provide a unique opportunity to deal with the fact that immigrants generally self-select into areas or skill cells based on their economic outcomes.

Such natural experiments allow us to study the short-run effects of an abrupt and unexpected immigration shock, which should yield the greatest negative impact on natives. As compared to spatial studies, which probably capture medium- or long-run relationships between wages and immigration, unexpected migration episodes provide a unique opportunity to estimate the dynamic response of wages and employment to immigration.

The first study to exploit a natural experiment is the work by David Card (1990). He uses the Mariel boatlift that occurred in 1980 when Fidel Castro decided that Cubans who wished to emigrate could leave from the port of Mariel. Over 100,000 Cubans decided to move to Miami because of its proximity to Cuba, increasing the labour force of the city by 7%. These Cubans were mostly low-skilled, around 60% lacked high-school degrees, and just 10% were college graduates. To estimate the labour market impact of this particular supply shock, Card (1990) compares the evolutions in wages and employment in the period immediately following the supply shock to the evolutions of wages and employment in a set of control (and *a priori* similar) cities. He finds that the influx of Cubans in Miami did not affect the average wage and employment levels of non-Cubans.

The recent reappraisal of the Mariel evidence by Borjas (2017) indicates, however, that this particular supply shock decreased the wage earned by high school dropouts by 10% to 30%. This result is consistent with the fact that the Cuban migrants were disproportionately low-skilled. It is also in line with Borjas and Monras (2017) who correlate wages and immigration across area-education groups and find a negative estimate. However, Peri and Yasenov (2017) show that these results are sensitive to the inclusion of women and Hispanics in the wage sample to compute the average wage across local labour markets. By including women and non-Hispanics

in the wage sample, they indeed find that the Cuban migrants had no detrimental effects on the average and relative wages in Miami.[7]

Another very influential work on natural experiment is implemented by Jennifer Hunt (1992). She exploits the large influx of repatriates from Algeria to France after the Algerian War of Independence in 1962 to investigate the labour market consequences of immigration. The end of the war generated a massive, sudden and unexpected exodus of around 600,000 repatriates from Algeria to France. This influx increased the pre-existing workforce in France by 1.6% on average, and by up to 7% in some southern French regions. Hunt (1992) exploits the geographic clustering of repatriates and uses differences across local labour markets to identify their impact on the change in unemployment and wages between 1962 and 1968 in France. She finds that the inflow of repatriates increased the unemployment rate of non-repatriates by 0.3 percentage points and decreased the average level of French wages by 1.3%.

The study by Edo (2017) confirms the results by Hunt (1992) but, most importantly, shows that after 7 years local wages started their recovery and returned to their pre-shock level within a decade and a half. This result is consistent with Ruist and al. (2017), who exploit non-experimental US data to investigate the wage impact of immigration and find that local-level wages tended to returned to their pre-shock level after a decade. The recovery of local wages is consistent with economic theory, which predicts that immigration triggers various adjustments within and across localities that contribute to the recovery of local average wages. Capital accumulation, the adoption of new technologies and flows across localities, whether in labour, capital, or goods can dissipate the labour market impact of migration across the national economy. Edo (2017) also investigates the distributional consequences induced by the influx of repatriates across skill groups. Although regional wages recovered after 15 years, he finds persistent distributional wage effects. In particular, the skill groups that received the most repatriates were those where wages grew the least. The fact that repatriates disproportionately increased the supply of high-educated workers means that they contributed to the reduction of wage inequality between highly and poorly educated native workers over the whole period considered (1962-1976). These results are consistent with structural studies, which find that the distributional effects of immigration across skill groups remain in the long-run.

The wage dynamic identified in Edo (2017) is close to that identified by Cohen-Goldner and Paserman (2011) who investigate the adjustment of skill-specific wages (rather than local wage) in response to the massive flows of Jews from the former Soviet Union to Israel after the loosening of emigration restrictions in 1990 following the fall of Communism. More specifically, they rely on Friedberg (2001) who was the first to exploit the variation in immigration across occupations to study the impact of this mass migration on the Israeli labour market. They show

[7] The relevance regarding the inclusion of women and Hispanics is discussed in Borjas (2017). In particular, Borjas (2017) explained that their inclusion changes the sample composition over time, contaminating wage trends and biasing the estimated wage impact of this particular immigrant influx.

that occupational-level wages decline in the first year by 0.1- 0.3% in response to a 1% increase in the supply of workers, before returning to their pre-immigration level after 4 to 7 years. The result that Russian Jews had an immediate adverse effect on native wages differs from Friedberg (2001), who concludes that they had no detrimental wage and employment effects. It appears, however, that the empirical strategy used by Friedberg (2001) suffers from an econometric problem that is very likely to affect her estimations and conclusions (Cohen-Goldner and Paserman, 2011; Borjas and Monras, 2017).

Additional natural experiments have been exploited by literature on this topic. The fall of the Berlin wall gave rise to the repatriation of ethnic Germans from Eastern Europe and the former Soviet Union, as well as to a commuting policy in Germany allowing Czech workers to seek employment in eligible German border municipalities. While Glitz (2012) exploits the supply shock arising from the influx of ethnic Germans, Dustmann and al. (2017) use the supply shock coming from Czech workers. The latter study shows that this particular influx decreased local wage and employment levels between 1990 and 1993.

The study by Glitz (2012) exploits the fact that the German migrants arriving in Germany in the 1990s were not free to choose their place of residence, but were allocated to certain areas by the government in order to achieve a more even distribution of migrants across the country. By relating the change in skill-specific employment and wages in an area to the change in the relative size of its labour force over the 1996-2001 period, he finds no detrimental wage effects, but reports evidence of displacement effects. More precisely, he finds that for every 10 immigrants who find a job, 3.1 native workers lose their jobs. Glitz (2012) connects these findings with the lower labour market flexibility and higher costs of hiring and lay-offs that characterise Germany. A connection that is supported by Angrist and Kugler (2003) who exploit the inflows of refugees from the collapse of Yugoslavia between 1991 and 1992 in a set of European countries to investigate how rigidities in product and labour markets (e.g., business entry costs, employment protection, firing costs, replacement rates) can affect the employment of natives in response to immigration. For a panel of European countries, they find that the negative employment effect induced by immigration is exacerbated in countries with high rigidities.

Natural experiments are important to understand how labour markets respond to supply shocks, especially in the short-run, just after immigration has taken place. It is not clear, however, how these estimates can be generalised to expected migration contexts that occur at slower and more predictable rates and are largely driven by economic motivations. Given that they are likely to allow less time for adjustment, the measured wage and employment effects from unexpected episodes could be larger than for their expected counterparts (Peri, 2016).

2.6 Discussion

Several empirical studies find that the impact of immigration on average wages and employment is negligible or positive. However, because adjustments take time, particularly when immigration

is unexpected, the initial and longer run impacts of immigration can differ. As indicated by the studies exploiting natural experiments, the immediate impact of immigration on wages and employment can be negative depending on the speed of labour market adjustments to immigration. In many contexts, it seems that the length of time elapsing between an immigration inflow and the labour market adjustments is short, explaining why many spatial studies find that immigration has negligible average effects on native wages and employment.

Although the average wage and employment levels of native workers are generally unaffected by immigration, some specific groups are more vulnerable than others to the inflow of new immigrants. Theory predicts that the workers already in the receiving labour market who are the closest substitutes for immigrants are most likely to experience immigration-induced wage declines. Previous migrants are typically the closest substitutes for new immigrants, followed by natives who have similar skills to those of new entrants, who are more affected due to immigration.

Immigration can therefore create winners and losers among the native-born via changes in the wage structure. By affecting the skill composition of receiving economies, an immigration-induced increase in the labour supply can impact wage dispersion. For instance, low-skilled immigration is likely to increase wage inequality between highly and poorly educated native workers. It is not clear, however, how highly-skilled immigration can affect the wage structure in receiving economies. Unlike low-skilled migrants, highly skilled migrants can affect the overall productivity in receiving economies by bringing new skills and increasing the rate of innovation. Highly skilled migrants could therefore create positive externalities that affect long-run economic growth and generate gains throughout the economy (Peri, 2014).

3 The Fiscal Impact of Immigration

Compared to the extensive literature on the labour market impact of immigration, the studies looking at the relationship between immigration and public finances are more recent, especially those focusing on European countries. The main reason is the lack of reliable data on the tax paid and social benefits received by immigrants. This topic has emerged in Europe with the issue of population ageing. Is immigration a solution to the economic and demographic problems related to an ageing population and sectorial shortages in labour supply in many Europeans countries? Or can it be seen as a risk for countries' fiscal balances by putting additional strain on social spending, in view of immigrants' limited contributions to public revenues?

The studies on these issues use three distinct methodologies. Firstly, they explore the welfare magnet hypothesis, suggesting that immigration decisions are made on the basis of the relative generosity of the receiving nation's social benefits. Secondly, they evaluate the net instant

contribution of immigration to the public finances,[8] using a static accounting approach. Thirdly, they adopt a dynamic and intertemporal framework to measure the fiscal impact of migrants considering their entire life cycle.

3.1 Immigration and the Welfare Magnet Hypothesis

The first methodology is to evaluate the relative probability of an immigrant, compared to a native, of resorting to a social protection scheme[9]. The main goal of this approach is to assess the existence of residual welfare dependence: after considering the different observable attributes (age, gender, marital status, level of qualification...) between natives and immigrants, does the migrant status indicate significant differences in the probability of receiving social benefits? This dependence may reflect the fact that the generosity of social protection systems in the destination countries can induce adverse selection mechanisms: net beneficiaries are attracted (magnet effect) while net contributors are repelled (Borjas, 1999). The latter are expected to be attracted by states that offer lower welfare provision and, therefore, lower taxation. Studies that adopt this approach reveal relatively different results depending on the country considered, reflecting heterogeneity in social protection systems.

In the United States, even when differences in social and demographic characteristics of individuals are taken into account, immigrants depend on social assistance disproportionately compared to natives (Borjas, 1999). Indeed, even if earlier US studies show that immigrants families used social benefits less frequently than similar American families (Tienda and Jensen, 19786 and Jensen, 1988), if we take into account in-kind contributions (e.g., free medical assistance) in addition to monetary assistance, the greater dependence of migrants is no longer contested (Borjas and Hilton, 1996) and persists regardless of the duration of an immigrant's stay in a host country (Borjas and Trejo, 1992). More specifically, Borjas and Hilton (1996) highlight different levels of dependence according to the welfare programmes. The difference between immigrants and natives is not significant in the case of cash benefits, but it becomes significant when means-tested programs, like Medicaid, vouchers or housing subsidies, are taken into account. In this case, 14% of American households received assistance and this share rises to 20% for immigrant households. Borjas and Trejo (1992), focus on potential cohort and assimilation effects. They find that *(i)* the cost for the welfare system of an average immigrant family is 1.7 times higher than that of a native family, *(ii)* 1980 immigrants used the welfare system in a more intensive way than 1970 immigrants, and *(iii)* the intensity of benefits increases with duration of an immigrant's stay. This last finding of assimilation into the welfare system was also highlighted by Hu (1998). It can be explained by a better understanding of social institutions and

[8] The net contribution is the difference between the various levies, contributions and taxes they pay to public finances and the totality of benefits they received from them.

[9] This probability reflects the "dependence" on social protection.

the prevalence of legal restrictions in access to social programmes during the initial years of an immigrant's stay.

In Europe, the first significant study on the impact of immigrants on public finance is Brücker and al. (2002). The authors identify two groups of countries: Germany, Greece, Portugal, Spain and the UK in which differences in the welfare dependency rates are not significant; and Austria, Belgium, France, Netherlands and Nordic countries where welfare benefits among immigrants are significantly higher than in the case of natives. After controlling for socio-economic observations, the over-dependence (residual dependency) persists in this second group of countries, especially for unemployment benefits. More recent studies depart from this initial result. Boeri (2010) find no empirical evidence of this residual welfare dependency of immigrants in EU countries. Huber and Oberdabernig (2016), for 16 EU countries, show that immigrants (after controlling for individual attributes) tend to receive less social benefits than natives. More studies now focus on one specific European country. For Germany, Riphahn (2004) and Castronova and al. (2001) confirm the absence of a residual effect linked to migrant status. They both show that the higher welfare participation rates among immigrants result from socio-demographic characteristics, and are not related to immigrant status. The findings are equally clear in the case of Ireland and the United Kingdom, where immigrant populations appear to be less dependent on social protection (Barrett and McCarthy, 2008, and Dustmann and Frattini, 2014). In France, studies are still scarce on that topic, but demonstrate that, controlling for differences in observable characteristics (like family size and qualification level), immigrants still show a stronger tendency to receive unemployment and welfare benefits like basic guaranteed income (Chojnicki and al., 2010).

3.2 The Static Accounting Approach of Fiscal Impact

The second branch of the literature investigates the fiscal impact of immigration by using an accounting framework. The aim is to compare the benefits that immigrants derive from the public sector with their contribution to compulsory levies.

This static approach evaluates the fiscal impact at a given point in time (usually a year) of the total immigrant population, with people of different ages, different levels of qualification, different years of residence, etc. In other words, this approach seeks to quantify the fraction of public revenues and expenditures that can be attributed to different groups in the resident population of a country. Taxes and public benefits are very sensitive to individuals' age[10] and education. As a result, the decomposition of the population is not limited to distinguishing immigrants from natives. It also takes into account the age and qualification structure of immigrants and natives. At the individual level, the data from available microeconomic surveys make it possible to discriminate between the amount of the different taxes and public benefits

[10] Over two thirds of all public expenditure is age dependent (Storesletten, 2003), which explains why the age structure of immigrant population determines a large share of the outcome of the assessments.

by age, level of education and origin. Matching the size of the subpopulations to the previously calculated average individual amounts of taxes and public benefits gives the aggregate of these different contributions. These aggregates obtained from survey data are not equivalent to the corresponding macroeconomic amounts in the national accounts, meaning that a calibration procedure is necessary to restore the equality between them. Combining each of the adjusted (calibrated) average individual public benefits profiles by age (see Figure 3.1.a for an example on French data) with the corresponding size of subpopulation by age, and summing up, gives the total contribution of this considered subpopulation to public expenditure. Applying the same method to taxes (see Figure 3.1.a), and subtracting the total amount of taxes paid by the subpopulation to their total amount of public benefits, leads to the net contribution of this subpopulation to the public finances of the country.

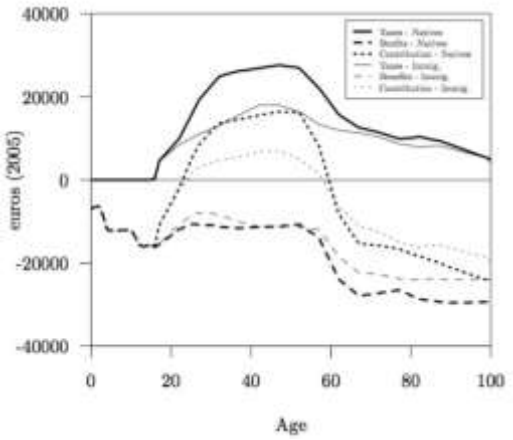
As seen above, the results from the static approach are sensitive to economic conditions, degree of generosity of social protection, weight of taxation, as well as the size, age structure, origins and education of the subpopulation considered. As for age, individual net contributions are very sensitive to the education level of immigrants (see Figure 3.1.b for an example using French data, where LS means low-skilled – without high school diploma- and HS means high-skilled – bachelor and post graduate levels). At the age of 45, the individual net contribution of a highly skilled individual is five times higher than that of a low-skilled person. Knowing that immigrants are not as qualified as natives[11], the educational structure of immigrants thus has a negative impact on public finances. This result can explain the adoption of selective migration policies for highly skilled migrants in many countries.

The results on how immigrants affect public finance also depend on the methodological assumptions made: for instance, the procedure of calibration to the national accounts data and the rule of attribution of the costs of pure public goods (to natives only, marginal cost method, or to everyone, average cost method). However, this accounting methodology suggests that immigrants are fiscally neutral (see Preston, 2014, for a review of recent literature).

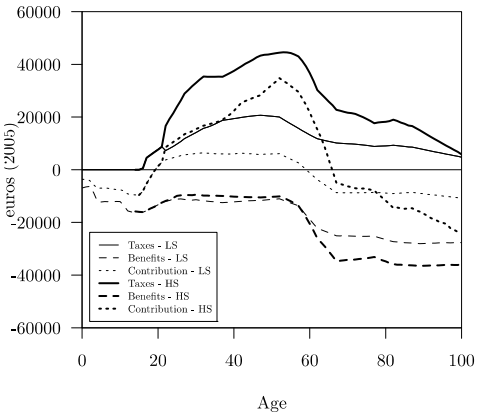
[11] In 2011 in France, 57.5% of immigrants were low skill, compared to 49.4% of natives.

Figure 3: Net Fiscal Contribution per Capita by Age and Education in 2011

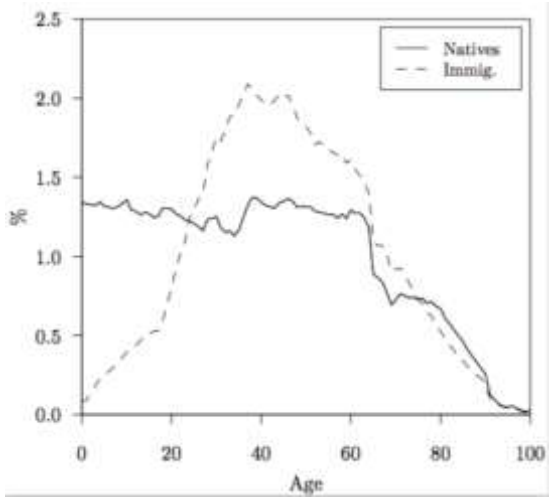
a) Fiscal Contributions by Age



b) Fiscal Contributions by Education



c) Age structure



(Source: Chojnicki and al., 2018)

Focusing on the immigrants and their descendants in the US in 1994 and applying this static accounting approach, Lee and Miller (1998) assess their total net fiscal contribution as USD23 billion (+0.35% of GDP).[12] Using the same methodology, Bonin (2006) also finds that immigrants positively impacted public finances in Germany in 2004, evaluating the average immigrant's per capita net fiscal contribution at €2,000. For the UK, Rowthorn (2008) assesses this small total positive immigrant contribution as £0.6 billion. For 2006, Chojnicki (2013) shows that the total net contribution of immigrants to French public finances was not negative, despite their over-representation in some segments of social protection. In that year immigration even had a positive (although very modest) impact on public finances (+0.2% of GDP). In accordance with previous national studies, Rowthorn (2008) points out that in developed countries the total net contribution of immigrants to public finances generally varies between ± 1% of GDP, depending

[12] They use the marginal cost method, the costs of pure public goods (defense, R&D…) are attributed to native only.

on assumptions and economic conditions. Using data for the years 2007-2009, the OECD (2013) finds an even smaller range of ± 0.5% of GDP for most of its member countries, with the exception of Switzerland and Luxembourg, where the net contribution of immigrants is close to 2% of GDP, and Germany, where, by contrast, immigrants are estimated to make a negative net contribution of -1.1% of GDP.

The relative fiscal neutrality of immigrants can largely be explained by significant differences in the age structure of natives and immigrants. Immigrants are overrepresented in the working-age population (see Figure 3.1.c for an example using French data), during which individuals irrespective of origin (native or immigrant) pay more taxes, levies and contributions than they receive in the form of benefits and public transfers. Their net contribution to public finances, the difference between contributions and benefits, is therefore positive (see Figure 3.1.a). The shares of both young and older individuals are relatively smaller in the immigrant population; and those are the two age cohorts during which collected amounts are more important than paid amounts. At the beginning and towards the end of their lives, individuals make a negative net contribution to public finances.

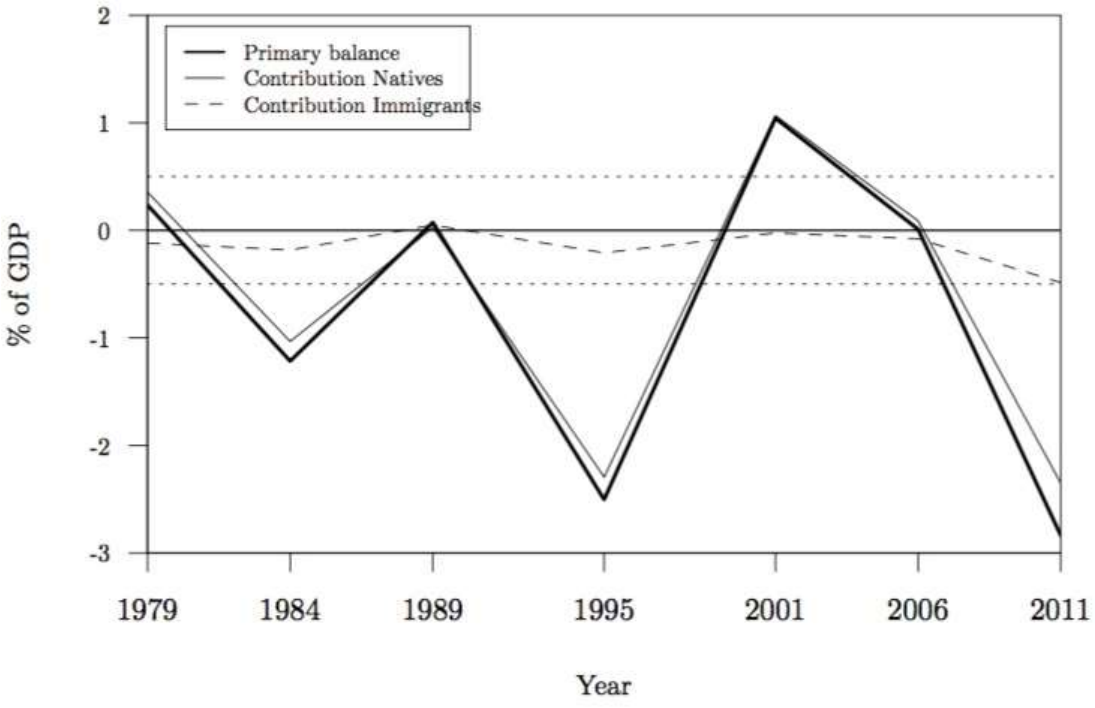
Most of the studies above conducted the accounting exercise for a single year. However, their results are sensitive to many factors, which explain why they vary across countries and over time. Dustmann and Frattini (2014) measure immigrant contribution to public finances in United Kingdom over a relatively long period (covering the years 1995-2011). They infer individual contributions using a preliminary econometric step that estimates differential probabilities (native vs. immigrant) of receiving public subsidies and paying taxes and levies. Another original aspect of their work was an explicit distinction between European immigrants and those from a third country. The reason for this distinction is understandable if one considers that the study was carried out at a time when the debate in the United Kingdom focused mainly on the economic impact of the substantial influx of immigrants from new Eastern European member states. They show that over the period examined (1995-2011), immigrants from the European Economic Area (EEA) made a positive net contribution, unlike those from non-European countries. They explain these differences by the larger household size of the latter and by their much lower employment rate. In addition, their results over the last decade (2001-2011) show that immigrants (whether they come from a European country or not) make a positive net contribution.

In the same spirit, the National Academy of Sciences (2016) conducted a similar exercise for the US. Its cross-sectional analysis for 1994-2013 reveals that, at all ages, the net fiscal contribution of the first generation of immigrants was, on average, less favourable than that of the second generation and natives (*i.e.* third-plus generations). Controlling for education and ethnicity eliminates a significant part of the difference between first and third-plus generation net contributions. This reduced net fiscal contribution of immigrants explains why, in 2013, their contribution to the total deficit (22.4%) was greater than their weight to the total population

(17.6%). This study also shows the sensitivity of the results to different assumptions about public goods. Under the assumption of a marginal cost allocation of public goods (allocate the costs of pure public goods only to native-born individuals), instead of the average cost (allocate these costs on a per capita basis over total population), this first generation group accounts only for 4% of the 2013 total deficit.

Chojnicki and al. (2018), using the same static approach, quantify the fraction of public revenues and expenditure that can be attributed to immigrants or natives in France over the 1979-2011 period. They show that the net contribution of immigrants is negative overall for the entire period, but remains relatively low (cf. Figure 3.2), contained within ± 0.5% of GDP (reduced to ± 0.2%, if we exclude 2011). Despite this negative contribution, the immigrant population cannot be held responsible for the primary deficit. Over these 30 years, immigration in France never determined the size and evolution of the primary fiscal balance. This finding is explained by a favourable demographic structure (Figure 3.1.c), which offsets their lower net individual contribution at any given age (Figure 3.1.a). After the 2008 crisis, this demographic compensation no longer operates, due to the huge deterioration in the individual net fiscal contribution by immigrants.

Figure 4: Contributions to the French Primary Balance (% of GDP)



(Source: Chojnicki and al., 2018)

Applying this approach to Denmark, Martinsen and Pons Rotger (2017) refute the welfare burden thesis associated with European immigration in this country over the years 2002-2013. They find that EU migrants made a significant positive net contribution to the Danish welfare state.

3.3 The Dynamic Approach of Fiscal Impact

The third approach, more ambitious but also more sensitive to model assumptions, abandons the static dimension of the accounting method in order to adopt a dynamic and intertemporal framework (the measurement of impact considering the entire life cycle of immigrants). The static accounting method shows that public benefits and taxes vary greatly by stage of life, which also reveals a limitation of this approach. As explained by Lee and Miller (2000): "such studies are easily misleading, because current US immigrant individuals are disproportionally of working age and consequently, pay more in taxes than they costs in benefits. Nonetheless, they will grow old and retire, and their future costs are not included; nor are their children included as costs or taxpayers. Calculations based on immigrant households are also highly misleading, because US-born children of immigrants count only while they live with their immigrant parents, but once they have matured into the labour force and head their own households, their tax payments are excluded"; leading to the recommendation of longitudinal studies. This was at first carried out by calculating the long horizon Net Present Value. This first dynamic approach was followed by Generational Accounting analyses, and more recently by the development of Dynamic Applied General Equilibrium Models. Contrary to the GA exercises, the DAGEM offer the advantage of evaluating the general equilibrium effects.

3.3.1 The Net Present Value Approach

This methodology expands the static accounting approach over time by projecting the net fiscal impact of immigrants and their descendants over their lifetime in the host country. The results of such forward-looking analysis are sensitive to assumptions made about uncertain future variables (the amount of taxes immigrants will pay over their lifetime, the public benefits that they will receive, how long they will live in the host country, the number of children they will have etc.). They are also highly sensitive to the discount rate used to determine the net present value for each category of immigrant. Generally these uncertainties are taken into account by examining the robustness of the results across a set of alternative scenarios.

Using this methodology, Lee and Miller (1997) have founded that the average new arrival in the US causes a significant fiscal gain of USD 80,000 (in present value terms). This result becomes a small fiscal burden of USD 3,000 if descendants are not taken into account. Three years afterwards, Lee and Miller (2000) concluded that immigrants in US have a negative initial fiscal impact (due to lower earnings compare to natives and schooling costs of their children). It is necessary to wait 16 years before this fiscal impact turns positive. They also show that the educational level of immigrants matters a great deal in determining their fiscal impact. Following these pioneering studies, Storesletten (2003) in Sweden and Monso (2008) in France allowed for an estimation of the *net present value* of different generations of immigrants over their whole life cycle for two European countries. According to Storesletten (2003), the average new immigrant makes a negative net present contribution. His results are very sensitive to the assimilation of immigrants into the host-country labour market. He estimates the "break-even" employment

rate (rate for which the net contribution would be zero) to 60% (below the empirical rate for new immigrants). Monso (2008), adapting the Storesletten method to the case of France, finds a negative net fiscal of new entrants (between the previous value estimated for Sweden[13] and US). He also shows that younger and better-qualified migrants could lead to a positive contribution.

3.3.2 Generational Accounting Analysis

The Generational Accounting approach was carried out in order to study the impact of a change in migration policy on the average fiscal burden borne by different cohorts. It is based on the Net Present Value methodology, to which it adds the government's intertemporal budget constraint (a deficit ultimately needs to be paid for by resident taxpayers). In addition to the various assumptions required by the NPV approach mentioned previously, the results of the GA are also heavily dependent on how the generational imbalance will be addressed. The measure of the fiscal impact of immigrants is now measured by how the fiscal burden of future natives is modified by the arrival of new immigrants (and their descendants). This approach, applied to the fiscal contribution of immigrants, was pioneered by Auerbach and Oreopoulos (2000).

This initial study simulates a scenario in which no additional immigration takes place after 2000, and shows that such massive change in immigration policy has only small fiscal effects. The strength and signs of the fiscal impact depend on the extent to which the existing fiscal imbalance will be divided between recent and future generations. The results of studies differ depending on whether they refer to the United States (Auerbach and Oreopoulos (2000)) or to European countries (see, for example, Bonin and al. (2000) Germany, Collado and al. (2003) for Spain, Mayr (2005) for Austria or Chojnicki (2013) for France).

Bonin and al. (2000) find that immigrants yield a small positive net contribution to the German public finances. An annual net influx of 200,000 immigrants reduces by over USD 68,000 per capita the present value of native lifetime taxes. Collado and al. (2003) also conclude, using this GA methodology, that immigration has a positive and significant impact on the Spanish welfare system. The fiscal burden on future natives is dramatically reduced by an increase in the inflow of immigrants: in a scenario with 200,000 immigrants per year, this per capita burden is reduced by 18.7% compared to a scenario with 60,000 immigrants. Mayr (2005), under the assumption of unchanged structure by age and fiscal characteristics of future immigrants, finds a positive fiscal effect of immigration for Austria. Chojnicki (2013), with a similar set of assumptions, concludes to a negative average life cycle contribution of immigrants in France in 2005 (EUR -8,700). However, perpetual arrivals of individuals in working-age, combined with the net contribution of their descendants, explain the slightly positive total fiscal impact of immigration in this country.

In fact, studies carried out on European countries suggest that immigration has a positive and significant effect on the intertemporal public budget, while its impact is relatively weak in the

[13] These results are not directly comparable, since unlike Storesletten, Monso doesn't allocate the contribution of immigrants' descendants to their parents.

case of the United States. The reason for such seemingly contradictory results across countries is essentially the far more pronounced process of demographic ageing in Europe than in the US.

3.3.3 Dynamic Applied General Equilibrium Models

Over the same decade (2000-2010), Dynamic Applied General Equilibrium Models have been applied to study the effects of macroeconomic closure, absent from previous analyses. The evaluation results of the fiscal consequences of immigration depend on the scope of selected effects. Most studies focus on the first-order net fiscal (direct) impact of immigration and neglect the second-order (indirect) impact. As described in Section 2 on the labour market effects of immigration, the entry of new workers affects the productivity of production factors, and hence wages and returns on physical capital. Immigrants are generally less skilled than natives; their arrival may cause downward pressure on the wages earned by low-skilled native workers (redistribution between workers) and increases the pressure on them to acquire new skills. Through its impact on wages, interest rates and taxation, immigration induces indirect effects on natives' choice of labour supply, human capital investment and saving. All these general equilibrium effects involve an infinite sequence of perturbations on the demand and supply of factors that can reinforce or attenuate the direct fiscal impact. Consumption can also be a channel of indirect effects. The first-order (direct) fiscal impact approach, used in the Net Present Value and Generational Accounting analyses, assumes that wages, labour opportunities (e.g., probability of employment), consumption and savings (etc.) are not affected by massive changes in migrant inflows. All of these variables, however, directly affect the tax base and (or) the amount and likelihood of immigrants and natives receiving welfare benefits. Consequently, these studies only include the demographic changes, but not the induced economic changes (and hence the fiscal characteristics of immigrants and natives) in their assessment. Only Dynamic Applied General Equilibrium Models can address direct and indirect effects simultaneously. Static account approach, Present Net Value and Generational Accounting are partial equilibrium analyses in the sense that they only evaluate direct fiscal effects.

General equilibrium approaches aim to deal more globally with the question of the impact of immigration on the public finances of host countries, and have extended their analysis to the question of the potential role of immigration policies given the challenges posed by demographic ageing (Storesletten (2000), Fehr and al. (2004), Chojnicki and al. (2011) and Chojnicki and Ragot (2016)).

Storesletten (2000) extends the Auerbach and Kotlikoff (1987) modelling approach to investigate the fiscal impact of immigration policies in the US. He takes into account the heterogeneity of skill among immigrants and evaluates the net present value of a poorly skill immigrant to -36,000 dollars, compared to +96,000 dollars for a highly skilled immigrant. He shows that even although immigrants initially represent a net cost to US public finances, this cost is smaller than the initial cost of a newborn native, and concludes that immigrants aged between 20 and 40 years old have a beneficial impact from a fiscal perspective. A selective immigration policy, involving an annual

increase of 1.6 million 40-44-year-old highly skilled immigrants, could resolve the fiscal problems associated with the ageing of the baby boom generation in the US. Using a three-region (US, Japan and EU) dynamic overlapping generations general equilibrium model, Fehr and al. (2004) reach a relatively similar conclusion. If immigration is expanded, with the same skill distribution as that of current immigrants, it makes no difference to the fiscal burden of population ageing. Only a massive increase in highly skilled immigration could have a significant positive effect on public finances. Chojnicki and al. (2011) look at the post-war (1945-2000) immigration to the US. They find that the post-war flows of migrants were beneficial for all cohorts of natives and for all skill categories. These results come from a large positive fiscal impact and the moderate labour market impact of immigration. The younger age structure of immigrant population and their higher fertility rates more than offset the fact that they tended to be less educated than natives and demonstrated higher welfare dependence. The post-war immigration, compared to the no-immigration scenario, has helped to reduce the share of public transfers in GDP by 0.3 percentage points. Chojnicki and Ragot (2016) show that immigration positively affects French social protection finances. Without net migration after the year 2010, the financial need for social protection at the end of the century would increase by 2 percentage points of GDP. These benefits from immigration are mainly explained by the age structure of net flows, younger than the French population as a whole. For similar reasons, a more ambitious migration policy (with unchanged age and qualification structures) would contribute to reducing the tax burden related to the ageing of the French population. Nevertheless, the financial gains are relatively moderate compared to the demographic changes it implies, namely a fiscal burden reduction of between 20% and 30% depending on the selectivity degree (operating on the skill) combined with an increase of the working age population of between 16% and 20% and an immigrant share that will double by the end of the century. An immigration policy favouring highly skilled workers can magnify those gains in the short- and medium-term, while reducing demographic changes, but in relatively low proportions. Most importantly, this improvement is only temporary. In the long-term, demographic changes of a more selective immigration policy outweigh its positive effects compared to a non-selective policy, due to the fact that skilled migrants have lower fertility rates and a longer life expectancy.

3.4 Discussion

The outcome of the static studies seeking to assess the effects of the immigrant population on public finances depends largely on the time period considered, assumptions on what to retain and to exclude from calculations, the public services defined as pure public goods, and the demographic unit (individuals or households). The estimated impact, positive or negative according to the studies, always remains at a moderate level. A fairly similar result is obtained for its impact on the labour market.

A dynamic approach, based on the entire lifespan of immigrants and their descendants, yields no detrimental or positive effect of immigration on public finance. These findings are mainly

explained by the fact that new arrivals are younger than natives and concentrated in working age groups that make a positive net fiscal contribution; although the net contribution to public finance of immigrants is lower than that of natives of a similar age. The fact that most migrants belong to the working-age population means that immigration is not a burden to public finances in most developed countries. In fact, more ambitious migration policies can reduce the tax burden induced by the ageing of the population in host countries. Moreover, the higher the selectivity of a policy favouring highly skilled migrants, the greater its fiscal beneficial effect is likely to be. However, while such ambitious and selective migration policy can reduce the fiscal burden, it will not be sufficient to prevent it.

4 Immigration, Political Preferences and Attitudes

This section gives a broad overview of the economic literature on diversity, immigration and preferences. We begin by presenting evidence on the balance between economic versus cultural concerns about immigration. We then turn to the literature on diversity and preferences for redistribution, before outlining how economic and cultural concerns may translate into actual voting behaviour. In the last part of this section, we look at very recent evidence on determinants of attitudes towards asylum seekers in Europe.

4.1 Disentangling Cultural versus Economic Factors in Attitudes towards Immigration

When immigrants enter a country, they change the composition of the population and may impose externalities (positive or negative) on the host society. As we have seen in the two last sections, these externalities include both wage and fiscal consequences. Another externality is the effect on the cultural, racial, religious or ethnic composition of the host country, which impacts natives' preferences for "cultural amenities" of their neighbourhood or co-workers (Card and al. 2012). Hence, natives favour or oppose immigration for two main reasons: economic and/or cultural concerns.

Several studies try to quantify the balance between the two dimensions, drawing from the European Social Survey (ESS), the British Social Survey, the German Socio-Economic Panel, and the US Employee Survey. These surveys include a battery of questions on individual-level characteristics, such as age, gender, education, occupational status, etc. and attitudinal questions on preferences over political parties, attitudes about immigration and other values and norms. Most of these studies find that cultural concerns are the main driving force behind the scepticism towards immigration; and that fiscal or labour market concerns only play a secondary role.

In a study on racial and economic factors in attitudes to immigration, Dustmann and Preston (2007) differentiate between three channels that determine attitudes to further immigration: *(i)* labour market, *(ii)* fiscal concerns and *(iii)* racial or cultural concerns. Using a unique feature of the British Social Survey, the authors can distinguish between attitudes towards immigrants from different origin countries and do not have to rely on a general question about immigration. This means that they can carefully assess the cultural concerns over immigration by looking at the "cultural distance" between origin and host country. In the economic domain, the authors find that fiscal concerns are more important in determining attitudes to immigration than labour market concerns. They also conclude that racial or cultural prejudice is an important determinant of attitudes towards immigration; but this is restricted to immigration from countries with ethnically different populations. As a result, preferences over compositional amenities become more salient than fiscal concerns when considering migrants that are ethnically very different from the host population.

In a subsequent study, Card and al. (2012) measure the relative importance of economic and cultural concerns in driving opinions about immigration policy in a cross-country setting in Europe. They use ESS questions on the perceived labour market and social impact of immigration, as well as on the desirability of increasing or reducing immigrant inflows. The authors find that compositional concerns are 2–5 times more important in explaining variation in individual attitudes toward immigration policy than concerns over wages and taxes. Likewise, most of the difference in opinion between more- and less-educated respondents is attributable to heightened compositional concerns among people with lower education.

A standard approach to measuring the economic sway in attitudes towards migration is to look at natives who are more likely to be substitutes for immigrants on the labour market. The basic idea is that in a world where employees compete over jobs and wages, low-skilled workers should be worried about low-skilled immigrants and highly skilled workers should be more worried about highly skilled immigrants. Consequently, in the absence of preferences over cultural amenities and in the presence of only fiscal or labour market concerns, low-skilled workers should not oppose highly skilled immigrants and vice versa. However, this does not emerge from the literature on the subject. For instance, using data from the 2005 and 2010 waves of the German Socio-Economic Panel, Poutvaara, and Steinhardt (2015) find that bitterness in life is strongly associated with concerns over immigration. The authors measure bitterness in life with the survey question "Compared to other people, I have not achieved what I deserve." They show that this effect cannot be explained solely by labour market concerns. Instead, it appears that people who feel that they have not got what they deserve in life "oppose immigration for spiteful reasons". Similarly, studies by Hainmüller and Hiscox (2007), Hainmüller and al. (2015), Facchini and Mayda (2009), Davis and Deole (2015) all confirm that the labour market competition hypothesis is not the main determining factor in attitudes towards immigration. Instead, a large component of the link between education and attitudes toward immigrants is driven by differences in cultural values and beliefs between individuals. More educated

respondents are significantly less racist and place greater value on cultural diversity than their counterparts; they are also more likely to believe that immigration generates benefits for the host economy as a whole (Hainmüller and Hiscox, 2007).

4.2 Immigration and Preferences for Redistribution

Immigration can affect preferences for redistribution through both fiscal and cultural concerns. On the one hand, the most obvious cultural channel is group loyalties and relates to group formation: the willingness to redistribute increases in the share of an individuals' own ethnic or cultural group in a community and decreases when other groups grow in size (this holds in particular for groups of welfare recipients). This literature largely refers to the US context. Since racial or ethnic divisions in Europe are generally rather low, it is not clear whether the phenomenon of group loyalty can be transferred to the European context. Another component of the cultural dimensions is a simple preference effect. Native citizens may derive utility (or disutility) from the mere presence of immigrants, or from a more diverse set of immigrants. This preference effect may be stronger for more educated native citizens due to "educated preferences" of such individuals (Hainmueller and Hiscox, 2007). A second possible channel relates to the fiscal concerns and more specifically labour market concerns. When immigrants enter the labour force and compete with native workers, their additional labour supply may increase native workers' perceived risk of downward income mobility. Native workers are likely to demand more redistribution to insure against this risk. To summarise, the demand for redistribution largely depends on two factors: firstly, if the individual thinks she benefits from an income transfer scheme and secondly, if she regards the other beneficiaries of the scheme as worthy recipients of support.

We briefly review the literature on attitudes to redistribution, with an emphasis on the recent empirical evidence for European countries. The economic component can be modelled following Meltzer and Richard (1981). Their seminal model predicts that a voter demands income redistribution if her income lies below the average. Benabou and Ok (2001) develop a more advanced model, incorporating people's "prospect of upward mobility". Their theory explains why voters with sub-average income often do not want more redistribution, since they rationally expect to lie above the average in future. This social mobility hypothesis performs much better empirically, as tested for example, using German and US data by Corneo (2001) or for the OECD by Corneo and Grüner (2002). Alternative models assume that people infer on the future through their experience of past income mobility (Piketty, 1995). Since subjective assessments of social mobility can be biased, Alesina and La Ferrara (2005) further develop objective measures of income mobility. They find that an individual's predicted probability of reaching at least the 7th decile in the US income distribution clearly lowers her demand for redistribution.

In addition to these economic arguments, cultural and demographic factors also matter. Older people and women are known to demand more redistribution, more educated people do so

much less, even conditional on income. Compared with atheists, religious people in the US support redistribution largely irrespective of religious affiliation (Alesina and Giuliano, 2010), but these results do not hold in experimental contexts (Fong, 2001). Besides religion, general beliefs about the poor elicit strong responses in terms of support for redistribution. Americans who believe that economic success in life depends more on their own hard work than on luck or fate are less willing to support the poor (Alesina and La Ferrara, 2005). These beliefs can be the result of indoctrination. Alesina and Fuchs-Schündeln (2007) use the natural experiment of German unification and show that former East-Germans, especially older age cohorts, have a relatively higher preference for state intervention and income redistribution. Such beliefs are also remarkably stable. Using data from the European Social Survey, Luttmer and Singhal (2011) show that first and even second-generation immigrants from countries with more positive general attitudes to redistribution largely maintain their preferences in their new social environments.

Focusing on the European case, Alesina and al. (2014) analyse the effect of immigration on attitudes to redistribution in 28 European countries based on the European Social Survey. The authors find that native workers lower their support for redistribution if the share of immigration in their country (or occupation) is high. This effect is larger for individuals who hold negative views regarding immigration, but smaller when immigrants are culturally closer to natives and come from richer origin countries. The authors show that the effect also varies with native workers and immigrants' education. In particular, more educated natives (in terms of formal education, but also job-specific human capital and occupation task skill intensity) support more redistribution if immigrants are also relatively educated. This is in line with findings on the economic versus cultural determinants in attitudes towards migration described in the previous section. The authors conclude that the threat to the welfare state in Europe depends on the education and skill structure of the European population, as well as on the quantity, quality, and diversity of future immigration flows.

A study by Dahlberg and al. (2012) aims to establish a causal link between ethnic diversity and its inhabitants' preferences for redistribution in Sweden. The authors exploit a nationwide program for placing refugees in municipalities throughout Sweden during 1985–94 and match data on refugee placement to panel survey data on inhabitants of the receiving municipalities. The authors find that increased immigration has significant negative effects on support for redistribution. The effect is especially pronounced among high-income earners, since they are net-contributors to the social welfare system and care more about who this money goes to once the ethnic diversity in their community increases, as the authors argue. However, the results found in Dahlberg and al. (2012) were contested in Nekby and al. (2017). The authors find that the results in Dahlberg and al. (2012) are based on an unreliable and potentially invalid measure of preferences for redistribution, an endogenously selected sample and a mismeasurement of the refugee placement programme. Correcting for any of these three problems, Nekby and al.

(2017) claim that there is no evidence of any relationship between ethnic diversity and preferences for redistribution.

This contested result illustrates that drawing any causal inference in the case of immigration and preferences for redistribution is rather difficult because selection and sorting into and out of diverse neighbourhoods cannot be ruled out in most cases. This is a general problem when trying to establish causal links between immigration and attitudinal outcomes, as there are very few settings (policy experiments or natural experiments) that allow for a clean empirical analysis.

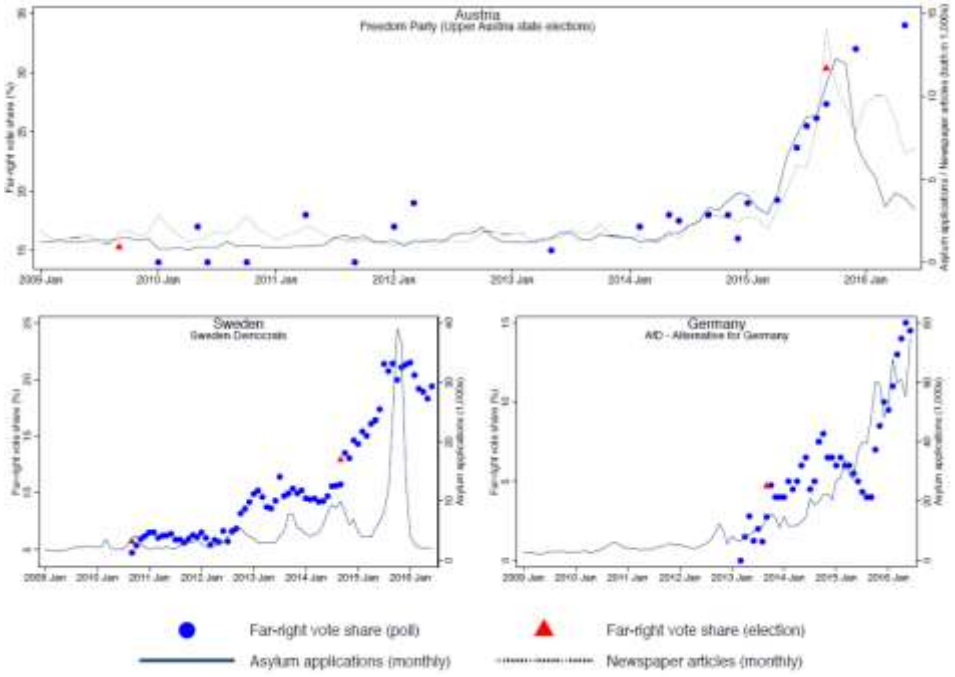
4.3 Immigration and Extreme Voting

Political parties base their campaigns on policy platforms that present their ideal version of the social contract. This also includes the design of the welfare system and redistributive policies, where they define who can profit and who is excluded from those benefits. In their ambition to garner votes, emerging parties at the political extremes are able to exploit the uncertainty that comes with the influx of migrants into a country, both in economic and cultural terms.

While the literature on attitudes towards immigration and policy preferences is quite expansive, it is only very recent that researchers in economics have started to focus on establishing causal links between immigration and electoral outcomes (as a revealed preference for attitudes towards migration). The analysis of attitudes towards migration and preferences for redistribution relies on survey data, which is subject to the usual pitfalls that come with self-reported outcomes (misreporting, attrition, etc.). Using electoral outcomes as a measure for policy preferences and attitudes is a useful complement to the existing literature and has been applied to various local and national contexts in the last years. The literature on links between immigration and extreme voting in Europe focuses on two main settings: i) emigration from emerging economies and other European countries (for instance, at times of accession of new members to the Schengen space) and ii) the influx of asylum seekers in recent years.

The below figure from Steinmayr (2017) illustrates for Germany, Sweden, and the state of Upper Austria) how asylum applications relate to support for far-right parties over time. While these graphs do not say much about causal links, they do reveal that there is a correlation between the inflow of asylum seekers and support for parties at the extremes of the political spectrum.

Figure 5: Number of Asylum Applications and Support for Far-right Parties in Europe



(Source: Steinmayr 2017)

Becker and Fetzer (2016) exploit the 2004 accession of 8 Eastern European countries (plus Cyprus and Malta) to the European Union as a natural experiment to analyse how intra-European labour mobility has impacted votes for the UK Independence Party[14]. The authors document that following the accession at least 1 million people (ca. 3% of the UK working age population) migrated from Eastern Europe to the UK. This is significantly higher than the 2004 immigration to other countries, as the UK did not follow many other incumbent EU countries in imposing temporary restrictions on labour mobility. The analysis shows that places in the UK that received large numbers of migrants from Eastern Europe saw a significant increase in anti-European sentiment, measured by vote shares for the UK Independence Party (UKIP) in elections to the European Parliament. The authors attribute this result to the economic and fiscal effects of immigration, for instance, depressed wages at the lower end of the wage distribution and increased pressure on public services and housing.

In addition to papers that exploit natural experiments, such as the Schengen accession, there are a few analyses that use an Instrumental Variable approach to account for a potential selection of immigrants into and out of certain neighbourhoods. These analyses typically use past migrant networks (past settlements) as predictors for future migration flows. This so called “shift-share” instrument is a popular (but imperfect) tool among migration researchers for establishing a causal link between migration and the outcome of interest (in this case: electoral outcomes).

[14] Other papers have exploited the 2004 accession of 8 countries to the Schengen space to look at the causal links between immigration and other outcomes (Giuntella and al. Silva (2015))

Despite the limits of this empirical strategy, it may be useful to consider the results yielded as they may confirm or contradict the results found in other empirical analyses.

Otto and Steinhardt (2014) focus on local districts in Hamburg in the period 1987 to 1998 in which the city experienced substantial inflows of immigrants and asylum seekers. The authors show that an increase in the share of foreigners contributes to the electoral success of parties with a distinctive stance on immigration politics. They also find a negative association between rising concentrations of immigrants and electoral support for the Green party, which was the only major party promoting liberal immigration and asylum policies during this time. In terms of the balances between fiscal concerns and local amenities, the authors say that, given the nature of their data and the legal situation in Germany, it is unlikely that political and labour market factors were important driving forces behind their results. Instead, natives' concerns about negative externalities for childcare and schooling, *i.e.*, compositional amenities, played an important role in shaping electoral support for anti-migration parties.

There are three studies that look at the impact of immigration on election outcomes in Danish municipalities (Dustmann and al., 2016, Gerdes and Wadensjö, 2010; Harmon, 2017). Interestingly, each of these studies employs a different empirical strategy, ranging from the shift-share instrument mentioned above to exploiting the quasi-random assignment of refugees to different municipalities in Denmark. All of these studies propose a positive causal link between immigrant shares and votes for anti-immigration parties. Dustmann and al. (2016) find heterogeneity in the sense that a larger share of refugees increases the vote share of anti-immigration parties in rural municipalities, but has the opposite effect in urban municipalities. As a potential explanation the authors propose that “the anti-immigration parties’ rhetoric does not entice urban voters”. They also find that anti-immigration parties also base their decision on where to run in municipal elections on refugee allocation, thus providing some evidence that migration not only influences political demand, but also supply.

Other studies on the effect of a higher share of immigrants in a municipality on the vote shares for parties at the political fringes, such as the center-right coalition in Italy (Barone and al. 2016), the Front National’s Party in France (Edo and al. 2017), the Swiss People’s Party (SVP) in Switzerland (Brunner and Kuhn, 2014), and the Freedom Party (FPÖ) in Austria (Halla and al. 2016) confirm previous findings that municipalities with higher immigrant shares also show higher support for right-wing parties. Halla and al. (2016) suggest that voters worry about the adverse labour market effects of immigration, as well as the quality of their neighbourhood. The impact on compositional amenities tends to be more direct and they find that in municipalities with more immigrants, Austrian children commute longer distances to school, and fewer day-care resources are provided.

While all of the above studies look at waves of immigration prior to the recent influx of asylum seekers into Europe, Steinmayr (2017) studies Austrian state elections in September 2015 when the number of incoming asylum seekers from the Middle-East and Africa to Austria was peaking

and the public debate over the refugee situation overshadowed all other issues. Overall, the far-right Freedom Party doubled its vote share in these elections and the timing of this increased support suggests that the refugee situation had an overall positive effect on support for the Freedom Party. At the time of the election, 42% of Upper Austrian municipalities accommodated refugees. While the full population was exposed to the refugee situation via (social) media and political rhetoric, voters in these municipalities were exposed to refugees more directly. This distinction makes it possible to separate the effects of macro-exposure from the effects of micro-exposure. The author uses pre-existing accommodations suitable for hosting larger groups (e.g., retirement homes or student housing) as an instrumental variable to address the problem of potential selection of immigrants and natives into and out of certain municipalities. The author shows that these buildings were built for purposes other than hosting refugees; and that their existence should thus be unrelated to changes in attitudes towards refugees. However, spare capacity in such buildings was used when the numbers of refugees arriving sharply increased in 2014 and 2015. The existence of these buildings thus strongly increased the probability that a municipality received refugees and can therefore serve as an instrument for exogenous variation in exposure to refugees.

In contrast to previous findings in other settings, Steinmayr (2017)[15] shows that hosting refugees in a municipality dampens the positive overall trend in support for the Freedom Party by 3.45 percentage points. However, exposure to a large number of refugees passing through border municipalities on their way to Germany increased the Freedom Party vote share by 2.7 percentage points in these municipalities. The author proposes that the intergroup contact theory put forward by Allport (1954) may drive these results. According to this theory, contact between an in-group (*i.e.*, the native population) and an out-group (*i.e.*, the refugees) reduces prejudice if the following features characterise the contact situation: firstly, *equal status* of the groups in the situation, which means that the two groups are equally engaged in the relationship and ideally have similar backgrounds and characteristics. Secondly, the groups work together on *common goals*, which can only be achieved in cooperation. Thirdly, *intergroup cooperation,* the common goals should not be achieved in competition, but only in cooperation with the other group. Fourthly, *personal interaction* with cross-group members. Lastly, *support of authorities*, law, or custom, which implies that all group members respect the authority of the entity that supports the contact between the groups.

These findings have two policy implications: firstly, the type of exposure to immigrants is a major determinant in the formation of attitudes towards migrants and subsequent extreme voting. Secondly, there may be differences in the way recent asylum seekers and migrants from previous immigration waves are perceived. We will turn to the attitudes of Europeans towards asylum

[15] **Steinmayr (2017) supersedes an earlier version of the paper (Steinmayr 2016).**

seekers in the next section, but let us first analyse their implications for the types of exposure to immigrants.

In the Austrian setting, the situation in municipalities that accommodated refugees to some extent resembles the features of the Allport intergroup contact theory. Local authorities and NGOs actively facilitated interactions between natives and refugees. Many municipalities introduced the refugees to the population in official local papers and held welcome events to introduce refugees and natives to each other. Volunteers acted as role models for the interaction with refugees, thus facilitating indirect contact. Competition for local economic resources was also limited. Refugees were not permitted to work until their asylum application was approved. They stayed in organised accommodation and did not compete with natives for real estate. Financial assistance for refugees was funded from the state budget. Thus, municipalities hosting refugees did not experience significant fiscal effects. On the contrary, the situation in municipalities at the border barely permitted direct and indirect contact between natives and refugees, since the refugees only stayed for a few hours before continuing their journey. Intergroup contact theory postulates that the former situation ought to improve attitudes towards refugees, which would be reflected in less voting for a far-right party. In the latter situation – characterised by micro-level exposure without contact under rather chaotic circumstances – we would expect no or even the opposite effect. Consequently, establishing and facilitating first-hand neighbourly interactions between refugees and locals, seems to have very different effects than segregated exposure without active interaction.

The observation that the type of exposure to refugees is a major determinant for the subsequent formation of attitudes towards refugees is confirmed by Hangartner and al. (2017). Steinmayr (2017) shows that neighbourly interactions lead to favourable outcomes towards refugees, while exposure to refugees in large groups and in transition provokes unfavourable opinions. This finding also translates from the Austrian to the Greek setting, where we can also observe large flows of refugees that only pass through Greece in transit and therefore do not engage in interactions with the host population. Hangartner and al. (2017) exploit a natural experiment in the Aegean Sea, where Greek islands close to the Turkish coast experienced a sudden and massive increase in refugee arrivals, while similar islands slightly farther away did not. Based on a targeted survey of 2,070 islands residents, the authors find that immediate exposure to large-scale refugee arrivals induces sizeable and lasting increases in natives' hostility toward refugee, immigrant and Muslim minorities; support for restrictive asylum and immigration policies; and political engagement to affect such policies. Dinas and al. (2017) show that the same exposure also increased support for the extremist Golden Dawn Party.

4.4 Attitudes towards asylum seekers

The recent influx of asylum seekers to the European Union is unprecedented. Drawing comparisons between previous waves of immigration and the current situation is inadequate in

three key respects: it fails to account for the scope, composition, and involvement of many EU member states at the same time (the first entry countries, transition countries, and preferred destinations). In 2015, over 1.3 million asylum claims were registered in the EU, with the vast majority of refugees coming from the Middle East. Many countries were affected by the influx of refugees, starting with some Mediterranean countries like Greece and Italy, extending to transition countries such as Hungary and ultimately affecting the most desired destinations, namely Germany and Sweden. Host countries faced a major challenge: how to honour international agreements (e.g., UN treaties and EU law) to process asylum claims and provide shelter while simultaneously respecting the preferences of domestic voters. At times, these two dimensions clash and policy makers had to face trade-offs between international obligations and domestic political pressure. In order to understand what the potential lines of conflict are, we first need to analyse voters' attitudes towards asylum seekers in specific cases, as opposed to attitudes towards migrants in general, which was the principal subject of analysis in economic research prior to 2015.

Bansak and al. (2016) conduct a survey of 18,000 eligible voters in 15 European countries to analyse what types of asylum seekers Europeans are willing to accept. The survey experiment presented voters with different hypothetical profiles of asylum seekers that randomly varied on nine attributes; and a total of 180,000 profiles were presented. The authors find that those asylum seekers who are more employable, have more consistent asylum testimonies and severe vulnerabilities, and are Christian rather than Muslim received the greatest public support. Bansak and al. propose that public preferences over asylum seekers are shaped by sociotropic evaluations of their potential economic contributions, humanitarian concerns about the deservingness of their claims, and anti-Muslim bias. As touched upon in Section 2, there seems to be a balance between economic/fiscal concerns and compositional amenities for asylum seekers, too, although humanitarian components seem to play a more dominant role than in questions about migration in general. Voters strongly oppose the acceptance of refugees if they immigrate for economic reasons. But they are very likely to be favourable towards the acceptance of a refugee who has been victim of torture in the origin countries, or is very vulnerable in any other dimension (such as handicapped or no surviving family). The authors show that these preferences are similar across respondents of different ages, education levels, incomes, and political ideologies, as well as across the surveyed countries. This is rather surprising compared to surveys in previous years that show major differences in support for refugee accommodation across education and income. However, the authors primarily look at the *change* in the probability of acceptance by refugee characteristic and show that the changes are similar, rather than making sweeping claims about general acceptance levels across income, age or educational groups.

In a similar fashion Stöhr and Wichardt (2016) look at the opinions of Germans towards refugees, where respondents are asked about their attitude towards a Syrian refugee, described in different ways in various domains. The authors find that once the refugee is described as being

aware of, as well as open towards concerns in the German population, reported levels of sympathy and trust increase substantially. This awareness among refugees includes consciousness of cultural change, arising costs and increasing violence. Stöhr and Wichardt argue that the context (identity and individual characteristics) with which refugees arrive is important to host populations' attitudes towards of refugees.

Bansak and al. (2017) use the same experimental survey setting as in Bansak and al. (2016) to investigate which EU refugee allocation system voters in Europe prefer. The authors show that the majority of respondents support an allocation that is proportional to each country's capacity over the status quo policy of allocation based on the country of first entry. The majority of respondents even maintain their preference for a proportional allocation even when made aware that shifting to proportional allocation would increase the number of asylum seekers allocated to their own country. Consequently, the trade-off between international responsibility sharing and domestic voter preferences is not necessarily as big as we may think. Respondents in some countries (e.g., Czech Republic, Poland, and the United Kingdom) move from a favourable to an unfavourable response to a proportional system once they are made aware that this would mean an increase in the inflow of refugees into their countries. However, the majority of countries (12 other countries) still favour a proportional system, even if this means an increase in asylum seekers. The authors propose that these results suggest that citizens care deeply about the fairness of the responsibility-sharing mechanism, rather than just the consequences of asylum policy. The findings also highlight a potential pathway towards reform of the Common European Asylum System.

4.5 Discussion

Over the last two decades, researchers in economics have started to analyse the impact of diversity on various dimensions of social cohesion like trust, public goods provision, preferences for redistributive policies and political polarization. The vast majority focuses on racial diversity in the United States and the literature for Europe is concentrated mainly on immigration outside of the refugee context. While we can draw some parallels between previous analyses to the recent refugee challenge, there are still substantial limits to their transferability.

The balance between economic concerns and compositional amenities in attitudes towards immigration, which was detected in other contexts, seems to be equally important for the recent refugee challenge. Even if policymakers can alleviate economic concerns in the population, the cultural aspect (limits to the local cultural, ethnic or religious heterogeneity) still remain, calling for an approach that goes beyond an economic narrative and emphasizes the cultural integration of refugees, in addition to their economic integration. In this context, the type of exposure to refugees is a crucial factor in determining attitudes towards them. Decentralized and personalized interactions between locals and refugees contribute to intercultural understanding and acceptance of the latter. This can reduce the negative consequences for the welfare state in

terms of a decrease in preferences for redistribution and implications for democracy concerning political polarization and extreme voting.

5 General Discussion

This report begins by reviewing the economic literature on the impact of immigration on the labour market and public finance in host countries. We conclude that immigration has a negligible average impact on the wages and employment of native workers. However, because adjustments take time, particularly when immigration is unexpected, the initial and longer run impacts of immigration may differ. The average impact of immigration on public finance is also negligible, sometimes slightly positive or slightly negative. This result indicates that the benefits received by immigrants are roughly equal to their fiscal contributions. Although the average effects of immigration on labour markets and public finance are very small, immigrants can generate distributional effects. As far as labour market effects are concerned, immigration can create winners and losers among the native-born via changes in the wage structure. By affecting the skill composition of receiving economies, an immigration-induced increase in the labour supply can impact wage dispersion in host countries. Low-skilled immigration, for instance, can increase wage inequality between highly and poorly educated native workers. In terms of immigration's fiscal effects, the age and educational structure of immigrants played an important role in determining their impact on public finances. While young immigrants with a high level of education will be net contributors to public finances, old immigrants with a low level of education will tend to contribute negatively. Taken together, our sections 2 and 3 imply that a selective immigration policy directed towards high-skilled workers could therefore achieve two objectives: it may reduce wage inequality and sustain fiscal policy.

Highly skilled migrants may also generate human capital externalities by bringing in new skills and increasing the rate of innovation. Although economic studies need to devote more attention to this specific question, the spillover effects coming from highly skilled migrants could affect the overall productivity in host countries and "is likely to be a very important engine of growth in the long run" (Peri, 2016).

There are other promising research avenues for economic studies on the labour market and fiscal effects of immigration on host countries. We need more research into the role played by labour market rigidities in shaping the labour market effects of immigration. There is indeed little evidence on the interaction between the wage and employment effects of immigration and the degree of rigidity of labour markets, such as rules about unionisation and collective bargaining, minimum wages and protection for incumbent workers (Angrist and Kugler, 2003; Edo, 2016; Edo and Rapoport, 2017). In terms of the fiscal impact of immigration, assessing the magnitude of the second-order fiscal impact of immigration, compared to that of the first-order and direct impact, is an exciting avenue for future studies. It involves modelling sophisticated labour markets in

dynamic applied general equilibrium models and integrating the incentives among natives to acquire additional skills in response to the entry of migrants. Another interesting aspect that could be investigated in fiscal studies is the effect of integration policies (on the refugee side, for instance, with job and language trainings, but also on the firm side with internship and training programs for refugees) on the fiscal impact of immigration. The rare studies that are interested in this issue for a few European countries have shown that the fiscal gains from the more effective labour market integration of immigrants and their descendants could exceed the fiscal gains from additional labour migration.

The fact that immigration is sometimes perceived as a factor depressing economic outcomes in host countries tends to affect native attitudes and electoral outcomes. The third section of the report reviews the literature on these issues in the third section of the report. The first important result is that most studies find that cultural concerns are the main driving force behind the scepticism towards immigration and that fiscal or labour market concerns only play a secondary role. Although we need more research into this topic, the second important fact is that immigration tends to reduce support for redistribution among native workers. Thirdly, we find that local level exposure to immigrants and refugees has been found to have ambiguous effects on native attitudes towards immigrants and extreme voting. In this respect, future research should study the conditions that lead to positive or negative effects. An understanding of these conditions is relevant for designing policies that foster a positive atmosphere and reduce negative attitudes and extreme voting. Furthermore, assessing the impact of immigration on election outcomes by looking at municipalities or regions with different levels of immigration only identifies the effect of micro-level exposure. Migration might affect attitudes and voting via mechanisms that do not vary at the local level, for example, general fiscal concerns or media reporting. Future research should focus on both macro- and micro-level effects on attitudes, and on the interaction between the two levels in particular.

More generally, there is a lack of empirical evidence on the relationship between the allocation of asylum seekers and social cohesion. This includes the accommodation of refugees (type and location of refugee accommodation) and concrete integration policies (economic as well as cultural). It is therefore indispensable to put evaluation mechanisms in place (e.g. policy experiments) that allow for an empirical assessment of different measures and the collection of data on a larger scale systemically. These experimental interventions include, but are not limited to refugees themselves. It is essential to consider how different policies affect the local population and add measures of social cohesion as one of the outcomes of interest when deciding on the design and implementation of integration policies.

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