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Integration policies and their effects on labour market outcomes  
and immigrant inflows  
by Céline Piton and Ilse Ruysen



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## Abstract

Throughout Europe, the labour market integration of immigrants tends to lag behind that of natives. This paper empirically analyses the role played by integration policies in closing this gap in EU countries, not only directly, through the employment rate but also indirectly by influencing the intensity and the composition of immigration flows. Relying on the Migration Integration Policy Indicator (MIPEX), we find that countries with more developed integration policies do not necessarily have higher immigrant employment rates. This finding is due to the fact that different types of policies have opposite effects: policies favouring family reunion, tackling discrimination and allowing for political participation seem to increase the labour market integration of immigrants, while the latter is negatively associated with a higher labour market mobility, as well as easier access to permanent residence and nationality. Only the positive effect of anti-discrimination policies survives the inclusion of country fixed effects though. Effects are found to vary across immigrants coming from EU versus non-EU countries, suggesting that there is no one-fits-all integration policy. Moreover, our results confirm that immigrants' labour market integration varies with the skill composition of the migrant population, a higher level of qualification favouring employment. The composition of the immigrant population within a country in terms of skill levels, however, could also be influenced by integration policies in potential destination countries, a premise which we also test. We show that integration policies indeed act as a pull factor for migration in a gravity model that controls also for the restrictiveness and skill selectivity of migration policies. Yet, it seems that more elaborate integration policies affect primarily the number of high-skilled immigrants entering the territory, but not the number of medium or low skilled, and this only for those from EU countries. Different factors hence seem to be at play for the low and medium skilled, but once moved, our results show that low-skilled migrants are the ones benefitting the most from integration policies in terms of employment rate.

Keywords: Integration policies, Immigration, Labour market.

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## Non-technical summary

This paper deals with a highly relevant question, namely the impact of integration policies targeting immigrants. The labour market performance of immigrants still lags behind that of natives despite being beneficial for immigrants themselves as well as for the host country. Hence, finding efficient policies that fosters immigrants' integration has become the focus of political as well as academic interest. While a large part of the literature looks at which personal characteristics are driving the employment rate of immigrants at the micro level, the economic literature has only recently tried to assess how institutional settings can explain disparities between countries in integrating immigrants into the labour market and which type of policies is the most efficient.

Our paper relies on the Migrant integration policy index (MIPEX), a recent indicator summarizing all integration policies in a large number of countries. We analyse the efficiency of different type of policies (ranging from pure economic ones like those fostering the labour market integration of immigrants to those with more social or political dimensions like access to nationality) in shaping and mitigating disparities in employment rate of immigrants across EU countries. In contrast to what is usually done in the literature, we consider immigrants as an heterogenous group facing different obstacles. We therefore also provide separate results for immigrants with an EU origin versus those with a non-EU origin, as well as by their level of education.

We do not only measure to what extent integration policies have improved the labour market integration of immigrants, but also how they have shaped the size and composition of immigrant flows. These effects on flows may then in turn affect the level of employment of immigrants in the host country, since immigrants' labour market integration varies with the skill composition of the migrant population, a higher level of qualification favouring employment. To this end, we rely on unique data sources including the Eurostat Labour Force Surveys (the difference in the stock of immigrants for a given level of education between two consecutive years being used as a proxy of inflows by skill levels), a recently built yearly bilateral migration dataset, and unique measures for the restrictiveness and skill selectivity of migration policies.

Our results show that countries with more developed integration policies do not necessarily have higher immigrant employment rates, and this mainly because different types of policies have opposite effects: while policies favouring family reunion, tackling anti-discrimination, and allowing for political participation seem to increase the labour market integration of immigrants, a higher labour market mobility, as well as larger access to permanent residence and nationality are negatively linked with the employment rate of immigrants. This is in line with previous findings and could be linked to the incentive for immigrants to better invest in their skills and qualifications if they are more likely to stay for a longer period. Effects can therefore show up in the long run or can be more visible on the qualitative side (e.g., better paid job, better matching with respect to qualifications, etc.). Moreover, our findings varying across immigrants coming from EU or non-EU countries suggest that there is no one-fits-all integration policy. Conversely to what could be expected, our results show that a higher degree of integration policies does not seem to raise the labour market integration of non-EU immigrants. This can indicate that other obstacles, not solved by those policies, remain, such as a lack of human capital specific to the host country or difficulties with diploma recognition.

We also evaluate how integration policies can improve the labour market integration of immigrants depending on their level of education. High-educated migrants are less sensitive to integration policies: their employment rates are not affected or only slightly positively affected by integration policies in the host country. For those with a medium level of diploma (upper secondary school), the impact is slightly larger than for high-educated, but it remains marginal. The highest effect of integration policies on employment rate is reported for low-educated immigrants. More importantly, this result is true for both EU and non-EU immigrants even if the impact for non-EU immigrants is less pronounced.

Regarding migration flows, we show that more elaborate integration policies affect primarily the number of high-skilled immigrants entering the territory and coming from another EU country. These findings seem to confirm that the high-skilled might be making a more informed choice. Conversely, the decision to migrate for low- and medium-skilled people is more related to different factors such as family or international protection which makes it more difficult for them to internalize integration

policies when choosing their destination. Nevertheless, our results show that low-educated migrants – once moved – are the ones benefitting the most from integration policies in the host country. This finding is encouraging since they are also the ones with larger obstacles to enter the labour market.

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# 1 Introduction

Over the past years, the world has experienced an increase in international migration. The total number of first-generation immigrants in OECD countries rose by more than 60 %, from 83 to 135 million over the period 2000-2019. In 2019, foreign-born individuals represented more than 10 % of the OECD population, i.e., 12 % on average in the European Union (EU), 14 % in the United States, and more than 20 % in Australia, Canada and Switzerland (OECD, 2020). Consequently, immigration has become a major policy concern in these receiving countries, notably from a labour market perspective. Throughout Europe, the labour market integration of immigrants tends to be lower than for natives. In 2019, the average gap in the employment rate between natives and first-generation immigrants aged between 20 and 64 amounted to 5 percentage points (Eurostat Labour Force Survey). Yet, considering foreign-born individuals as a homogenous group hides significant disparities between origins in terms of employment performance (Algan *et al.*, 2010; Brinbaum, 2018; Kogan, 2007; OECD, 2020; Zorlu, 2014). This is particularly the case in the European Union where immigrants from other member states benefit from simplified administrative procedures. For immigrants born outside the EU, on the other hand, access to employment is much more difficult. The employment rate of first-generation immigrants born in the EU is indeed very close to or even higher than that of natives in all EU countries. Yet, the employment rate gap between first-generation immigrants born in non-EU countries and natives stands at 9 percentage points on average in the EU (NBB, 2020).

A better integration of immigrants into the labour market is beneficial for immigrants themselves as well as for the host country. Labour market integration of immigrants leads to less dependence on the welfare system and has a positive effect on fiscal contributions (Dustmann and Frattini, 2014; NBB, 2020). Moreover, it strengthens social cohesion in the host country (Freedman *et al.*, 2018; Mastrobuoni and Pinotti, 2015). Hence, finding an efficient policy that fosters immigrants' integration has become the focus of political as well as academic interest.

A popular explanation for the lower employment rate of immigrants is their lower level of education. Yet, previous research has shown that the average labour market integration gap between first-generation immigrants and natives remains large and significant even after controlling for personal characteristics, and this particularly for non-EU immigrants (see for example NBB, 2020, for the case of Belgium). Hence, these differences in personal characteristics are inadequate to explain the worse labour market outcomes of first-generation immigrants with respect to natives.

While a large part of the literature looks at which personal characteristics are driving the employment rate of immigrants at the micro level, the economic literature has only recently tried to assess how institutional settings can explain disparities between countries in integrating immigrants into the labour market and which type of policy is the most efficient. The Migration Integration Policy Indicator (MIPEX)<sup>1</sup>, summarising all integration policies implemented in a large number of countries, offers a unique opportunity to analyse this issue.

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<sup>1</sup> See Solano and Huddleston (2020).

Being relatively recent, to date only few papers have made use of this indicator. And those who did have mostly considered only the overall index, ignoring potential compensating or contradicting effects from the underlying dimensions of the index (i.e., labour market mobility, family reunion, permanent residence, access to nationality, anti-discrimination, political participation, education, health). Moreover, studies that do consider the various sub-indicators usually only link a particular policy dimension to the targeted outcome of that dimension (e.g., anti-discrimination policies on the level of discrimination within countries) ignoring potential indirect effects on other outcomes (e.g., on employment).

Our paper contributes to this literature by considering longitudinal dynamics to analyse the efficiency of policies aimed at improving the labour market integration of immigrants. To this end, we empirically assess the role of different types of policies in shaping and mitigating disparities in the labour market integration of immigrants across EU countries<sup>2</sup>. Considering immigrants as a heterogeneous group facing different obstacles, we also provide separate results for immigrants with an EU origin and with a non-EU origin, as well as depending on their level of education.

Our results indicate that countries with more developed integration policies do not necessarily have higher immigrant employment rates. This finding is due to the fact that different types of policies have opposite effects: policies favouring family reunion, tackling discrimination and allowing for political participation seem to increase the labour market integration of immigrants, while the latter is negatively associated with a higher labour market mobility, as well as easier access to permanent residence and nationality. Only the positive effect of anti-discrimination policies survives the inclusion of country fixed effects though. Effects are found to vary across immigrants coming from EU versus non-EU countries, suggesting that there is no one-fits-all integration policy.

Yet, policies aimed at improving – among others – the labour market integration of immigrants may also indirectly influence the attractiveness of the country and the type of migrants who are entering the territory. Integration policies, although not designed per se to attract (certain type of) migrants, may affect the size (as shown by Beine *et al.*, 2020, for the location choice of potential migrants) and skill composition of migration flows, by which the labour market integration of migrants is also known to vary. Indeed, our previous results confirm that immigrants' labour market integration varies with the skill composition of the migrant population, a higher level of qualification favouring employment.

In this paper, we will hence not only try to measure to what extent integration policies have improved the labour market integration of immigrants, but also to what extent they have shaped the size and composition of immigrant flows, while controlling also for differences in the restrictiveness and skill selectivity of migration entry policies (so as to capture not only self-selection but also out-selection effects). These effects on flows may then in turn affect the level of employment of immigrants in the host country.

We show that integration policies indeed act as a pull factor for migration in a gravity model that controls also for the restrictiveness and skill selectivity of migration policies. Yet, it seems that more elaborate integration policies affect primarily the number of high-skilled

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<sup>2</sup> The definition of EU countries is based on the covered period 2007-2019 so that the UK is included in the analysis.

migrants, but not the number of medium or low skilled, and this only for those from EU countries. Different factors seem to be at play for the low and medium skilled in their decision to migrate and where to migrate, but once moved, they are the ones benefitting the most from integration policies. Putted differently, countries with more developed integration policies tend to better help low- and medium-educated immigrants to find a job but do not tend to attract more of them in their territory.

The remainder of this article is structured as follows. The next Section elaborates the related literature on the effectiveness of integration policies to improve the labour market integration of immigrants and the role they play in shaping migration flows. Section 3 describes the Migration Integration Policy Indicator which we will use to measure integration policies in the empirical analysis. Sections 4 and 5 explain the data, methodology and empirical specification that we bring to the data, as well as the empirical findings from the analysis of the impact of integration policies on the employment rate of immigrants and immigration flows, respectively. Section 6 summarises our main results and concludes.

## 2 Literature Review

### 2.1 The labour market integration of immigrants and the role of integration policies

In the literature, personal characteristics of immigrants are presented as playing a significant role in their labour market integration. First, the level of education is often cited as a major determining factor. According to the human capital theory (originally developed by Mincer, 1958, and Becker, 1964), selection on the labour market is based on the skills that the individual has acquired. By investing in training and education, individuals gain additional skills and hence greater human capital, which increases their productivity. The more productive the person, the more the employer will wish to recruit him/her. On average, among EU countries, the employment rate of immigrants is higher if they hold a tertiary degree (HCE, 2018). Nevertheless, despite the recognition of diploma and skills, there is plenty of evidence that the labour market attributes a lower value to education and experience acquired by immigrants outside the host country (Arbeit and Warren, 2013; Nordin, 2007; OECD, 2007, 2014). This leads to mismatches in the labour market and to a higher proportion of immigrant being overqualified, particularly among highly educated immigrants (Fernandez and Ortega, 2006; Jacobs *et al.*, 2021). Second, labour market performance of immigrants depends on gender. The employment gap of immigrant women with respect to native women is typically larger than for men (Algan *et al.*, 2010). Moreover, Piton and Rycx (2021) provide evidence that immigrant women of EU origins face a double penalty (corresponding to the sum of the penalties faced respectively by women and immigrants of EU origin) and that for those with a non-EU origin the penalty is even greater and outweighs the sum of both penalties. It is suggested that lower employment rates among female immigrants may be due to more traditional gender roles (Blau *et al.*, 2011; Lesthaeghe and Surkyn, 1995).

Economic conditions in host countries have also been shown to influence the probability that immigrants will be active on the labour market and find a job. In fact, immigrants are found to be more often unemployed in countries with an overall higher unemployment rate

(Fleischmann and Dronkers, 2010; Pichler, 2011). Furthermore, immigrants adapt more quickly to economic growth, which implies that their unemployment rate decreases faster than that of natives during prosperous periods (Cebolla-Boado and Finotelli, 2014). Finally, immigrants are less disadvantaged at employment entry when the host country has a strong demand for low-skilled jobs (Kogan, 2006) or a large segment of low-status jobs (Fleischmann and Dronkers, 2010).

Besides personal characteristics and economic conditions, the general institutional environment is also relevant in explaining the labour market performance of immigrants. Indeed, a more flexible labour market can improve access to employment for immigrants as it does for any other outsiders (Bilgili *et al.*, 2015). Studies comparing countries' performance show that immigrants' employment rates tend to be higher in countries with a more flexible labour market compared to countries with a more rigid one (Angrist and Kugler, 2003; Aleksynska and Tritah, 2013; Bisin *et al.*, 2011; Corrigan, 2015; Kahn, 2007; Kogan, 2006). Flexibility in the labour market can be measured by employment protection, collective bargaining agreements, unemployment benefits and active labour market programmes.

Comparing regulations of regular and temporary contracts in 19 European countries, Markaki (2014) provides evidence that stricter regulations of regular contracts increase immigrants' chances of holding a temporary contract. Conversely, stricter regulations of temporary contracts increase immigrants' risk of unemployment and underemployment. The findings of Guzi *et al.* (2015) point in the same direction, with a negative effect of stricter regulations on regular and temporary contracts being detrimental to immigrants in finding a (skilled) job and getting a permanent contract. The increase in labour market dualism because of employment protection reforms tends to disproportionately harm immigrants.

While the employment rate of immigrants could increase with less strict employment protection legislation, more stringent protection could reduce the gap compared to natives (Sa, 2011). Immigrants are usually less aware of employment protection regulations and are thus also less likely to claim their rights. This creates a gap between the costs for employers of hiring a native relative to hiring an immigrant. Bisin *et al.* (2011) indeed find that employment protection legislation tends to lower the penalty that immigrants face in getting hired.

Bergh (2014) also highlights the role of collective bargaining agreements, which - if covering a larger share of the labour market - have a larger increasing impact on the unemployment rate of immigrants than that of natives. Huber (2015) confirms this result by showing that countries with more centralized wage bargaining and higher union density have worse labour market outcomes for immigrants compared to natives even after controlling for compositional effects. Examining to what extent unions are exclusive or inclusive with respect to immigrants in New Zealand, Harcourt *et al.* (2008) show that while unions are helpful in promoting diversity, they are not efficient in combating discrimination against immigrants in hiring.

Furthermore, analysing 12 OECD countries' performance in the integration of immigrants into the labour market, Causa and Jean (2007) find that differences between countries could largely be explained by differences in the level of unemployment benefits.

Bergh (2014) confirms the negative impact of more generous replacement income rates, with a greater increase in unemployment for immigrants than for natives.

Finally, Butschek and Walter (2014) find that wage subsidies remain the most efficient way of boosting the immigrant employment rate, compared to other types of active labour market policies (ALMP) such as training, job search assistance and subsidised public sector employment, even though good quality of the obtained jobs is not guaranteed.

In this paper, we aim to identify which of the policies specifically designed to improve the integration of immigrants in host countries' societies (using the MIPEX and its sub-indicators) are effective in improving the labour market integration of immigrants, thereby controlling for the other determinants highlighted above. The literature addressing this question is relatively scarce and new. Huddleston (2020) conduct a meta-analysis of studies conducted between 2010 and 2020 that make use of the MIPEX indicator to investigate the impact of migrant integration policies on a variety of outcomes, showing a lot of room for further research. Moreover, among this literature, only few papers analyse the impact of sub-indicators of the MIPEX and those who do typically connect a particular sub-indicator to the outcome it is targeting without considering also potential indirect effects.<sup>3</sup>

Results concerning the impact of the overall MIPEX on employment are scare and mixed; the literature mainly focuses on other outcomes. For example, it has been shown that public opinion towards migration (higher levels of public support for immigrants and for inclusive policies, particularly in terms of economic threats) is higher in countries with more inclusive integration policies.<sup>4</sup> More far-reaching integration policies also help to close the gaps in political participation, interest, and trust of immigrants (Helbling *et al.*, 2015; Ruedin, 2013; Thorkelson, 2016; Welge, 2015).

Regarding labour market outcomes, the most developed literature relies on the labour market mobility sub-indicator. Nevertheless, there is limited evidence of a positive link between labour market mobility policies and the labour market integration of immigrants, either measured by overall participation (Bredtmann and Otten, 2013; Cebolla-Boado and Finotelli, 2014), unemployment (Bergh, 2014; Cebolla-Boado and Finotelli, 2014; Lancee, 2016) or employment rates (Bisin *et al.*, 2011). A possible explanation, put forward by Huddleston (2020), is that integration policies are better developed in countries with a weaker labour market situation of immigrants. Moreover, labour market mobility policies can delay employment by providing language courses, training, or further education

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<sup>3</sup> Family reunion policy is found to affect immigrants' right to family life and the well-being of the different members of the family (Migali and Natale, 2017; Sand and Gruber, 2018; Sumino, 2014). Permanent residence is found to influence mobility decisions and security of residence of immigrants. Immigrants tend to stay longer in countries with more inclusive permanent residence policies (Corrigan, 2015; DeWaard, 2013). Political participation policies positively affect the level of immigrants' participation in the public life of their destination country (Aleksynska, 2011; Thorkelson, 2016) but also their levels of political interest, trust, and efficacy (Helbling *et al.*, 2015; Welge, 2015). The chances to acquire host country citizenship is positively related to naturalization policies (Dronkers and Vink, 2012; Hoxhaj *et al.*, 2020; Huddleston and Faleke, 2020; Vink *et al.*, 2013). Finally, no systematic link emerges between the level of discrimination in a country and the strength of its anti-discrimination policies (André and Dronkers, 2016; Callens and Meuleman, 2017; Kislev, 2019; Ziller, 2014).

<sup>4</sup> Brady and Finnigan (2014), Callens and Meuleman (2017), Heizmann (2015, 2016), Hooghe and de Vroome (2015), Just and Anderson (2012), Schroyens *et al.* (2015).

(Zwysen and Demireva, 2020). Those policies could be associated with a higher investment in immigrants' skills and qualifications and therefore having a longer-term impact.

A still scarce part of the literature making use of the MIPEX looks at how other types of integration policies influence the labour market outcomes of immigrants. Bisin *et al.* (2011) find a positive link between facilitation of family reunion in EU countries and employment outcomes of non-EU immigrants. Conversely, the effect could be negative for immigrants with strong ethnic identities as this limit their social network. Focusing on women, Palencia-Esteban (2021) highlights that family reunion may provide resources and networks women need to get out of gender segregated occupations.

Allowing for permanent residence is more often linked to employment outcomes as it should give to immigrants the incentive to invest in the human capital of the destination country. This impact however only holds in the long-term and mainly concerns occupational mobility from more temporary and precarious to more permanent and secure jobs (Corrigan, 2015). No positive effect is found on the aggregate employment rate of immigrants (Bisin *et al.*, 2011).

Employment outcomes have also been analysed in relation to naturalisation policies. The link is usually found to be positive, i.e., granting citizenship increases the employment rate of immigrants (Bisin *et al.*, 2011; Hoxhaj *et al.*, 2020; Liebig and Von Haaren, 2011). Nevertheless, this boost in employment does not appear to help immigrants in improving job quality or economic mobility (Corrigan, 2015; Guzi *et al.*, 2015; Hoxhaj *et al.*, 2020).

Anti-discrimination policies are found to have no effects on overall unemployment and employment rates of immigrants (Bisin *et al.*, 2011; Patacchini *et al.*, 2015) while they do seem to positively affect some specific groups (Patacchini *et al.*, 2015). Moreover, at work, anti-discrimination policies demonstrate a positive impact on immigrants' income (Kislev, 2019), occupational status (Platt *et al.*, 2021), job qualifications (Aleksynska and Tritah, 2013) and job reallocations (Guzi *et al.*, 2015).

Finally, policies fostering political participation are less related to socio-economic outcomes. However, a higher participation in political decisions can help immigrants to defend their common interest (André and Dronkers, 2016; Bakhtiari *et al.*, 2018), hence indirectly influencing their employment (Bisin *et al.*, 2011).

## 2.2 The impact of integration policies on migration flows

In addition to their effect on the employment rate of immigrants, integration policies might also impact the size of migration flows and their skill composition, which may in turn influence the average employment rate of immigrants within a country. To our knowledge, only few studies have investigated the role of integration policies in shaping migration flows and their skill composition.<sup>5</sup> Huddleston (2020), with his meta-analysis of the literature conducted between 2010 and 2020 that makes use of the MIPEX indicator, reveals a limited number of studies that have considered migration flows as an outcome.

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<sup>5</sup> A larger literature has looked at the role of the quality of institutions in potential destinations in attracting migrants. See Beine *et al.*, (2020) for an overview of this literature.

Family reunion policies have undoubtedly shaped the magnitude of immigrant inflows. Migali and Natale (2017) show, for example, that policies facilitating family reunion indeed increase the number of first permits delivered for family reasons. This is more likely to be relevant for non-EU migrants, though. Also Beverelli (2020) highlights that one of the few integration policies impacting non-EU bilateral migration flows are family reunion policies. Nevertheless, those policies do not act as a pull factor, as often put forward in political debates. The overall attractiveness of a country remains unchanged for people potentially migrating through other channels like work or study (Beine *et al.*, 2020). Instead, family reunion policies serve as an indicator of family aspirations for long-term settlement and local integration (Guzi *et al.*, 2015; Lichter *et al.*, 2020).

While not really increasing the migration flows towards destination countries (Beverelli, 2020), generous permanent residence policies may raise a country's attractiveness (Beine *et al.*, 2020), and improve immigrants' aspirations to stay longer within the host country. Rather than moving elsewhere for job opportunities, immigrants are encouraged to settle in the host country (Guzi *et al.*, 2015).

Access to host country citizenship does not directly affect the attractiveness of the destination country but it facilitates circularity by increasing aspirations and ability of immigrants and their families to move between their country of residence and their country of origin (Beine *et al.*, 2020; Beverelli, 2020). Naturalisation policies may also help naturalised immigrants to improve their housing situation and move out of segregated neighbourhoods (Lichter *et al.*, 2020).

Regarding political participation policies, economic literature found no relationship with migration flows or aspirations (Beine *et al.*, 2020; Beverelli, 2020; Guzi *et al.*, 2015; Lichter *et al.*, 2020).

Considering the role of these various dimensions of integration policies in the location choice of potential migrants, Beine *et al.* (2020) find that not only favourable labour market features, but also easier access to nationality and permanent residence for migrants increase the perceived attractiveness of a destination country.

The size of migrant flows of certain skill levels and hence the skill composition of the migrant flow may also be influenced by the degree of selectivity of migration policies. The MIPEX does not capture immigration legislation per se, i.e., the conditions for legal entry in a specific country. They rather define the living and working conditions that immigrants can expect to have access to, conditional on living in the country. Hence, an analysis of the impact of integration policies on migration flows and their skill composition should ideally control for such entry policies and their degree of skill selectivity. While migrant policy selectivity increases over time throughout the world (Rayp *et al.*, forthcoming), recent literature shows that migration policies based on skill selectivity are not efficient, and that push and pull factors, such as geographical proximity or cultural similarities, are more relevant to explain the magnitude and structure of migration flows (Antecol *et al.*, 2003; Bélot and Hatton, 2012). Computing a unique indicator of migration policies in 42 OECD and non-OECD countries from 1990 to 2014, Rayp *et al.* (forthcoming) confirm that skill selectivity has only a weak effect on the scale and structure of migration flows.

### 3 Migrant integration policy index (MIPEX)

The Migrant Integration Policy Index (MIPEX)<sup>6</sup> provides a composite indicator per country of the policies that are decided and implemented to promote the integration of migrants. This tool, available until 2019, considers a broad definition of integration including labour market integration but also social integration and individuals' well-being. Some of the policies studied are therefore not directly linked to employment objectives but may have an indirect (positive or negative) impact on the integration of immigrants in the labour market. While being available for 56 countries, we focus here on EU countries only since our main variable of interest – the employment rate by origin – provided by Eurostat is restricted to EU countries. It is also important to note that the MIPEX includes integration policies for all foreign residents, including intra-EU migrants.

The MIPEX is computed based on almost 300 questions and is aggregated in eight different policy areas:

- Labour market mobility: Do legally resident immigrants have comparable workers' rights and opportunities like nationals to access jobs and improve their skills?
- Family reunion for foreign citizens: Do legally resident immigrants have a facilitated right to reunite with their families?
- Permanent residence: Do temporary immigrants have facilitated access to a long-term residence permit?
- Access to nationality: Are legal immigrants encouraged to naturalise and are their children born in the country entitled to become full citizens?
- Anti-discrimination: Do all residents have effective legal protection from racial, ethnic, religious, and nationality discrimination in all areas of life?
- Political participation: Do legally resident immigrants have comparable opportunities as nationals to participate in political life?
- Education: Are all children of immigrants encouraged to achieve and develop in school like the children of nationals?
- Health: Is the health system responsive to immigrants' needs?

The questions can take one of three values 0, 50 or 100, where the highest value translates into the full access, a value of 50 stands for conditional or partial application and 0 reflects the most limited access. Hence, the higher the value of the question, the more effort is conducted to foster the integration of immigrants. The value of each sub-indicator is then constructed as the average of values of the underlying questions.

The MIPEX on health is the most recent policy area considered with only two observations per country, one in 2014 and the other in 2019. Including this indicator would drastically reduce our studied period and make the other indicators more invariant over time. Also, the Education dimension has been added more recently, starting in 2010. While dropping already four years from our sample period, this indicator is also highly correlated with the labour market mobility indicator, with a pairwise correlation of almost 80 %. Therefore, in our analyses we decided to focus on the remaining six sub-indicators, namely, labour market mobility, family reunion, permanent residence, access to nationality, anti-

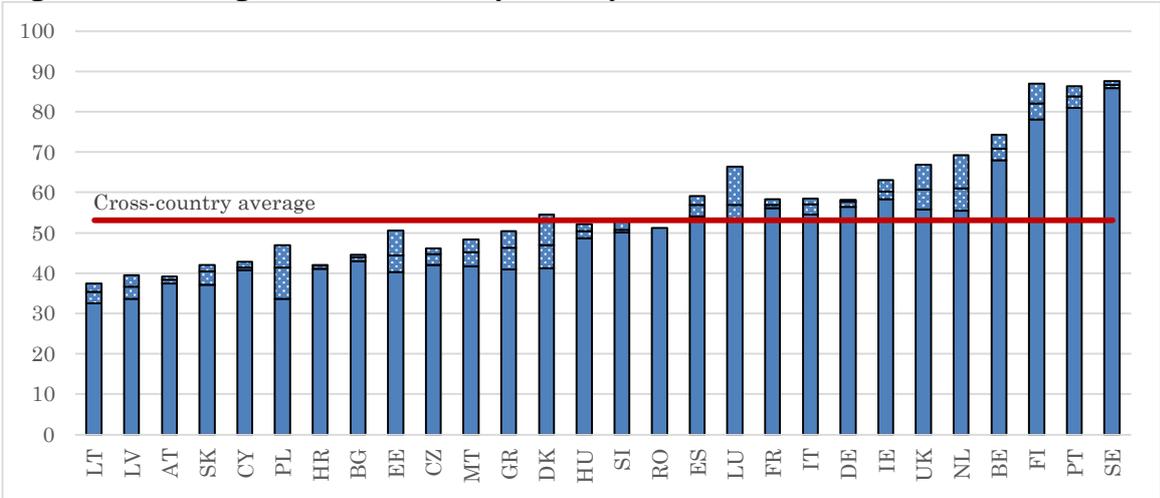
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<sup>6</sup> See Solano and Huddleston (2020).

discrimination, and political participation. We therefore compute the aggregate MIPEX as the average of those six dimensions.

Figure 1 reveals large discrepancies in the level of MIPEX across countries. Some countries have developed only few policies aimed at providing a better integration of immigrants. This is the case for countries like Lithuania, Latvia, Austria, and Slovakia, for instance, for which the MIPEX ranges on average between 35 and 40 over the period 2007-2019. On the other side of the distribution, Sweden, Portugal, and Finland have a very high level of MIPEX exceeding 80. In many dimensions, these countries provide help to migrants to better integrate into the society. Belgium follows with an average close to 70.

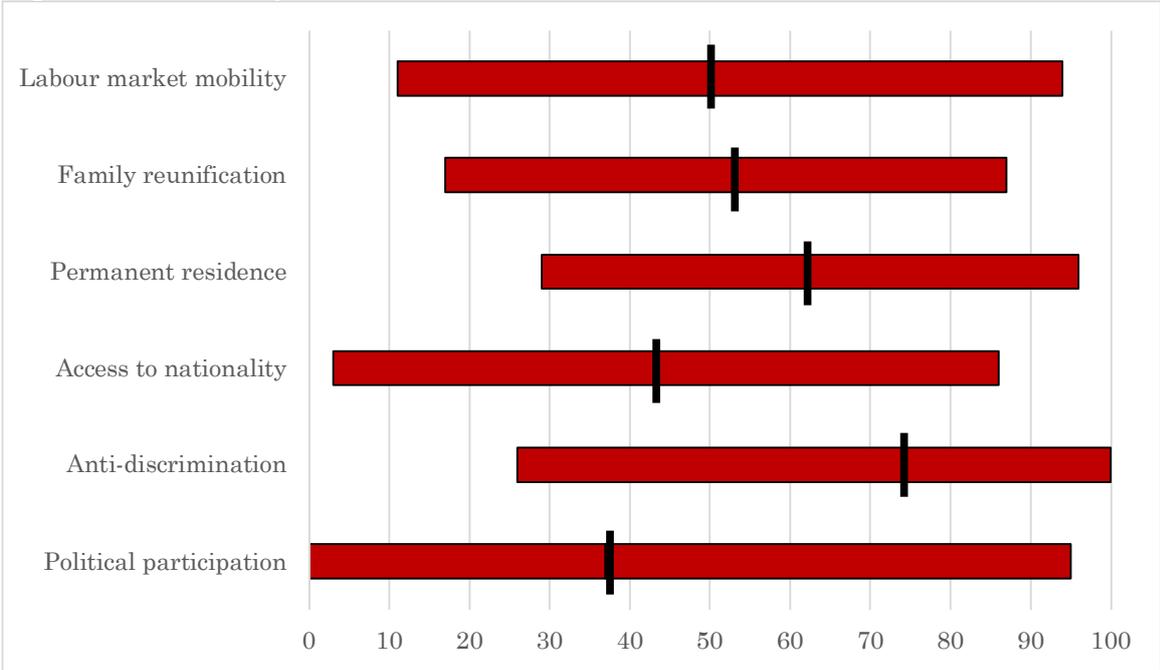
**Figure 1 - Average level of MIPEX by country**



Source: MIPEX.  
 Notes: The figure displays the MIPEX without health and education, average over the period 2007-2019. The dotted area corresponds to the minimum and the maximum value over the period.

Also the magnitude as well as the direction of reforms which took place over the period varies across countries. While the MIPEX remained quite stable over time for many countries between 2007-2019, some European countries implemented large reforms with respect to integration policies. The Netherlands and the United Kingdom largely restricted their integration policies over time, for instance, while Belgium, Italy and Sweden also reduced them but to a much smaller extent. On the contrary, Luxembourg, Estonia, Poland, Finland, Denmark, and Greece significantly extended their policies to help immigrants integrate into their host society.

**Figure 2 - MIPEX by sub-indicators**



Source: MIPEX.  
 Note: The figure displays the minimum, the average and the maximum value of each sub-indicator over the period 2007-2019 and across countries.

The level of MIPEX across countries also varies depending on the type of integration policies considered. As shown in Figure 2, the most common integration policy used by countries seems to be anti-discrimination policies. The average level of this sub-indicator is the highest at 74. Some countries - Belgium, Bulgaria, Portugal, and Sweden - even have a 100 level over the entire period. We do not observe a 100 level of MIPEX for any other sub-indicator. For 19 out of 28 countries, this dimension also has the highest level among the six MIPEX sub-indicators.

The sub-indicator with the second highest average value concerns the one defining immigrants' access to permanent residence in the host country, which stands at an average of 62. This sub-indicator is varying the least across countries, with a standard deviation of just 13.5. The average value for family reunion and labour market mobility stands respectively at 53 and 50. Nevertheless, the standard deviation of labour market mobility at 21.4 is much higher than for family reunion (15).

The two sub-indicators with the lowest values are access to nationality (43) and political participation (37). They are also the sub-indicators with the highest standard deviation, reaching 23 and 28.6 respectively. They hence vary a lot across countries ranging from values equal or close to zero to almost 100.

As indicated in Section 2, policies aimed at improving the integration of immigrants may also influence the attractiveness of the country and the type of migrants who are entering the territory. While we will further explore this premise empirically in Section 5, it is already

interesting to look at the pairwise correlation between the MIPEX (sub-indicators) and migration flows.<sup>7</sup>

**Table 1**  
**Correlation between MIPEX and immigrants' inflows**

	Total	EU	Non-EU	High-educated	Low-educated
MIPEX Overall	10.9	0.9	12.8	-0.3	-1.9
Labour market mobility	-1.5	-0.1	8.4	-0.2	0.8
Family reunion	-7.6	-12.7	-1.2	-0.2	-4.2
Permanent residence	-2.1	-8.9	2.0	-0.7	2.5
Access to nationality	21.9	8.3	14.6	2.0	-0.2
Anti-discrimination	1.3	-5.5	4.9	-0.5	-3.9
Political participation	19.3	10.4	15.8	-1.4	-2.4

Sources: Eurostat, MIPEX.

Note: based on observations available for the 28 EU countries over the period 2007-2019. Inflows are computed as the variation in the stock of immigrants among the population between two consecutive years.

As can be seen from Table 1, a country characterised by a high level of integration policies (high value of MIPEX) is usually positively correlated with larger inflows of immigrants into the country, even if the correlation remains quite small. Regarding the sub-indicators, the correlation is highest for the possibility to access host countries' citizenship or to participate into political elections. Anti-discrimination policies also show a positive correlation with migration flows, though this remains only slightly higher than zero. The link between MIPEX and immigration inflows is stronger for non-EU countries of origin, with almost all integration policies having a positive correlation (except for family reunion). Integration policies do not seem to have a large impact on the inflows of immigrants by level of education.<sup>8</sup> All correlations are close to zero. The decision to migrate towards a specific country therefore seems to not be directly driven by the level of integration policies in the destination country, suggesting that other factors may be more relevant. Yet, in order to test this, we will empirically evaluate the relative importance of the different determinants of migration flows to the EU and their skill composition in Section 5.

Similarly, we can analyse how MIPEX is correlated with our main indicator of labour market integration, namely the employment rate. While labour market mobility is directly linked to the employment rate and probably with the purpose to increase the employment rate of immigrants, other types of policies could also have an indirect impact on the labour market integration of people with a foreign origin. In fact, obstacles faced by immigrants to find a job are not only related to their direct access to the labour market but are also linked with other aspects of a country's institutional setting and regulatory system (see Section 2). Access to nationality in some countries gives also access to restricted professions or sectors. Anti-discrimination policies, while broader than discrimination into the labour market, can help foreigners to get a job or to be protected against discrimination in hiring. Family reunion

<sup>7</sup> Information on migration flows is derived from the Eurostat Labour Force Survey (LFS) which provides data, since 2006, on the country of birth of individuals (native, EU, non-EU). For all years and all countries in the sample, we compute the information on the inflow of first-generation immigrants aged between 20 and 64 years, proxied by the difference in their stock between two consecutive years.

<sup>8</sup> To distinguish between high-, medium-, and low-educated individuals, we rely on the International Standard Classification of Education (ISCED). High-educated individuals are those with a tertiary degree, corresponding to ISCED levels 5 to 8; medium-educated people are those with at most an upper secondary degree corresponding to ISCED levels 3 and 4; and the low-educated persons are those with a degree up to lower secondary corresponding to an ISCED level between 0 and 2. See Section 4.1 for more explanation.

and access to permanent residence means that immigrants will stay for a longer period and therefore they invest more in the human capital of the host country, for example through acquisition of the local language. Conversely, family reunion usually implies the entry into the territory of individuals who are less corresponding to the destination country's labour market demand and could therefore reduce the total employment rate of immigrants. Other policies, such as access to nationality, for example, give to immigrants the rights to some allowances which could then raise the risk for an unemployment trap, with a detrimental effect on the employment rate. The impact on employment of integration policies is therefore a priori ambiguous.

**Table 2**  
**Correlation between MIPEX and immigrants' employment rate**

	Total	EU	Non-EU	High-educated	Low-educated
MIPEX Overall	6.6	37.7	-16.7	3.7	8.8
Labour market mobility	-0.2	35.6	-12.7	-5.3	-1.9
Family reunion	1.4	-11.5	9.0	3.2	1.5
Permanent residence	-9.1	5.7	-14.6	4.3	-4.4
Access to nationality	13.5	37.5	-9.2	-0.5	20.7
Anti-discrimination	5.0	30.5	-8.3	13.3	0.4
Political participation	8.8	40.2	-24.8	3.3	12.4

Sources: Eurostat, MIPEX.

Note: based on observations available for the 28 EU countries over the period 2007-2019. Employment rate computed as the percentage of people employed among individuals aged between 20 and 64 years.

A first analysis of the correlation between MIPEX and immigrants' employment rate, reported in Table 2, shows us that on average the relationship is positive, with almost all types of integration policies being positively correlated with the employment rate. Dividing immigrants into two groups, i.e., those coming from EU countries and those originating from non-EU countries, results show a high and strong positive correlation between MIPEX and the employment rate of EU immigrants but a negative link with the employment rate for non-EU immigrants. Nevertheless, non-EU immigrants are those who overcome a wider range of obstacles to access the labour market. Interestingly, integration policies seem to be more helpful for low-educated immigrants – a group with larger barriers to reach employment – than for high-educated ones.

## 4 MIPEX and the employment rate of immigrants

In this Section, we empirically analyse the extent to which integration policies are efficient in improving the labour market integration of immigrants, controlling for other factors that could influence the chance to get a job. As indicated in the literature review, various variables could have an impact on the employment rate in general and on the employment rate of immigrants, in particular. The factors we will take into account are personal characteristics, the functioning of the labour market in the destination country, and the business cycle proxied here by the lagged value of the unemployment rate. In Section 4.1, we present the constructed database as well as the definitions of the variables used. In Section 4.2, we describe the methodology. The main findings are provided in Section 4.3 and in Section 4.4, we extend the analysis to the employment rate by level of education of immigrants.

## 4.1 Database

The database is built by merging information from different sources for all EU countries<sup>9</sup> over the period 2007-2019. Our dependent variable – the employment rate - is derived from the Eurostat Labour Force Survey (LFS) which provides data, since 2006, on the country of birth of individuals (native, EU, non-EU). For all years and all countries in the sample, we compute the employment rate of first-generation immigrants<sup>10</sup> aged between 20 and 64 years. We do this for all foreign-born immigrants as well as for EU born immigrants and non-EU born immigrants.<sup>11</sup>

Our main variable of interest is the MIPEX indicator which we also analyse through its sub-indicators, namely, labour market mobility, family reunion, permanent residence, access to nationality, anti-discrimination policies and political participation (see Section 3).

In order to control for disparities between countries in the labour market integration of immigrants, other than integration policies, we include in our analysis eleven additional explanatory variables. Those explanatory variables aim to account for four dimensions that could influence the employment rate of immigrants.

First, we control for personal characteristics of immigrants, i.e., age, gender, and the level of education. Personal characteristics of immigrants are computed by comparing them to natives<sup>12</sup> using the LFS database. On the labour market, not only personal characteristics but also the extent to which these differ from natives (labour force already present in the country) plays a role. The definition of the variables therefore does not only consider the personal characteristics of immigrants but also how much they differ from those of natives. The age structure of the immigrant population is proxied by the percentage of working age immigrants among the total population of immigrants divided by the percentage of working age natives among the total population of natives. Similarly, immigrants' gender composition is captured by the ratio of the corresponding percentages of men; their educational composition by the ratio of the corresponding percentages of high-educated and low-educated individuals (the medium educated being excluded to avoid multicollinearity), in all cases considering the population aged between 20 and 64. To distinguish between high-, medium- and low-educated individuals (which we also refer to as "high-, medium- and low-*skilled*" individuals"), we rely on the international standard classification of education levels (ISCED). High-educated individuals are those with a tertiary degree, corresponding to ISCED levels 5 to 8; medium-educated people are those with at most an upper secondary degree corresponding to ISCED levels 3 and 4; and the low-educated persons are those with a degree up to lower secondary corresponding to an ISCED level between 0 and 2. In other words, the variables capture to what extent first-generation immigrants are more likely to be of working-age, male, and high educated or low educated than natives.

Second, we account for the history of migration in the host country proxied by the share of immigrants among the population. Using again the LFS, this variable allows us to control for

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<sup>9</sup> EU countries are defined as at the time of the dataset, so that the United Kingdom is still considered as an EU country.

<sup>10</sup> First-generation immigrants are defined as people born abroad.

<sup>11</sup> The distinction between EU and non-EU immigrants in terms of labour market performance is not available for Germany before 2017.

<sup>12</sup> Natives are defined as people born within the host country.

a certain network already present in the host country which may help immigrants to find a job.

Third, the economic environment is assessed via the one year lagged aggregate unemployment rate, also available in the LFS dataset. Its definition is the usual one: the percentage of unemployed individuals among active people aged between 15 and 74 years. A high unemployment rate would make it more difficult for individuals to find a job and this will be particularly true for foreigners. Conversely, a lower level of unemployment would mean that firms are recruiting and may have more difficulties to find a candidate. This makes also less space for discrimination and facilitates finding a job for immigrants (Baert *et al.*, 2015).

Fourth, as the global functioning of the labour market might influence the ease of finding a job, labour market features are proxied by the level of employment protection, the union density, the net replacement rate in case of unemployment and the active labour market policies implemented in the country.

Employment protection legislation is defined using the OECD index on regular contracts for both individual and collective dismissals. The index is computed every year and is compiled based on statutory laws, collective bargaining agreements and case-law, with contributions from country experts. It is scaled from zero to six and rises with the level of strictness. Although the complexity of employment protection legislation is difficult to summarise in an index, the EPL indicator provides a quantitative and comprehensive measure which is comparable across countries and over time. This index is not available for four of the European Union countries: Cyprus, Malta, Bulgaria, and Romania. For this reason, we therefore estimate all regressions at most for the 24 remaining countries. Labour market protection is also captured by union density. Based on Visser's database (2019, version 6.1), union density rate is defined as net union membership in proportion of wage and salary earners in employment.

The generosity of the social welfare system is determined by the net replacement income rate given to individuals when they become unemployed. This rate is obtained from the OECD database for long-term unemployed workers averaging two levels of earnings (67 % and 100 % of average earnings) and three types of family (single, couple with one person out of work, couple with two earners, all without children).

Information on active labour market policy measures is computed as a percentage of GDP and include training, employment incentives, supported employment and rehabilitation, direct job creation and start-up incentives, provided by the European Commission DG EMPL. Those policies, while targeting all individuals who want to get a job, could also have an impact on the labour market integration of immigrants.

In order to capture other key factors influencing the labour market, we include the employment rate of natives as an additional control variable. The latter is derived from the Labour Force Surveys and is computed based on the country of birth of individuals. We calculate for every year, the employment rate of people aged between 20 and 64 years and born in the analysed country.

## 4.2 Methodology

A multivariate analysis is conducted under the following specification:

$$E_{it}^o = \alpha_0 + \alpha_1 MIPEX_{it-1} + \alpha_2 H_{it}^o + \alpha_3 X_{it}^o + \alpha_4 U_{it-1} + \alpha_5 LM_{it} + \alpha_6 E_{it}^N + \alpha_t + \alpha_i + \varepsilon_{it0} \quad (1)$$

where  $E_{it}^o$  is the employment rate of immigrants from origin group  $o$  ( $o \in \{Total\ immigrants, EU\ immigrants, nonEU\ immigrants\}$ ) at time  $t$  in country  $i$ ;  $MIPEX_{it-1}$  is the migration integration policy indicator either aggregate or divided into 6 categories of sub-indicators (labour market mobility, family reunion, permanent residence, nationality acquisition, anti-discrimination, political participation) in country  $i$  at time  $t - 1$ ;  $H_{it}^o$  is the share of immigrants from origin group  $o$  living in country  $i$  at time  $t$ ;  $X_{it}^o$  is a vector of variables accounting for the characteristics of immigrants from origin group  $o$  in country  $i$  at time  $t$ , such as age, gender and the level of education;  $U_{it-1}$  is the unemployment rate in country  $i$  at time  $t - 1$ ;  $LM_{it}$  is a vector of variables accounting for labour market characteristics of country  $i$  at time  $t$ , namely employment protection legislation, union density, the net replacement rate when unemployed and active labour market policies as a share of GDP;  $E_{it}^N$  is the employment rate of natives in country  $i$  at time  $t$ ;  $\alpha_0$  is a constant;  $\alpha_t$  is the year fixed effect;  $\alpha_i$  is the country fixed effect and  $\varepsilon_{it0}$  are the residuals.

All regressions are estimated using ordinary least square without fixed effects (OLS), with year fixed effects, with country fixed effects and with both year and country fixed effects simultaneously.

The year fixed effects are included to control for any shock common to all countries that could influence the employment rate of first-generation immigrants. In addition, our variable of interest, MIPEX, but also some control variables, such as the employment protection legislation index, are relatively invariant over time. They could therefore capture not only changes in policies but also other time-invariant country characteristics which are not included in the regression. To avoid this, we also consider results including country fixed effects.

Following the recommendation made by researchers concerning the MIPEX score (Bilgili *et al.*, 2015), which indicates that the immigrant population should not be considered as a homogenous group - we not only run regressions for the total immigrant population, but also provide two additional analyses for EU immigrants and non-EU immigrants.

Finally, because of potential reverse causality issue, it is challenging to provide a robust assessment of whether different policies are effective. For example, an integration policy which shows a detrimental impact on the employment rate of immigrants could, in fact, have been implemented because of the initial low level of employment of immigrants in that country, so that the relationship goes in the other direction. To avoid this, we consider the lagged value of the MIPEX, both for the aggregate indicator and for the sub-indicators. By doing this, we analyse how a change in integration policy in the previous year ( $t - 1$ ) influences the employment rate of immigrants in the year  $t$ .

A similar reverse causality issue may hold for the proportion of high-skilled immigrants. Results providing a significant positive effect of a higher share of tertiary educated

immigrants could be due to a higher attractiveness of the country for the high skilled because of the high employment rate for immigrants. The definition we used to take into account the level of education, partly solves this issue since we do not consider the share of high-skilled immigrants as such (linked to the level of employment in the country) but how their proportion differs from that of natives. In a second step (see Section 5), we also provide a further analysis of which factors influence the attractiveness of the host country - and the role therein of integration policies - with an additional analysis by level of education. This second analysis also allows us to measure the indirect effect of MIPEX on the employment rate of immigrants through a change in the number of high-educated immigrants entering the country.

### 4.3 Main findings

The results of the estimations of equation (1) are summarised in Table 3.<sup>13</sup> The one-year lagged value of the MIPEX overall index has no significant impact on the employment rate of immigrants (columns 1, 2, 3 and 4). This result could, nevertheless, be influenced by the fact that various types of integration policies can have opposite effects on the employment rate. While some policies could be positively linked to the labour market performance of immigrants, other policies could be negatively associated to it, so that on average the effect is zero. To test this hypothesis, we estimate equation (1) again but taking the 6 sub-indicators of the MIPEX, namely labour market mobility, family reunion, permanent residence, access to nationality, anti-discrimination, and political participation. Results are presented in Table 3 columns 1', 2', 3' and 4'.

Controlling for other potential explanatory variables, the employment rate of immigrants tends to be higher in countries with more generous integration policies regarding family reunion, political participation and anti-discrimination. On the contrary, the employment rate tends to be on average lower in countries with policies favouring labour market mobility, permanent residence and access to nationality. This a priori counter-intuitive result could be explained by those policies potentially inducing immigrants to invest in human capital or to upscale their skills making them temporarily leaving the labour market. Effects can therefore show up in the long run or can be more visible on the qualitative side (e.g. in terms of a better paid job, better matching with respect to qualifications, etc.). When adding country fixed effects to account for time-invariant country characteristics, only anti-discrimination policies remain with a positive and statistically significant effect at 90%. Family reunion shows up with a negative coefficient significant at 90%. One potential explanation could be that implementing a reform favouring family reunion brings in the territory immigrants who are less in line with labour demand within the host country or less likely to work. Indeed, the literature shows an employment penalty for migrants coming for family reasons in comparison to economic migrants (see for example Lens *et al.*, 2018; Piton and Rycx, 2021).

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<sup>13</sup> The entire table with coefficients of control variables are available in appendix Table A1.

**Table 3**  
**Impact of integration policies on employment rate of total immigrants**

	(1)	(1')	(2)	(2')	(3)	(3')	(4)	(4')
MIPEX Overall index	-0.01 (0.01)		0.07 (0.16)		-0.01 (0.02)		0.08 (0.15)	
Labour market mobility		-0.04** (0.02)		0.01 (0.07)		-0.04*** (0.01)		0.02 (0.07)
Family reunion		0.09*** (0.02)		-0.07* (0.03)		0.09*** (0.01)		-0.06* (0.03)
Permanent residence		-0.03* (0.02)		-0.03 (0.04)		-0.03 (0.02)		-0.03 (0.05)
Access to nationality		-0.10*** (0.01)		0.01 (0.05)		-0.10*** (0.02)		0.00 (0.05)
Anti-discrimination		0.03 (0.02)		0.13* (0.07)		0.03* (0.01)		0.13* (0.06)
Political participation		0.05*** (0.02)		-0.01 (0.04)		0.05*** (0.01)		-0.01 (0.04)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	No	No	No	No	Yes	Yes	Yes	Yes
Country fixed effect	No	No	Yes	Yes	No	No	Yes	Yes
Observations	283	283	283	283	283	283	283	283
R-squared	0.783	0.847	0.769	0.792	0.767	0.836	0.777	0.799
Number of countries	24	24	24	24	24	24	24	24
Number of years	13	13	13	13	13	13	13	13

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Control variables include share of working age immigrants compared to natives, share of men immigrants compared to natives, share of high-educated immigrants compared to natives, share of low-educated immigrants compared to natives, share of immigrants among the total population, unemployment rate one year before, employment protection legislation, union density, net replacement rate in case of unemployment, active labour market policies as a % of GDP and employment rate of natives. The sample covers EU countries except Cyprus, Malta, Bulgaria and Romania over the period 2007-2019.

To see how the coefficients of the MIPEX varies over time, we rerun equation (1) but lagging MIPEX two or three years instead of just one year.<sup>14</sup> For the aggregate indicator, coefficients remain statistically insignificant. Regarding the sub-indicators, it is interesting to note that the negative coefficient of family reunion when accounting for country fixed effects disappears when we consider the two or three lagged values. Access to nationality, conversely, remains negatively associated with the employment rate of immigrants and this is also true when adding country fixed effects. One potential explanation could be linked to the eligibility for social insurance programs which are conditioned on citizenship acquisition in some countries. Nevertheless, most of the literature, mainly focusing on the effect of citizenship acquisition at the individual level, show a positive impact on employment (Bignandi and Piton, forthcoming; Fougère and Safi, 2009; Bevelander and Pendakur, 2012; Gathmann and Keller, 2018; Peters et al., 2018; Hoxhaj et al., 2020). More research is hence needed to better understand how granting citizenship can have a detrimental effect on the employment rate at an aggregate level.

Finally, considering the two or three year lagged value preserves the positive link with anti-discrimination policies when adding country fixed effects and the coefficient increases with the considered lag depth. An increase by one standard deviation in the anti-discrimination index leads to a rise of 2.4 percentage points in the employment rate of immigrants after one year, 3 percentage points after two years and 3.4 percentage points after three years.

<sup>14</sup> See Appendix Tables A2 and A3.

As previously stated, immigrants are an heterogeneous group and regarding the employment rate, non-EU immigrants are facing more obstacles to be employed than EU immigrants. We therefore run equation (1) separately for EU and non-EU immigrants (see Table 4). Conversely to what could be expected, our results show that in countries where migrant integration policies are more developed, the employment rate of EU immigrants is higher (columns 1 and 3) and the one of non-EU immigrants is lower (column 5 and 7). A higher degree of integration policies does not seem to raise the labour market integration of non-EU immigrants. This can indicate that other obstacles, not solved by those policies, remain, such as a lack of human capital specific to the host country or difficulties with diploma recognition. Note that within a country, i.e. controlling for country fixed effects, no statistically significant relationship is found between the MIPEX and the employment rates of both EU (columns 2 and 4) and non-EU immigrants (columns 6 and 8).

Regarding the MIPEX sub-indicators, results also vary depending on immigrants' origin. A higher index for anti-discrimination, permanent residence and labour market mobility is positively associated with a higher employment rate of EU immigrants (columns 1' and 3'). Conversely, the employment rate of EU immigrants is lower in countries allowing for family reunion more easily. Nevertheless, one should note that given free movement of people within the EU (Directive 2004/38/EC), this indicator is mainly capturing changes in rules for non-EU immigrants. In other words, this negative coefficient means that countries favouring family reunion for non-EU immigrants have a lower employment rate among immigrants with an EU origin. None of those sub-indicators' coefficients, however, remains statistically significant after the introduction of country fixed effects (columns 2' and 4'). Integration policies do not seem to be particularly relevant for the labour market integration of EU immigrants, which makes sense since they already have similar rights than natives in many aspects unlike third country nationals.

**Table 4**  
**Impact of integration policies on employment rate of immigrants by origin**

	EU immigrants								Non-EU immigrants							
	(1)	(1')	(2)	(2')	(3)	(3')	(4)	(4')	(5)	(5')	(6)	(6')	(7)	(7')	(8)	(8')
MIPEX Overall index	0.11*** (0.02)		-0.06 (0.07)		0.12*** (0.02)		-0.04 (0.08)		-0.08*** (0.02)		-0.09 (0.11)		-0.08*** (0.03)		-0.05 (0.08)	
Labour market mobility		0.07*** (0.03)		0.03 (0.06)		0.06* (0.03)		0.04 (0.05)		-0.05*** (0.01)		-0.07 (0.05)		-0.05*** (0.01)		-0.07 (0.04)
Family reunion		-0.07*** (0.02)		-0.07 (0.04)		-0.07*** (0.02)		-0.05 (0.05)		0.20*** (0.02)		0.02 (0.03)		0.20*** (0.02)		0.00 (0.04)
Permanent residence		0.08** (0.03)		0.00 (0.05)		0.08*** (0.02)		0.02 (0.06)		-0.09*** (0.02)		-0.07*** (0.02)		-0.10*** (0.02)		-0.07** (0.03)
Access to nationality		-0.01 (0.02)		0.01 (0.04)		-0.00 (0.02)		0.01 (0.04)		-0.12*** (0.02)		-0.10*** (0.02)		-0.12*** (0.02)		-0.06*** (0.02)
Anti-discrimination		0.12*** (0.04)		-0.06 (0.06)		0.09*** (0.03)		-0.05 (0.05)		-0.03 (0.02)		0.03 (0.03)		-0.03 (0.02)		0.03 (0.04)
Political participation		-0.06*** (0.02)		0.00 (0.03)		-0.04 (0.03)		-0.00 (0.03)		0.05*** (0.02)		0.06*** (0.02)		0.05** (0.02)		0.06*** (0.01)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes
Country fixed effects	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Observations	240	240	240	240	240	240	240	240	257	257	257	257	257	257	257	257
R-squared	0.830	0.861	0.709	0.717	0.834	0.854	0.727	0.734	0.751	0.874	0.747	0.771	0.736	0.869	0.793	0.809
Number of countries	22	22	22	22	22	22	22	22	23	23	23	23	23	23	23	23
Number of years	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Control variables include share of working age immigrants compared to natives, share of men immigrants compared to natives, share of high-educated immigrants compared to natives, share of low-educated immigrants compared to natives, share of immigrants among the total population, unemployment rate one year before, employment protection legislation, union density, net replacement rate in case of unemployment, active labour market policies as a % of GDP and employment rate of natives. The sample for EU immigrants' specifications (columns 1 to 4') covers EU countries except Estonia, Lithuania, Cyprus, Malta, Bulgaria, Romania over the period 2007-2019. The sample for non-EU immigrants' specifications (column 5 to 8') covers EU countries except Slovakia, Cyprus, Malta, Bulgaria and Romania over the period 2007-2019.

For immigrants originating from a non-EU country, it is interesting to note that in all specifications (independently of the introduction or not of year and country fixed effects) a higher index for political participation is related to a higher level of employment for non-EU immigrants (columns 5', 6', 7', 8'). Increasing this index by one standard deviation would rise the employment rate of non-EU immigrants by 1.4 to 1.7 percentage points. Moreover, this is the only coefficient keeping a positive and significant sign across regressions. More attention should therefore be devoted in the literature to the understanding of how political participation could increase the labour market integration of non-EU immigrants. Based on previous research on other outcomes than employment (see André and Dronkers, 2016; Bakhtiari *et al.*, 2018), it could be that a higher participation in political decisions help immigrants to defend their common interest and therefore to improve their labour market position.

Considering the employment rate of non-EU immigrants, permanent residence and access to nationality keep a negative and significant sign in all specifications (columns 5', 6', 7', 8'). An increase by one standard deviation of the index for permanent residence could decrease the employment rate of non-EU immigrants by 0.9 to 1.3 percentage points. For access to nationality, the impact corresponds to a reduction of the employment rate by 1.4 to 2.8 percentage points. As stated before, with the possibility to stay in the host country for a long period, immigrants tend to better invest in human capital (language knowledge, training, etc.) but this could temporarily keep them away from the labour market.

#### **4.4 By level of education**

In all previous regressions, estimated coefficients for the control variables are in line with the literature (see Section 2 and Table A1 in Appendix). A particularly interesting finding in our regressions is that the employment rate of immigrants rises with the share of high-educated immigrants compared to the share of high-educated natives. On the contrary, a larger share of low-educated immigrants with respect to the share of low-educated natives seems to have a detrimental impact on the employment rate. Hence, the level of education of immigrants plays a significant role in explaining their employment rate, in line with previous literature which often puts forward the skill composition of migration as one of the main factors influencing the labour market integration of immigrants. To better understand how MIPEX can interact with the level of education, we provide additional analyses for high-, medium- and low-educated immigrants separately.

In order to understand how the MIPEX can influence the labour market integration of immigrants depending on their level of education, we computed employment rates for three categories of education. As indicated above, highly educated individuals are those with tertiary education, the medium educated are those with at most an upper secondary degree, and the low educated are those with a degree up to lower secondary. Following those definitions and relying on LFS database, we computed the employment rate of immigrants, i.e., the number of employed among immigrants aged between 20 and 64 years, for those three levels of education.

A similar multivariate analysis is conducted based on equation (1) but separately for the employment rate of high-, medium- and low-educated immigrants. Results are presented in Tables 5, 6 and 7.<sup>15</sup>

**Table 5**  
**Impact of integration policies on employment rate of high-educated immigrants**

	(1)	(1')	(2)	(2')	(3)	(3')	(4)	(4')
MIPEX Overall index	0.03 (0.02)		-0.02 (0.10)		0.03** (0.01)		-0.02 (0.11)	
Labour market mobility		-0.02 (0.03)		0.06 (0.05)		-0.02 (0.02)		-0.00 (0.05)
Family reunion		0.08*** (0.03)		-0.03 (0.04)		0.08*** (0.02)		-0.05 (0.05)
Permanent residence		-0.03 (0.03)		0.02 (0.03)		-0.03 (0.03)		0.03 (0.03)
Access to nationality		-0.05** (0.02)		0.03 (0.03)		-0.05** (0.02)		0.03 (0.03)
Anti-discrimination		-0.00 (0.03)		0.01 (0.07)		-0.00 (0.03)		0.02 (0.07)
Political participation		0.05*** (0.02)		-0.06* (0.03)		0.05*** (0.01)		-0.05 (0.03)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	No	No	No	No	Yes	Yes	Yes	Yes
Country fixed effects	No	No	Yes	Yes	No	No	Yes	Yes
Observations	295	295	295	295	295	295	295	295
R-squared	0.573	0.602	0.566	0.575	0.544	0.575	0.578	0.587
Number of countries	24	24	24	24	24	24	24	24
Number of years	13	13	13	13	13	13	13	13

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Control variables include share of working age immigrants compared to natives, share of men immigrants compared to natives, share of immigrants among the total population, unemployment rate one year before, employment protection legislation, union density, net replacement rate in case of unemployment, active labour market policies as a % of GDP and employment rate of natives. The sample covers EU countries except Cyprus, Malta, Bulgaria and Romania over the period 2007-2019.

Table 5 presents the results for high-educated immigrants. The overall MIPEX shows a slightly positive and significant coefficient only in the specification with year fixed effects. No effect emerges from other regressions. Distinguishing between EU and non-EU immigrants, results show that countries with a higher MIPEX value also have a higher employment rate among both EU and non-EU high-educated immigrants, with a larger coefficient for immigrants originating from another EU country. Accounting for country fixed effects, however, removes the statistically significant effect for EU immigrants and produces a negative and significant effect for high-educated non-EU immigrants. Looking at sub-indicators, we find that the latter is driven by a negative coefficient for both labour market mobility and access to nationality. Countries with a higher index for family reunion seem to have a higher employment rate among high-educated immigrants, and this regardless of their origin. This result disappears, however, once we control for country fixed effects.

<sup>15</sup> We also did the analysis separately for EU and non-EU immigrants. Results are given in Appendix Tables A4, A5 and A6.

**Table 6**  
**Impact of integration policies on employment rate of medium-educated immigrants**

	(1)	(1')	(2)	(2')	(3)	(3')	(4)	(4')
MIPEX Overall index	0.04** (0.02)		0.18 (0.21)		0.05** (0.02)		0.21 (0.19)	
Labour market mobility		-0.03 (0.02)		-0.04 (0.09)		-0.02 (0.02)		-0.01 (0.08)
Family reunion		0.17*** (0.02)		-0.06 (0.04)		0.18*** (0.02)		-0.06 (0.04)
Permanent residence		-0.06*** (0.02)		-0.03 (0.04)		-0.07*** (0.01)		-0.03 (0.04)
Access to nationality		-0.08*** (0.02)		-0.01 (0.04)		-0.08*** (0.01)		0.01 (0.04)
Anti-discrimination		0.00 (0.03)		0.20** (0.10)		0.00 (0.02)		0.21** (0.09)
Political participation		0.06** (0.02)		0.02 (0.05)		0.06*** (0.01)		-0.00 (0.04)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	No	No	No	No	Yes	Yes	Yes	Yes
Country fixed effects	No	No	Yes	Yes	No	No	Yes	Yes
Observations	295	295	295	295	295	295	295	295
R-squared	0.678	0.748	0.656	0.696	0.657	0.736	0.689	0.730
Number of countries	24	24	24	24	24	24	24	24
Number of years	13	13	13	13	13	13	13	13

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Control variables include share of working age immigrants compared to natives, share of men immigrants compared to natives, share of immigrants among the total population, unemployment rate one year before, employment protection legislation, union density, net replacement rate in case of unemployment, active labour market policies as a % of GDP and employment rate of natives. The sample covers EU countries except Cyprus, Malta, Bulgaria and Romania over the period 2007-2019.

As shown in Table 6, the overall MIPEX coefficient is slightly larger when we consider the employment rate of medium-educated immigrants and significant in OLS and year fixed effect regressions (columns 1 and 3). The effect is marginal since a one standard deviation larger index is associated with a larger employment rate of immigrants by 0.6 to 0.7 percentage points. As far as concerns the sub-indicators, we find that the employment rate of medium-educated immigrants is positively associated with family reunion and political participation, and negatively with permanent residence and access to nationality. Controlling for time-invariant country characteristics, the only type of policy keeping a significant sign is anti-discrimination for which an increase by one standard deviation rises the employment rate of medium-educated immigrants by 3.8 percentage points (columns 2' and 4').

Differentiating by origin – conversely to what has been found for high-educated immigrants – gives a positive coefficient for non-EU (column 8 of Table A5 in Appendix) and for EU (columns 1 and 3 of Table A5 in Appendix) medium-educated immigrants.

The highest coefficient of the overall MIPEX is reported for low-educated immigrants (columns 1 and 3 of Table 7). A higher level of integration policies, is positively linked to the employment rate of immigrants with at most an upper secondary diploma: an increase of one standard deviation increases their employment rate by 3.9 percentage points. More importantly, this result is true for both EU and non-EU immigrants even if the impact for non-EU immigrants is less pronounced (see Table A6 in Appendix).

**Table 7**  
**Impact of integration policies on employment rate of low-educated immigrants**

	(1)	(1')	(2)	(2')	(3)	(3')	(4)	(4')
MIPEX Overall index	0.28*** (0.04)		-0.01 (0.18)		0.28*** (0.04)		0.03 (0.17)	
Labour market mobility		-0.08** (0.04)		-0.03 (0.08)		-0.06*** (0.02)		-0.02 (0.08)
Family reunion		0.28*** (0.04)		-0.07 (0.05)		0.27*** (0.05)		-0.08 (0.07)
Permanent residence		-0.13** (0.06)		-0.16** (0.06)		-0.13 (0.08)		-0.15** (0.06)
Access to nationality		-0.07* (0.04)		-0.14* (0.08)		-0.08** (0.03)		-0.13 (0.08)
Anti-discrimination		-0.03 (0.06)		0.19*** (0.06)		-0.03 (0.04)		0.20*** (0.07)
Political participation		0.26*** (0.03)		0.12* (0.07)		0.26*** (0.03)		0.12 (0.07)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	No	No	No	No	Yes	Yes	Yes	Yes
Country fixed effects	No	No	Yes	Yes	No	No	Yes	Yes
Observations	260	260	260	260	260	260	260	260
R-squared	0.452	0.595	0.599	0.645	0.453	0.595	0.615	0.658
Number of countries	22	22	22	22	22	22	22	22
Number of years	13	13	13	13	13	13	13	13

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Control variables include share of working age immigrants compared to natives, share of men immigrants compared to natives, share of immigrants among the total population, unemployment rate one year before, employment protection legislation, union density, net replacement rate in case of unemployment, active labour market policies as a % of GDP and employment rate of natives. The sample covers EU countries except Poland, Slovakia, Cyprus, Malta, Bulgaria and Romania over the period 2007-2019.

Family reunion and political participation seem to play a significant positive role, while permanent residence and nationality acquisition keep a negative sign even when adding country fixed effects. Note that labour market mobility is negatively linked with the employment rate of low-educated immigrants probably because this type of policy gives them the opportunity to upgrade their skills and therefore makes them temporarily inactive. Anti-discrimination policies again come with a positive and statistically significant coefficient when adding country fixed effects (columns 2' and 4'), of the same magnitude so that implementing a reform within a country to improve anti-discrimination raises the employment rate of low-educated immigrants of the same magnitude as for medium-educated immigrants.

## 5 MIPEX and the inflow of immigrants

As indicated above, the employment rate of immigrants varies with the skill level of migrants, which in turn may be influenced by integration policies acting as a pull factor for migrants in general or migrants of a certain skill level. In this Section, we therefore analyse the impact of integration policies on the size and skill composition of migration flows to the EU. We will conduct two separate analyses as data on the skill composition of global bilateral migration flows are not available to date (existing time-varying global datasets either break down migration flows or stocks by country of origin, or skill levels). In Section 5.1, we present the constructed databases as well as the definitions of the variables used. In Section 5.2, we describe the methodology. The main findings are provided in Section 5.3 and Section 5.4 extends the analysis to the employment rate by level of education of immigrants.

## 5.1 Database

To empirically explore how immigration flows to the EU have been shaped by integration policies in potential EU destination countries, two different datasets have been compiled: one to investigate the impact on bilateral migration flows, and one to analyse the impact on the unilateral inflow of high-, medium-, and low-skilled migrants as well as their share in the total unilateral inflow of migrants.

### 5.1.1 Aggregate analysis

In the aggregate analysis, information on yearly bilateral migration flows is taken from the database created by Rayp and Standaert (2022). The authors make use of a state-space model approach which allows to combine information on migration stocks and flows from different sources together with a demographic model to help estimate the most likely value for their missing data. This technique is similar to the demographic accounting technique employed by Abel and Cohen (2019), but an important difference is that the use of the state-space model allows to combine multiple data sources containing both stocks and flows in order to get yearly estimates. Specifically, the authors combine the Database on Immigrants in OECD and non-OECD Countries (DIOC) for migration stocks, the OECD's International Migration Database capturing yearly flows of migrants, and data on population size as well as death rates from the World Health Organisation. This imputed database is preferred over non-imputed data usually used in the literature because it provides information on a larger sample size.

The dependent variable is computed as the migration rate, i.e., the bilateral migration flow from origin country  $o$  to destination country  $i$  divided by the number of natives in  $o$ , with natives computed as the total population minus the total stock of migrants in the country of origin in line with the underlying micro foundations of the RUM model of migration (see Beine *et al.*, 2016). Note that the numerator of the migration rate is computed as the difference in migrant stocks between two consecutive years (hence a proxy of net migration), which may take negative values (38.5 %). Since the Pseudo Poisson Maximum Likelihood (PPML) estimator that will be used – the common technique to estimate a gravity model of migration (see Section 5.2) - cannot handle negative values, different strategies have been applied in the literature: either ignoring negative flows altogether, hence dropping them from the sample, setting them to zero, or adding them to the reverse corridor (see Beine *et al.*, 2016). We take the last strategy as this is the most accurate making maximum use of the information at hand.

The explanatory variables then include the log of the MIPEX or its sub-indicators (limited as in the previous Sections to labour market mobility, family reunion, permanent residence, access to nationality, anti-discrimination, and political participation).<sup>16</sup>

Furthermore, we control for the traditional determinants of migration in the gravity framework, namely economic and socio-political push and pull factors as well as network effects and geographical and cultural proximity, and we – quite uniquely - also add an indicator of the ease of entry into the destination country defined by migration policies.

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<sup>16</sup> The education and health sub-indicators of the MIPEX are not considered because of their limited availability which would imply a large drop in sample size. Specifically, the health indicator is only available as of 2014, and the education indicator is in 2007 and 2008 only available for 2 countries (Finland and Norway).

Specifically, we include the log of real gross domestic product (GDP) per capita in purchasing power parities (PPP) standard international 2007 dollars and the log of the unemployment rate estimated by the International Labour Organisation, both taken from the World Bank's World Development Indicators. We also account for the country of origin's level of democracy (see also Docquier *et al.*, 2007; Campos and Gassebner, 2013), as well as for episodes of political instability, both taken from the Polity IV project database (Center for Systemic Peace, 2017), and conflict. Specifically, the level of democracy is measured during the year before the interview using the Polity IV index scores ranging between -10 (autocratic) and +10 (democratic). The political instability dummy takes the value one if the level of democracy (rated between -10 and +10 in the Polity IV) changed in absolute terms with at least three values during the three years preceding the respective migration rate. Data on conflicts comes from the Uppsala Conflict Data Program/International Peace Research Institute Oslo (UCDP/PRIO) Armed Conflict Dataset (see Gleditsch, 2009; Themnér and Wallensteen, 2013), which considers every kind of wars, from extra-systemic conflicts to interstate, intrastate, and internationalised intrastate wars. UCDP defines conflict as a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths. Therefore, our conflict dummy takes the value one if there was at least one conflict with more than 25 battle-related deaths within the country during the year before the recorded migration rate.

To proxy for network effects, we include the log of the yearly bilateral migrant stock also taken from Standaert and Rayp (2022). Friends or relatives already residing in a potential destination are known to lower both the monetary and psychological cost of migration by providing help to find housing, a job or information about the migration process (see for example Beine *et al.*, 2011; Bertoli and Ruysen, 2018). In the regressions distinguishing between migrants coming from EU versus non-EU countries, also the network variable is adjusted accordingly: we include in this case the stock of migrants from EU countries in the regressions for intra-EU migration and consider only the stock of migrants from non-EU countries in the regressions explaining migration from non-EU to EU countries.

Geographical proximity is measured by the geographical distance between countries of origin  $o$  and destination  $i$ , as well as a dummy for a common border, while cultural proximity is captured through a common language dummy. Data for these variables is extracted from the CEPII database (Mayer and Zignago, 2011).

Finally, to capture restrictiveness in entry policies, we include the Migration Policy Entry Index compiled by Rayp *et al.* (2017).<sup>17</sup> Higher values of this index indicate more restrictive entry policies in destination countries.

All continuous variables are lagged one year to avoid endogeneity stemming from contemporaneous reverse causality. To avoid losing observations with zero values, we added the small number 0.00001 before taking logs. Overall, this dataset provides information for

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<sup>17</sup> Note that the Migration Policy Entry Index is only available until 2014, so that its inclusion implies a reduction in sample size.

153 countries of origin and all EU<sup>18</sup> destination countries (except Malta) for the period 2008-2017.

### 5.1.2 Analysis by education level

For the analysis by education level, data on the two dependents for the size of immigrant inflows by skill level and their share in the total immigrant inflow comes from the Eurostat Labour Force Surveys (see Section 4.1. for more explanation). Specifically, we take – as in Section 3 - the difference in the stock of high-, medium-, and low-skilled immigrants between two consecutive years which gives a proxy for the size of net immigrant inflows by skill level. The share of each category of immigrants by skill level is then obtained by dividing this net inflow by the difference in the total stock of immigrants (regardless of skill level) between two consecutive years which proxies for the net inflow of all immigrants. Both dependent variables will enter the empirical specification in logs (see Section 5.2) but – as in the aggregate analysis – there are negative flows (around 33 % of the sample, mostly for Eastern European destination countries in certain years) which need to be dealt with. Unlike in the aggregate analysis, there are now only two possible strategies: either ignoring the negative flows which implies a reduction of the sample size or setting them to a very small number (0.00001) which would allow to keep them in the sample after taking logs. Given that the latter is introducing measurement error and hence a source of bias, the first strategy is the preferred option, even if this comes with a reduction of the sample size (and source of identification) and hence a lower chance of picking up any significant effects. It is important to keep this in mind when interpreting the results which are now obtained on a subsample involving primarily Western and Southern EU country-years (traditional destinations of immigration). Yet, this is probably also the most important sample to learn anything about the role of integration policies on migration flows (it makes little sense to look at the role of integration policies in emigration countries that primarily see people leave). As a robustness check, we will however also run and report on regressions using the second approach.

The analysis by education level makes use of the same MIPEX indicator and sub-indicators as in the aggregate analysis. The same holds for the economic pull factors (GDP per capita in PPP and the unemployment rate), the network effects (proxied by either the entire stock of migrants, or by migrants from EU countries or from non-EU countries only as before) and the Migration Policy Entry Index. In addition, we now also consider an index for the skill selectivity of migration policies in destination countries taken by Rayp *et al.* (forthcoming). The latter use data from the Determinants of International Migration (DEMIG) Policy database, augmented with data on bilateral labour agreements, immigrant investor programmes and economic citizenship programmes to construct different indexes that track the selectivity of migration policy for 42 (mostly OECD) countries between 1990 and 2014.<sup>19</sup> The sample contains information for the period 2007-2019 for the EU countries.

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<sup>18</sup> EU countries are defined as at the time of the dataset, so that the United Kingdom is still considered as an EU country.

<sup>19</sup> As with the Migration Policy Entry Index, inclusion of this variable removes observations after 2014.

## 5.2 Methodology

### 5.2.1 Aggregate analysis

Given the different structures of the data in the aggregate analysis versus the analysis by education levels (see above), the methodological approach also differs.

In the aggregate analysis, a gravity model of migration is estimated. The model is rooted in the micro-economic random utility maximisation (RUM) model of migration, which has become the consensus model in the literature to understand the migration and location decision of migrants (see Beine *et al.*, 2016).

$$M_{it}^o = \beta_0 + \beta_1 MIPEX_{it-1} + \beta_2 Z_{it-1}^o + \beta_3 V_i^o + \beta_o + \beta_i + \mu_{it}^o \quad (2)$$

where  $M_{it}^o$  denotes the bilateral flow of migrants from origin country  $o$  to destination country  $i$  at time  $t$ .  $MIPEX_{it-1}$  denotes either the lagged log of the overall MIPEX indicator or the vector of its sub-indicators, which are the determinants of interest. The vector  $Z_{it-1}^o$  contains the lagged value of the economic and sociopolitical push and pull factors (GDP per capita and the unemployment rate in the countries of origin  $o$  and destination  $i$ , and the level of democracy, political instability and conflict in origin countries) as well network effects (the stock of migrants from country  $o$  in destination country  $i$ ), and an indicator of the ease of entry into the destination country defined by migration policies (MPR). The vector  $V_i^o$  comprises proxies for geographical and cultural proximity (the log of the distance between counties  $o$  and  $i$ , a dummy for a common border and a dummy for a common language).

In addition to the control variables, we also include origin and destination fixed effects (respectively  $\beta_o$  and  $\beta_i$ ) to control for time-invariant unobserved characteristics of the countries of origin and destination (including the size of the population). The inclusion of destination fixed effects also allows to control for the unknown initial levels of the migration policy variables. Various robustness checks are conducted to evaluate the impact on the results from the use of different fixed effects structures (i.e., also adding year fixed effects, replacing the origin and destination fixed effects by dyad (origin-destination) fixed effects, the combination of dyadic and year fixed effects, or origin-year and destination fixed effects, which allows to account for outward multilateral resistance to migration (see Bertoli and Fernández-Huertas Moraga, 2013).

Equation (2) is estimated using the PPML estimator, as this allows to include zero migration flows (43 %) and avoids the endogeneity problems associated with the log-linear model in the presence of heteroskedasticity (Santos Silva and Tenreyro, 2006). Standard errors are clustered by destination country.

### 5.2.2 Analysis by education level

The model that we use to estimate the impact of integration policies on the size of migration inflows by skill level (scale) and their share in the total immigrant inflow in the analysis by education level (structure) is also derived from the standard RUM framework. Specifically, we follow the literature assessing the effectiveness of skill selective measures (which make use of the same dependent variables as defined for the purpose of our analysis) and estimate the impact of integration policies on the scale and the structure of the immigrant flows for the different skill levels (see for example Grogger and Hanson, 2011).

The general specification of the **scale** equation is as follows:

$$M_{it}^{ok} = \gamma_0 + \gamma_1 MIPEX_{it-1} + \gamma_2 W_{it-1}^{ok} + \gamma_i + \eta_{it} \quad (3)$$

where  $M_{it}^{ok}$  denotes the inflow of immigrants from origin group  $o$  ( $o \in \{Total\ immigrants, EU\ immigrants, nonEU\ immigrants\}$ ) and with skill level ( $k \in \{high, medium\ or\ low\ skill\}$ ), denoting respectively the inflow of high-, medium-, or low-skilled immigrants) in country  $i$  at time  $t$ .  $MIPEX_{it-1}$  denotes either the lagged log of the overall MIPEX indicator or the vector of its sub-indicators, which are the determinants of interest, and  $W_{it-1}^k$  represents the lagged vector of the control variables. As explained above,  $W_{it-1}^{ok}$  includes the lagged GDP per capita and unemployment rate; the (origin-specific EU or non-EU) lagged stock of migrants in each destination country, as an indicator of the network component of migration costs, all expressed in logs. Furthermore, we model the policy component of bilateral costs in terms of two indexes of migration policies capturing either restrictiveness (MPR) or skill selectivity (MPS<sup>skill</sup>), both lagged one year to control for potential contemporaneous reverse causality as well as for the delay with which migration policy rules usually come into effect.

The **structure** equation takes the following general form:

$$\frac{M_{it}^{ok}}{M_{it}^o} = \rho_0 + \rho_1 MIPEX_{it-1} + \rho_2 W_{it-1}^{ok} + \rho_i + \zeta_{it} \quad (4)$$

where the dependent variable reflects the share of immigrants  $M_{it}^k$  from a specific skill category  $k = high, medium, or low skill$ , in the total migrant inflow  $M_{it}$ . The right-hand side variables are the same as in the scale equation (3).

Unlike in the aggregate analysis, the dependent variables in the unilateral analysis by education level never take the value zero, such that the scale and structure equations can be estimated using linear estimation techniques. Specifically, both models are estimated using Ordinary Least Squares with country fixed effects (denoted by  $\gamma_i$  and  $\rho_i$ , respectively) to account for unobserved time-invariant characteristics of destination countries. The inclusion of destination fixed effects also allows to control for the unknown initial levels of the migration policy variables MPR and MPS<sup>skill</sup>. Standard errors are robust to heteroskedasticity and serial correlation and clustered by country of destination.

### 5.3 Main findings

In what follows, we present the results from the aggregate analysis: first for the entire set of origin countries (Table 8) and then distinguishing between immigrants from EU and non-EU countries (Table 9). For regressions on the overall sample of origin countries, we report in column 1 the results from a specification including only the overall MIPEX indicator and traditional control variables. In column 2, we then add also the indicator for the restrictiveness of migration policies, reducing the sample size to the years before 2015.<sup>20</sup> In column 3, we then also add an interaction term between the MIPEX and the restrictiveness of migration policies. In column 4, we rerun the regression reported in column 1 but replacing

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<sup>20</sup> We do not run regressions including the indicators of the restrictiveness when considering the sample of EU origins only, given that intra-EU migration is not subject to restrictions.

the overall MIPEX indicator by its sub-indicators. Finally, column 5 considers sub-indicators when adding the restrictiveness of migration policies as in column 2.

**Table 8**  
**Impact of integration policies on bilateral migration rates**

	Overall MIPEX (1)	Entry control (2)	Interaction (3)	Sub-indicators (4)	Sub-ind & entry (5)
MIPEX i	1.62 (1.26)	-2.60* (1.55)	-4.22* (2.21)		
ln GDP pc o	-1.63*** (0.42)	-1.46* (0.77)	-1.39* (0.82)	-0.87** (0.41)	-1.32* (0.73)
ln GDP pc i	0.88 (1.16)	2.08 (1.68)	2.55 (1.66)	1.30* (0.70)	1.63 (1.61)
ln Unemployment rate o	0.12 (0.15)	0.15 (0.19)	0.17 (0.19)	0.29** (0.14)	0.17 (0.18)
ln Unemployment rate i	-1.49*** (0.37)	-0.85 (0.62)	-0.76 (0.60)	-1.48*** (0.30)	-0.94* (0.50)
ln Migrant stock oi	0.80*** (0.06)	0.77*** (0.07)	0.77*** (0.07)	0.80*** (0.06)	0.77*** (0.07)
Democracy o	-0.03 (0.04)	0.01 (0.04)	0.00 (0.04)	-0.03 (0.03)	0.00 (0.04)
Political instability o	0.18*** (0.06)	0.00 (0.17)	0.01 (0.16)	0.19*** (0.06)	0.02 (0.16)
Conflict o	-0.03 (0.11)	0.01 (0.07)	0.00 (0.06)	0.03 (0.11)	-0.01 (0.06)
Common border	-0.20 (0.14)	-0.24 (0.19)	-0.25 (0.19)	-0.21 (0.14)	-0.25 (0.19)
Common language	0.18 (0.16)	0.18 (0.17)	0.18 (0.17)	0.17 (0.15)	0.18 (0.17)
ln Distance	-0.07 (0.09)	-0.10 (0.11)	-0.10 (0.11)	-0.06 (0.09)	-0.09 (0.11)
MPR Entry i		1.45** (0.60)	4.93 (3.31)		1.14** (0.49)
MIPEX x MPR Entry i			-0.84 (0.87)		
ln Labour market mobility				-0.80 (0.64)	-0.39 (0.77)
ln Family reunion				0.33 (0.31)	-0.61** (0.31)
ln Permanent residence				1.59** (0.70)	1.15** (0.48)
ln Access to nationality				0.17 (0.39)	-0.07 (0.56)
ln Anti-discrimination				-1.49** (0.72)	-1.43** (0.72)
ln Political participation				0.01 (0.02)	-2.15* (1.11)
Constant	-12.85 (11.74)	-9.48 (22.54)	-8.78 (22.90)	-17.34* (9.90)	-3.77 (22.15)
Observations	36838	25333	25333	36838	25333
R2	0.242	0.240	0.240	0.244	0.241
Number of destinations	27	27	27	27	27
Number of years	10	7	7	10	7

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the PPML estimator with origin and destination fixed effects. Standard errors are clustered by country of destination. The period covered is 2008-2017 in columns 1 and 4, and 2008-2014 otherwise (inclusion of the MPR Entry index removes observations after 2014). The sample of destination countries covers the EU countries except Malta.

The impact of the traditional control variables is as expected. We find – as usual in gravity estimations – evidence for strong network effects as proxied by the stock of migrants, which appears with a statistically significant effect throughout all specifications in Table 8. GDP per capita and political instability in the country of origin (push factors) also come with an expected positive significant effect in some regressions. The same holds for GDP per capita and the unemployment rate in the destination (pull factors). None of the bilateral variables (common language, common border, and geographical distance) has a significant impact on bilateral flows, after controlling for origin and destination fixed effects. Similarly, we find no effect from the level of democracy and the occurrence of conflict in the country of origin.

In the regressions for all migrants, it appears that the overall MIPEX (lagged one year) does not affect bilateral migration flows towards EU countries (Table 8, column 1). This is also the case when adding year fixed effects (see column 1 of Appendix Table A7). When including alternatively bilateral origin-destination fixed effects, we obtain a negative effect that is marginally significant (Table A7, column 2), but this effect does not survive the inclusion of year fixed effects (Table A7, columns 3 and 4). Interestingly, the effect is positive and significant when we consider the second or third rather than the first lag of the MIPEX (see Appendix Tables A8 and A9).

When the MPR Entry index is included (Table 8, column 2), the MIPEX becomes marginally significant though with an unexpected negative sign. In this case, also the coefficient on the MPR entry index has the wrong sign (positive) which would suggest that countries with tougher entry policies see more migrants coming. When adding also an interaction term between both (Table 8, column 3), only the MIPEX keeps its significant negative sign, though still only at the 10 % significance level. Note, however, that the inclusion of the restrictiveness of entry policies reduces the sample (years after 2014 are no longer considered), so we cannot account for the most recent migration flows in these columns. When considering the second or third lag of the MIPEX (see Appendix Tables A8 and A9), the MIPEX no longer has a significant effect when entry policies or their interaction are controlled for.

When we alternatively include the MIPEX sub-indicators (Table 8, column 4), we find a positive significant effect from permanent residence suggesting that migration is larger towards EU countries with more options for permanent stay. Anti discrimination measures come with a negative significant effect, though. When controlling also for entry policies (Table 8, column 5), also the coefficient of family reunion and political participation become (marginally) significant. These effects are robust to the inclusion of different fixed effects structures, as shown in Appendix Table A7, columns 5-8 (addition of year fixed effects, bilateral origin-destination fixed effects, the combination of both or origin-year and destination fixed effects).

Looking at the second lag of the sub-indicators (Appendix Table A8, columns 4-5), only permanent residence appears with a significant effect in the overall sample (positive sign), and only political participation (negative sign) in the reduced sample when the migration entry policies are controlled for. The same effects are obtained in the opposite columns when considering the third lag of the sub-indicators (Appendix Table A9, columns 4-5).

**Table 9**  
**Impact of integration policies on bilateral migration rates from EU vs non-EU migrants**

	EU migrants		Non-EU migrants				
	Overall MIPEX	Sub- indicators	Overall MIPEX	Entry control	Interaction	Sub- indicators	Sub-ind & entry
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
MIPEX i	1.76** (0.73)		1.13 (1.95)	-4.51** (1.86)	-6.08* (3.11)		
ln GDP pc o	-2.45*** (0.70)	-1.77** (0.69)	-1.30*** (0.49)	-0.42 (0.68)	-0.40 (0.68)	-0.57 (0.44)	-0.22 (0.71)
ln GDP pc i	1.24 (1.35)	1.50 (0.99)	0.77 (1.56)	0.34 (2.61)	0.56 (2.54)	0.83 (1.25)	-0.43 (2.79)
ln Unemployment rate o	0.01 (0.18)	0.16 (0.16)	0.19 (0.16)	-0.03 (0.23)	-0.01 (0.23)	0.27* (0.16)	0.05 (0.23)
ln Unemployment rate i	-1.40*** (0.33)	-1.42*** (0.28)	-1.56*** (0.51)	-0.83 (0.77)	-0.75 (0.76)	-1.55*** (0.46)	-1.01 (0.65)
ln Migrant stock oi	0.77*** (0.08)	0.78*** (0.08)	0.76*** (0.07)	0.71*** (0.09)	0.71*** (0.09)	0.77*** (0.07)	0.71*** (0.09)
Democracy o			-0.03 (0.04)	0.02 (0.04)	0.01 (0.04)	-0.03 (0.03)	0.01 (0.03)
Political instability o			0.18*** (0.06)	0.05 (0.13)	0.05 (0.13)	0.19*** (0.06)	0.06 (0.12)
Conflict o			-0.01 (0.10)	0.07 (0.08)	0.07 (0.07)	0.08 (0.11)	0.05 (0.07)
Common border	-0.13 (0.21)	-0.14 (0.21)	0.26 (0.36)	0.24 (0.47)	0.23 (0.47)	0.26 (0.36)	0.23 (0.47)
Common language	-0.29 (0.30)	-0.29 (0.31)	0.39** (0.15)	0.45** (0.18)	0.45** (0.18)	0.38** (0.15)	0.45** (0.18)
ln Distance	-0.18 (0.15)	-0.17 (0.15)	0.03 (0.18)	0.04 (0.23)	0.04 (0.24)	0.04 (0.19)	0.04 (0.23)
MPR Entry i				3.02*** (0.58)	7.72 (5.15)		2.05*** (0.58)
MIPEX x MPR Entry i					-1.15 (1.32)		
ln Labour market mobility		-0.74 (0.49)				-0.79 (1.00)	-0.31 (0.70)
ln Family reunion		0.25 (0.24)				0.47 (0.42)	0.10 (0.50)
ln Permanent residence		1.24* (0.69)				1.82** (0.84)	1.06* (0.63)
ln Access to nationality		0.29 (0.33)				0.03 (0.63)	-0.73 (0.98)
ln Anti-discrimination		-0.91 (0.68)				-1.96** (0.86)	-1.96** (0.82)
ln Political participation		0.05*** (0.01)				-0.03 (0.03)	-2.73** (1.21)
Constant	-7.10 (14.48)	-10.50 (12.85)	-14.10 (14.63)	7.24 (32.72)	10.97 (34.35)	-14.76 (15.09)	11.53 (34.18)
Observations	6598	6598	30240	20817	20817	30240	20817
R2	0.197	0.198	0.254	0.251	0.251	0.256	0.252
Number of destinations	27	27	27	27	27	27	27
Number of years	10	10	10	7	7	10	7

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the PPML estimator with origin and destination fixed effects. Standard errors are clustered by country of destination. The period covered is 2008-2017 in columns 1-3 and 6, and 2008-2014 otherwise (inclusion of the MPR Entry index removes observations after 2014). The sample of destination countries covers the EU countries except Malta.

Table 9 repeats the analysis separately for migrants from EU countries (columns 1 and 2), and from non-EU countries (columns 3 to 7). For the former, the MIPEX

now has a positive significant effect in the first column. This is also the case when considering deeper lags of the MIPEX (see Appendix Tables A10 and A11). As for the sub-indicators, we now find a positive and highly significant effect from political participation, while also permanent residence has a positive though only marginally significant effect. A 10 % increase in the political participation index corresponds to a 0.5 percentage point rise in bilateral migration rates from EU countries. The significant effect disappears, however, if we consider the second lag of the sub-indicators (then only permanent residence keeps its positive significant effect at 5 %) (Appendix Table A10, column 1). When focusing on the third lag, also family reunion shows up with a highly significant positive effect, though we should be cautious in interpreting the results from these regressions given that they are obtained on a fairly small sample (Appendix Table A11).

Among the controls, a low GDP per capita at origin appears to act as a major driver of intra-EU flows. High unemployment rates in potential destinations, in turn, act as a strong deterrent for intra-EU migration.<sup>21</sup>

For non-EU migrants, the MIPEX does not have a significant effect. Again, the effect even becomes significantly negative when adding also the entry policies.<sup>22</sup> When focusing on the second lag, the effect is however never significant (Appendix Table A10, columns 3 to 5).

As for the sub-indicators, permanent residence has a positive significant effect in both columns 6 and 7 of Table 9, while anti-discrimination comes with a negative significant effect in both, and also political participation appears with a negative significant effect in the reduced sample when entry policies are controlled for (column 7). Considering the second rather than the first lag of these sub-indicators (Appendix Table A10), similar results are obtained except for anti-discrimination which now does not appear significant. With the third lag (Appendix Table A11), access to nationality becomes negatively significant, though only marginally, and again caution is needed when interpreting these findings.

Interestingly, common language now also appears with a robust positive significant effect across the different columns for non-EU migrants of Table 9, and political instability in origin countries appears with a highly significant positive sign in the regressions reported in columns 3 and 6 (without accounting for entry policies and the reduction in sample size that this implies).

## 5.4 By education level

In this Section, we present the results from the analysis by level of education, both for the scale (Section 5.4.1.) and the structure equation (Section 5.4.2.). We present results for the entire set of origin countries (Tables 10 and 12) and then distinguishing between immigrants from EU and non-EU countries (Tables 11 and 13). For regressions on the overall sample of origin countries, we report in column 1 the results from a specification including only the overall MIPEX indicator and traditional control variables. In column 2, we then add also the

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<sup>21</sup> The controls democracy, political instability, and conflict were dropped from the specification because of the set of origins not showing any variations in these variables.

<sup>22</sup> One might think this stems from multicollinearity between the different aspects of migration policy (entry and integration). Yet, the pairwise correlation between the overall MIPEX indicator and the indicator for the restrictiveness of migration policies stands at only -0.074 for the overall migrant population and at only -0.05 for EU migrants.

indicators for the restrictiveness of migration policies and selectivity in migration policies, reducing the sample size to the years before 2015.<sup>23</sup> In column 3, we then also add an interaction term between the MIPEX and those indicators of migration policies. Results for sub-indicators of MIPEX are presented in column 4 and in column 5, in which we add migration policy indicators as in column 2.

#### *5.4.1. Scale equation*

In the scale equation for high-skilled migrants (see Table 10), we find a positive marginally significant effect of the overall MIPEX indicator. A one percent rise in the MIPEX is associated with a 3 % increase in the size of high-skilled migration. The effect becomes even more significant when controlling also for entry policies and skill selective policies, though the latter do not come with a significant effect (column 2). Moreover, controlling for these policies reduces the sample size by nearly half (there are only 128 observations left). Adding interaction terms between the MIPEX and those policies (column 3) preserves the significant effect of the MIPEX.

Among the control variables, only the lagged log of GDP per capita in the destination appears with a robust positive significant effect (unemployment and migrant stocks do not seem to play a role in determining the size of high-skilled immigration flows).

Focusing on the various sub-indicators of the MIPEX (column 4), we find a positive significant effect from family reunion and anti-discrimination policies and a negative significant effect from political participation. When also controlling for the restrictiveness and skill selectivity of migration policies, none of the sub-indicators appears with a positive significant effect.

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<sup>23</sup> We do not run regressions including the indicators of the restrictiveness or selectivity of migration policies when considering the sample of EU origins only, given that intra-EU migration is not subject to restrictions.

**Table 10**  
**Impact of integration policies on the scale of high-skilled immigration**

	Overall MIPEX	Entry control	Interactions	Sub-indicators	Sub-ind & entry
	(1)	(2)	(3)	(4)	(5)
MIPEX $i$	3.20*	4.03***	3.99**		
	(1.86)	(1.24)	(1.46)		
ln GDP pc $o$	3.68**	9.58***	9.54**	1.43	11.38**
	(1.45)	(3.02)	(3.51)	(1.48)	(4.04)
ln Unemployment rate $o$	0.06	0.72	0.72	-0.28	0.87
	(0.29)	(0.50)	(0.59)	(0.26)	(0.55)
ln Migrant stock $oi$	0.05	0.44	0.45	-0.08	0.47
	(0.49)	(0.90)	(0.95)	(0.45)	(0.93)
MPR Entry $i$		-0.21	-1.16		-0.18
		(0.86)	(7.10)		(0.94)
MPS <sup>skill</sup>		-0.06	0.07		-0.08
		(0.09)	(1.84)		(0.09)
MIPEX x MPR Entry $i$			0.23		
			(1.70)		
MIPEX x MPS <sup>skill</sup>			-0.03		
			(0.46)		
ln Labour market mobility				-0.11	0.54
				(0.74)	(1.70)
ln Family reunion				1.54**	0.58
				(0.74)	(1.39)
ln Permanent residence				-3.02	-2.64
				(1.93)	(3.47)
ln Access to nationality				0.89	1.06
				(0.69)	(0.66)
ln Anti-discrimination				1.99***	0.19
				(0.61)	(1.15)
ln Political participation				-0.61**	0.22
				(0.24)	(0.34)
Constant	-50.16***	-120.80***	-120.26***	-15.08	-123.50**
	(15.24)	(37.28)	(39.27)	(17.82)	(44.36)
Observations	239	128	128	261	128
R2	0.097	0.097	0.097	0.097	0.097
Number of destinations	25	25	25	25	25
Number of years	13	8	8	13	8

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the OLS estimator with destination fixed effects. Standard errors are robust to heteroskedasticity and autocorrelation, and clustered by country of destination. The period covered is 2007-2019 in columns 1 and 4, and 2007-2014 otherwise (inclusion of the MPR Entry index removes observations after 2014). The sample of destination countries contains the EU countries except Bulgaria, Croatia and Romania.

Distinguishing between migrations from EU vs non-EU countries (Table 11), we still find a significant positive effect from the MIPEX on intra-EU migration (column 1). Interestingly, GDP per capita is no longer significant for intra-EU migration. Focusing on the sub-indicators (column 2), it seems the positive effect for the overall MIPEX is driven by a positive effect from labour market mobility, family reunion policies and political participation.

For non-EU migrants, the MIPEX indicator has a significant positive effect in column 3 but this disappears when controlling for entry policies and selectivity in migration policies, which themselves do not have a significant effect (columns 4 and 5). As for the sub-indicators (columns 6 and 7), a positive significant effect is found for family reunion policies (and also labour market policies and political participation when controlling for entry and skill

selectivity), while a negative significant effect is found for access to permanent residence in both specifications.

**Table 11**  
**Impact of integration policies on the scale of high-skilled EU vs non-EU immigration**

	EU migrants		Non-EU migrants				
	Overall MIPEX	Sub-indicators	Overall MIPEX	Entry control	Interaction	Sub-indicators	Sub-ind & entry
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
MIPEX i	2.89*		3.14***	2.57	2.11		
	(1.47)		(1.09)	(1.57)	(1.64)		
ln GDP pc o	1.00	1.22	2.38**	0.98	1.43	1.76*	2.17
	(1.01)	(1.04)	(0.95)	(2.82)	(3.07)	(0.87)	(2.23)
ln Unemployment rate o	-0.37	-0.32	-0.22	0.06	0.17	-0.31	0.45
	(0.26)	(0.23)	(0.20)	(0.62)	(0.72)	(0.20)	(0.48)
ln Migrant stock oi	0.64**	-0.10	-0.00	0.05	-0.04	-0.22	-0.86
	(0.30)	(0.37)	(0.28)	(0.72)	(0.77)	(0.37)	(0.88)
MPR Entry i				0.74	4.16		0.46
				(0.69)	(5.00)		(0.55)
MPSskill				-0.05	0.30		-0.07
				(0.07)	(1.09)		(0.06)
MIPEX x MPR Entry i					-0.83		
					(1.23)		
MIPEX x MPSskill					-0.08		
					(0.27)		
ln Labour market mobility		1.86*				0.56	3.27**
		(0.94)				(0.63)	(1.19)
ln Family reunion		1.54*				2.00**	2.05
		(0.78)				(0.89)	(1.28)
ln Permanent residence		-1.59				-2.20*	-6.14***
		(2.39)				(1.20)	(1.87)
ln Access to nationality		-0.15				0.81	-0.36
		(0.49)				(0.55)	(0.52)
ln Anti-discrimination		-0.48				0.59	-0.28
		(1.19)				(0.50)	(0.43)
ln Political participation		0.59**				-0.14	0.49*
		(0.25)				(0.26)	(0.26)
Constant	-23.17*	-17.15	-35.63***	-19.02	-21.67	-21.51**	-12.36
	(12.00)	(13.41)	(10.29)	(29.74)	(30.98)	(10.24)	(25.70)
Observations	210	233	212	111	111	232	111
R2	0.078	0.077	0.102	0.061	0.064	0.095	0.157
Number of destinations	25	28	24	19	19	27	19
Number of years	13	13	13	8	8	13	8

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the OLS estimator with destination fixed effects. Standard errors are robust to heteroskedasticity and autocorrelation, and clustered by country of destination. The period covered is 2007-2019 in columns 1-3 and 6, and 2007-2014 otherwise (inclusion of the MPR Entry index removes observations after 2014). The sample of destination countries contains EU countries except Bulgaria, Croatia and Romania (column 1); EU countries (column 2); EU countries except Malta (column 6). In columns 3-5 and 7, the following destination countries are additionally dropped from the sample of destination countries from column 1: Malta (column 3); Cyprus, Estonia, Germany, Latvia, Lithuania and Malta (columns 4, 5 and 7).

For the medium and low skilled (Appendix Tables A12 and Tables A14), we find no significant effect of integration policies on the scale of medium- and low-skilled migration flows. Looking at the sub-indicators, access to nationality appears with a negative significant effect for medium-skilled migration (column 4 of Appendix Table A12), and with a positive (though marginally) significant effect for the low skilled.

Hence, this seems to confirm that the high skilled might be making a more informed choice. Low- and medium-skilled migration may be related to family reunion or asylum so the

low skilled may have less of a choice in their destination for migration. They do not necessarily migrate to the ideal country rendering them the highest utility net of migration costs as predicted by neoclassical migration theory. Other reasons for migration might matter for them. Yet, as shown in Section 4.4, even if they do not seem to internalise integration policies when choosing their destination, they do benefit from integration policies once residing in the destination.

#### 5.4.2. *Structure equation*

The estimates for the structure equation of high-skilled migrants – reported in Table 12 – reveal no significant impact from the MIPEX indicator, suggesting that integration policies do not shape the share of high skilled in the total migrant inflows.<sup>24</sup> The sign of the significant effect of entry policies switches from column 2 to 3 (from negative to positive), but this is probably due to correlation with the interaction term which compensates with a negative significant effect. When considering the MIPEX sub-indicators and controlling for entry policies, a negative significant effect is obtained for political participation (column 5).

We do find a positive significant effect from the MIPEX or its sub-indicators when focusing on high-skilled migration from EU countries (Table 13, columns 1 and 2).<sup>25</sup> Neither do we find an impact from integration policies on the share of high-skilled migrants in the total migrant flow from non-EU countries. In fact, none of the variables comes with a significant effect in any of the regressions reported in columns 3 to 5, except for the positive significant effect from political participation and access to nationality in column 4 and the negative significant effect from anti-discrimination policies in column 5.

For the low and medium skilled (Appendix Tables A13 and Tables A15), we find no significant effects of integration policies in the structure equations (except for the low skilled for intra-EU migration where the effect is large and negatively significant). Looking at the sub-indicators, labour market mobility and political participation come with a significant but negative effect for medium-skilled migration (column 5). For the low skilled, access to nationality appears with a negative significant effect, and anti-discrimination has a positive significant effect.

Finally, it was argued above that a larger sample can be kept when not discarding negative flows in the scale and structure equations (as we did above) but rather setting the negative values to 0.00001 before taking logs. When we apply the second strategy instead (see Appendix Tables A16 and A17), the MIPEX sometimes comes with a positive significant effect in the scale equation for the high skilled (that is for all migrants together, and when controlling for entry and selection for non-EU migrants). No significant effect is obtained for

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<sup>24</sup> Hence, it would appear that the low and medium skilled on the one hand, and the high skilled on the other hand, must be affected by integration policies in the same way (for the share of high skilled in the total flow not to be affected), which seems at odds with the results from the scale equation at first sight. Yet, it is important to keep in mind that the regressions for the scale equations were run separately for the high, medium, and low skilled, and that all three categories enter the denominator of the structure equation for the high skilled. This is different from traditional estimates of the scale and structure equations to evaluate the effectiveness of skill selective migration policies in shaping the share of high versus low skilled (i.e., two categories only), in which case one would expect the results for the scale equation to pass through to the structure equation.

<sup>25</sup> When considering the second lag, the effect is significant in column 1, which seems mainly driven by policies facilitating access to the labour market and policies determining access to nationality (results available upon request - not reported to save space).

intra-EU high-skilled migration. Moreover, the effect of the MIPEX is never significant in the structure equation for the high skilled. Using these alternative dependent variables, the effect is never significant for low-skilled migrants in either specification. No meaningful results are obtained for the medium skilled either.

**Table 12**  
**Impact of integration policies on the share of high-skilled immigration**

	Overall MIPEX	Entry control	Interactions	Sub-indicators	Sub-ind & entry
	(1)	(2)	(3)	(4)	(5)
MIPEX i	0.39 (1.08)	0.69 (1.37)	-0.16 (1.70)		
ln GDP pc o	3.13*** (0.95)	6.24 (4.03)	7.50* (3.98)	1.81 (1.30)	6.66 (4.94)
ln Unemployment rate o	0.84*** (0.29)	0.85 (0.66)	1.13 (0.68)	0.56 (0.34)	0.84 (0.66)
ln Migrant stock oi	0.22 (0.33)	1.72 (1.00)	1.58 (0.98)	0.16 (0.32)	1.94* (1.02)
MPR Entry i		-1.10* (0.60)	12.18** (5.52)		-1.27** (0.59)
MPSskill		-0.11 (0.08)	0.16 (1.86)		-0.08 (0.08)
MIPEX x MPR Entry i			-3.20** (1.32)		
MIPEX x MPSskill			-0.07 (0.46)		
ln Labour market mobility				0.15 (0.60)	-1.25 (2.22)
ln Family reunion				0.16 (1.10)	2.06 (1.79)
ln Permanent residence				-1.73 (1.45)	0.03 (2.08)
ln Access to nationality				0.38 (0.44)	-0.02 (0.41)
ln Anti-discrimination				0.16 (0.76)	0.26 (0.99)
ln Political participation				-0.27 (0.28)	-0.96** (0.45)
Constant	-38.65*** (10.61)	-83.69* (45.83)	-93.30* (45.17)	-17.39 (14.48)	-87.85 (52.98)
Observations	257	129	129	283	129
R2	0.041	0.079	0.099	0.027	0.104
Number of destinations	25	20	20	28	20
Number of years	13	8	8	13	8

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the OLS estimator with destination fixed effects. Standard errors are robust to heteroskedasticity and autocorrelation, and clustered by country of destination. The period covered is 2007-2019 in columns 1 and 4, and 2007-2014 otherwise (inclusion of the MPR Entry index removes observations after 2014). The sample of destination countries contains EU countries except Bulgaria, Croatia and Romania (column 1); EU countries (column 2); or EU countries except Bulgaria, Croatia, Cyprus, Estonia, Latvia, Lithuania, Malta and Romania (columns 2, 3 and 5).

**Table 13**  
**Impact of integration policies on the share of high-skilled EU vs non-EU immigration**

	EU migrants		Non-EU migrants				
	Overall MIPEX	Sub- indicators	Overall MIPEX	Entry control	Interaction	Sub- indicators	Sub-ind & entry
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
MIPEX i	4.40*** (1.45)		2.75 (1.62)	0.72 (1.46)	-0.82 (2.21)		
ln GDP pc o	0.53 (1.65)	-0.91 (1.91)	-2.75 (1.97)	-9.04 (5.34)	-8.47 (5.39)	-1.40 (1.15)	-5.68 (6.21)
ln Unemployment rate o	-0.02 (0.45)	-0.28 (0.45)	-0.04 (0.40)	-0.91 (1.09)	-0.67 (1.23)	0.14 (0.39)	-0.53 (1.03)
ln Migrant stock oi	0.18 (0.42)	-0.12 (0.28)	0.69 (0.44)	1.26 (0.88)	1.26 (0.89)	0.11 (0.39)	0.78 (1.00)
MPR Entry i				0.11 (0.75)	4.37 (5.59)		-0.18 (0.80)
MPSskill				0.06 (0.10)	1.73 (1.56)		0.06 (0.09)
MIPEX x MPR Entry i					-1.08 (1.47)		
MIPEX x MPSskill					-0.42 (0.40)		
ln Labour market mobility		2.25*** (0.74)				0.96 (1.30)	1.49 (1.15)
ln Family reunion		0.16 (1.09)				-0.21 (1.72)	1.04 (2.19)
ln Permanent residence		-0.45 (1.79)				0.74 (2.99)	-0.97 (4.94)
ln Access to nationality		0.74* (0.36)				1.10*** (0.33)	0.02 (0.70)
ln Anti-discrimination		-0.23 (0.76)				-1.21 (1.16)	-1.84* (1.06)
ln Political participation		0.36 (0.40)				0.80* (0.39)	2.29 (2.01)
Constant	-24.56 (16.30)	-0.42 (19.99)	13.77 (22.25)	87.50 (58.33)	86.94 (57.12)	5.72 (15.72)	49.23 (76.68)
Observations	234	263	230	117	117	260	117
R2	0.033	0.035	0.049	0.094	0.1	0.049	0.115
Number of destinations	25	28	24	19	19	27	19
Number of years	13	13	13	8	8	13	8

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the OLS estimator with destination fixed effects. Standard errors are robust to heteroskedasticity and autocorrelation, and clustered by country of destination. The period covered is 2007-2019 in columns 1-3 and 6, and 2007-2014 otherwise (inclusion of the MPR Entry index removes observations after 2014). The sample of destination countries contains EU countries except Bulgaria, Croatia and Romania (column 1); EU countries (column 2); or EU countries except Malta (column 6). In columns 3-5 and 7, the following destination countries are additionally dropped from the sample of destination countries from column 1: Malta (column 3); Cyprus, Estonia, Germany, Latvia, Lithuania and Malta (columns 4, 5 and 7).

## 6 Conclusion

In many European countries, immigration is an important part of demographic flows. Consequently, it has become a major policy concern, notably from a labour market perspective. In fact, the employment rate of migrants lags severely behind that of natives, particularly for immigrants coming from non-EU countries.

The aim of this paper is twofold. First, we investigate the impact of integration policies on the employment rate of migrants in the EU, thereby controlling for traditional determinants identified in previous literature. We differentiate between migrants coming

from EU versus non-EU countries, and between high-, medium-, and low-skilled migrants. Indeed, the labour market integration of migrants has been shown to vary with the skill composition of the migrant population. Yet, the latter might in turn be influenced by integration policies. Although scarce, previous studies indeed showed how integration policies may also act as a pull factor which potential migrants may internalise in their location decision. Hence, our second aim is to evaluate the extent to which integration policies in EU countries act as a pull factor shaping not only the size of bilateral migration flows, but also the size (scale) of the inflow of high-, medium-, and low-skilled migrants, as well as the share of those skill-specific flows in the total migrant inflows (structure). One should note nevertheless that both studied outcomes, employment and (type of) flows, are different. While integration policies are designed and implemented to foster immigrants' integration, they are not in place to attract more migrants. What we study is therefore an indirect effect of integration policies on flows and how this can then again influence the level of employment of immigrants within the host country.

To this end, we make use of unique data sources including the EU Labour Force Surveys, a recently built yearly bilateral migration dataset, and unique measures for the restrictiveness and skill selectivity of migration policies. Integration policies are studied using the internationally comparable Migration Integration Policy indicator (MIPEX), ranging between 0 and 100 depending on the degree of integration policies within a country in a given year. We make use of standard panel data fixed effects approaches and perform several robustness checks to assess the dependence of the chosen fixed effects structures, lag structure and approach to deal with negative migration flows.

Taking into account other factors influencing the employment rate of immigrants, we find that countries with more developed policies favouring integration of immigrants are not necessarily associated with a higher employment rate of immigrants. This finding is due to the fact that different types of policies have opposite effects: while policies favouring family reunion, tackling anti-discrimination and allowing for political participation seem to increase the labour market integration of immigrants, a higher labour market mobility, as well as larger access to permanent residence and nationality are negatively linked with the employment rate of immigrants. This is in line with previous findings and could be linked to the incentive for immigrants to better invest in their skills and qualifications if they are more likely to stay for a longer period of time (Zwysen and Demireva, 2020). Effects can therefore show up in the long run or can be more visible on the qualitative side (e.g. better paid job, better matching with respect to qualifications, etc.).

Controlling for time-invariant country characteristics, through the inclusion of country fixed effects, most of the coefficients become statistically insignificant, except anti-discrimination policies which stay positively linked with employment and the effect is increasing over time. An increase by one standard deviation of the anti-discrimination index leads to a rise of 2.4 percentage points of the employment rate of immigrants after one year, 3 percentage points after two years and 3.4 percentage points after three years.

On the contrary, access to nationality shows a negative sign. This remains true when adding country fixed effects and when considering a two-years and a three-years lag. One potential explanation could be linked to the eligibility for social insurance programs which are conditioned on citizenship acquisition in some countries. Nevertheless, most of the literature,

mainly focusing on the effect of citizenship acquisition at the individual level, show a positive impact on employment (Bignandi and Piton, forthcoming; Fougère and Safi, 2009; Bevelander and Pendakur, 2012; Gathmann and Keller, 2018; Peters et al., 2018; Hoxhaj et al., 2020). More research is therefore needed to better understand how granting citizenship can have a detrimental effect on the employment rate at an aggregate level.

We also show that depending on the analysed group of immigrants, i.e. born in an EU or a non-EU country, different types of policies show up with a positive coefficient, so that there is no one-fits-all integration policy. Moreover, conversely to what could be expected, our results show that in countries where migration integration policies are more developed the employment rate of EU immigrants is higher and the one of non-EU immigrants is lower. A higher degree of integration policies does not seem to raise the labour market integration of non-EU immigrants. This can indicate that other obstacles, not solved by those policies, remain, such as a lack of human capital specific to the host country or difficulties with diploma recognition. Note that within a country, i.e. controlling for country fixed effects, no statistically significant relationship is found between MIPEX and the employment rates of both EU and non-EU immigrants.

We also evaluate how integration policies can improve the labour market integration of immigrants depending on their level of education. High-educated migrants are less sensitive to integration policies: their employment rates are not affected or only slightly positively affected by the overall level of MIPEX. For those with a medium level of diploma (upper secondary school), the coefficient is slightly larger, but the effect remains marginal and holds only in the OLS and year fixed effect specification. An increase of the MIPEX by one standard deviation is associated with a larger employment rate of medium-educated immigrants by 0.6 to 0.7 percentage points. The highest coefficient of the overall MIPEX is reported for low-educated immigrants. A higher level of integration policies, by one standard deviation, is positively linked to the employment rate of immigrants with at most an upper secondary diploma, since it is 3.9 percentage points higher. More importantly, this result is true for both EU and non-EU immigrants even if the impact for non-EU immigrants is less pronounced. However, as for the other level of education, once we include country fixed effects, coefficients become not significantly different from zero.

Looking at sub-indicators, results show that for medium- and low-educated immigrants family reunion and political participation are positively associated with their employment rate while permanent residence and access to nationality have a negative sign. Controlling for time-invariant country characteristics, the only type of policy keeping a significant sign is anti-discrimination for which an increase by one standard deviation rises the employment rate of medium and low-educated immigrants by 3.8 percentage points.

Furthermore, we evaluated to what extent integration policies in EU countries act as a pull factor for migrants, as well as for specific groups of migrants differentiating between EU and non-EU origins as well as high-, medium-, and low-skilled migrants. In the regressions for all migrants, it appears that the overall MIPEX (lagged one year) does not affect bilateral migration flows towards EU countries. This finding is robust to changes in the fixed effects' structure (including also year fixed effects or replacing our origin and destination fixed effects to dyadic fixed effects). Interestingly, the estimated coefficient is positive and significant when

we consider the second or third lag rather than the first lag of the MIPEX. Yet, also the latter disappears when controlling for entry policies or their interaction with integration policies.

Looking at the total migrant flow, however, hides heterogeneous results across countries of origin. Indeed, for EU residents, the MIPEX does have a positive significant effect, and this regardless of the lag that is considered. This is not the case for residents of non-EU countries, who do not seem to internalise integration policies in their choice of destination. Further research is needed to understand if this finding is due to other factors which are more likely to influence their decision or if it is linked to a lack of information, compared to EU migrants, regarding integration policies in place in EU countries. Regarding subindicators, EU residents seem to be particularly drawn towards countries with policies aimed at facilitating political participation (first lag) and permanent residence (first and second lag). Also for non-EU residents, permanent residence appears comes with a significant positive effect even when controlling for entry policies. Policies aimed at tackling discrimination and fostering political participation, however, appear to reduce a country's attractiveness for non-EU residents. One potential explanation could be that those type of policies are more perceived as a signal of a lower level of integration in the host country.

Differentiating migration flows by skill levels, we find a strong and robust effect from the overall MIPEX on the size of inflow of high-skilled migrants in EU countries. Yet, controlling for the restrictiveness of migration policies and their skill selectivity leaves no significant effects from particular sub-indicators. This is not the case for intra-EU migration of high-skilled, though, for whom policies aimed at fostering labour market access, family reunion and political participation seem to increase a country's attractiveness. The first two are also found to influence the inflow of high-skilled migrants from non-EU countries.

We find no significant effect of integration policies on the size of medium- and low-skilled migration flows. The overall MIPEX also does not seem to impact the share of high-skilled migrants in the total inflow. When focusing on EU migrants, though, again we do pick up a positive effect, which seems mainly driven by policies facilitating access to the labour market and determining access to nationality. For the low skilled, we do pick up a positive significant effect from anti-discrimination policies.

In sum, these findings seem to confirm that the high-skilled (especially those from the EU) might be making a more informed choice. This impact could then indirectly influence the employment rate which is known to be higher for high-educated individuals. Conversely, the decision to migrate for low- and medium-skilled people is probably more related to different factors like family reunion or asylum. Yet, as we also showed, while they do not seem to internalise integration policies when choosing their destination, they do benefit from integration policies once residing in the destination. This finding is encouraging since they are also the ones with larger obstacles to enter the labour market.

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# Appendix

**Table A1**  
**Impact of integration policies on employment rate of total immigrants**

	(1)	(1')	(2)	(2')	(3)	(3')	(4)	(4')
MIPEX Overall index	-0.01 (0.01)		0.07 (0.16)		-0.01 (0.02)		0.08 (0.15)	
Labour market mobility		-0.04** (0.02)		0.01 (0.07)		-0.04*** (0.01)		0.02 (0.07)
Family reunion		0.09*** (0.02)		-0.07* (0.03)		0.09*** (0.01)		-0.06* (0.03)
Permanent residence		-0.03* (0.02)		-0.03 (0.04)		-0.03 (0.02)		-0.03 (0.05)
Access to nationality		-0.10*** (0.01)		0.01 (0.05)		-0.10*** (0.02)		0.00 (0.05)
Anti-discrimination		0.03 (0.02)		0.13* (0.07)		0.03* (0.01)		0.13* (0.06)
Political participation		0.05*** (0.02)		-0.01 (0.04)		0.05*** (0.01)		-0.01 (0.04)
Being of working age	17.57*** (2.17)	19.15*** (2.35)	12.25* (6.37)	9.24** (4.05)	17.20*** (2.19)	18.77*** (2.51)	12.35** (5.95)	9.50** (3.90)
Being a man	32.53*** (5.54)	29.68*** (6.71)	17.47** (7.11)	20.14*** (5.96)	31.65*** (4.27)	28.36*** (5.03)	15.06* (7.98)	16.79** (6.14)
Having a high level of education	6.78*** (0.79)	7.44*** (0.62)	7.13*** (2.14)	6.86*** (2.12)	6.72*** (0.83)	7.29*** (0.61)	7.23*** (1.99)	6.96*** (2.15)
Having a low level of education	-2.36*** (0.38)	-1.91*** (0.39)	-2.58** (1.15)	-2.40** (1.10)	-2.40*** (0.40)	-1.90*** (0.39)	-2.23* (1.18)	-2.04* (1.14)
Share among population	0.09*** (0.02)	0.09*** (0.03)	-0.04 (0.14)	-0.09 (0.14)	0.08*** (0.02)	0.08*** (0.02)	-0.00 (0.18)	-0.01 (0.17)
Unemployment rate t-1	-0.38*** (0.06)	-0.35*** (0.05)	-0.35*** (0.06)	-0.36*** (0.09)	-0.44*** (0.04)	-0.42*** (0.05)	-0.36*** (0.13)	-0.36*** (0.13)
Employment Protection	-0.05 (0.60)	-0.80 (0.52)	0.85 (1.61)	-0.06 (1.79)	0.02 (0.60)	-0.79 (0.50)	0.75 (1.65)	-0.05 (1.81)
Union density	-0.08*** (0.02)	-0.09*** (0.01)	-0.09 (0.08)	0.01 (0.09)	-0.07*** (0.01)	-0.09*** (0.01)	-0.11 (0.13)	-0.03 (0.13)
Net replacement rate	-0.24*** (0.02)	-0.25*** (0.03)	-0.14* (0.08)	-0.07 (0.06)	-0.24*** (0.02)	-0.25*** (0.02)	-0.13* (0.07)	-0.08 (0.06)
ALMP measures (%GDP)	-3.41*** (1.23)	-2.14** (0.98)	-0.58 (2.03)	0.17 (1.40)	-3.63*** (1.07)	-2.41** (0.97)	-1.21 (2.27)	-0.15 (1.33)
Employment rate of natives	0.62*** (0.05)	0.69*** (0.06)	0.82*** (0.09)	0.82*** (0.09)	0.58*** (0.04)	0.65*** (0.06)	0.89*** (0.13)	0.88*** (0.11)
Observations	283	283	283	283	283	283	283	283
Year fixed effects	No	No	No	No	Yes	Yes	Yes	Yes
Country fixed effects	No	No	Yes	Yes	No	No	Yes	Yes
R-squared	0.783	0.847	0.769	0.792	0.767	0.836	0.777	0.799
Number of countries	24	24	24	24	24	24	24	24
Number of years	13	13	13	13	13	13	13	13

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. ALMP is active labour market policies. The sample covers EU countries except Cyprus, Malta, Bulgaria and Romania over the period 2007-2019.

**Table A2**  
**Impact of integration policies (t-2) on employment rate of total immigrants**

	(1)	(1')	(2)	(2')	(3)	(3')	(4)	(4')
MIPEX Overall index	-0.01 (0.02)		0.05 (0.12)		-0.00 (0.01)		0.06 (0.12)	
Labour market mobility		-0.04** (0.02)		-0.02 (0.06)		-0.04*** (0.01)		-0.01 (0.06)
Family reunion		0.09*** (0.02)		-0.04 (0.03)		0.09*** (0.02)		-0.04 (0.03)
Permanent residence		-0.04** (0.02)		-0.01 (0.05)		-0.04* (0.02)		-0.01 (0.05)
Access to nationality		-0.11*** (0.01)		-0.07** (0.03)		-0.10*** (0.01)		-0.06* (0.03)
Anti-discrimination		0.03 (0.02)		0.16** (0.07)		0.03 (0.01)		0.16** (0.07)
Political participation		0.06*** (0.01)		0.04 (0.03)		0.06*** (0.01)		0.03 (0.03)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	260	260	260	260	260	260	260	260
Year fixed effects	No	No	No	No	Yes	Yes	Yes	Yes
Country fixed effects	No	No	Yes	Yes	No	No	Yes	Yes
R-squared	0.789	0.862	0.763	0.797	0.773	0.850	0.772	0.801
Number of countries	24	24	24	24	24	24	24	24
Number of years	12	12	12	12	12	12	12	12

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Control variables include share of working age immigrants compared to natives, share of men immigrants compared to natives, share of high-educated immigrants compared to natives, share of low-educated immigrants compared to natives, share of immigrants among the total population, unemployment rate one year before, employment protection legislation, union density, net replacement rate in case of unemployment, active labour market policies as a % of GDP and employment rate of natives. The sample covers EU countries except Cyprus, Malta, Bulgaria and Romania over the period 2008-2019.

**Table A3**  
**Impact of integration policies (t-3) on employment rate of total immigrants**

	(1)	(1')	(2)	(2')	(3)	(3')	(4)	(4')
MIPEX Overall index	-0.01 (0.02)		0.01 (0.09)		-0.01 (0.01)		0.01 (0.08)	
Labour market mobility		-0.05*** (0.02)		-0.07 (0.06)		-0.05** (0.02)		-0.07 (0.06)
Family reunion		0.10*** (0.02)		-0.03 (0.04)		0.10*** (0.02)		-0.04 (0.04)
Permanent residence		-0.04* (0.02)		0.00 (0.05)		-0.04 (0.02)		0.00 (0.05)
Access to nationality		-0.10*** (0.01)		-0.06** (0.03)		-0.10*** (0.02)		-0.06* (0.03)
Anti-discrimination		0.02 (0.02)		0.18*** (0.06)		0.01 (0.02)		0.18** (0.06)
Political participation		0.06*** (0.02)		0.06 (0.03)		0.07*** (0.01)		0.06* (0.03)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	237	237	237	237	237	237	237	237
Year fixed effects	No	No	No	No	Yes	Yes	Yes	Yes
Country fixed effects	No	No	Yes	Yes	No	No	Yes	Yes
R-squared	0.803	0.877	0.764	0.812	0.789	0.868	0.772	0.818
Number of countries	24	24	24	24	24	24	24	24
Number of years	11	11	11	11	11	11	11	11

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Control variables include share of working age immigrants compared to natives, share of men immigrants compared to natives, share of high-educated immigrants compared to natives, share of low-educated immigrants compared to natives, share of immigrants among the total population, unemployment rate one year before, employment protection legislation, union density, net replacement rate in case of unemployment, active labour market policies as a % of GDP and employment rate of natives. The sample covers EU countries except Cyprus, Malta, Bulgaria and Romania over the period 2009-2019.

**Table A4**  
**Impact of integration policies on employment rate of high-educated immigrants by origin**

	EU immigrants								Non-EU immigrants							
	(1)	(1')	(2)	(2')	(3)	(3')	(4)	(4')	(5)	(5')	(6)	(6')	(7)	(7')	(8)	(8')
MIPEX Overall index	0.12***		-0.01		0.12***		-0.02		0.05**		-0.19***		0.04**		-0.19***	
	(0.03)		(0.12)		(0.02)		(0.10)		(0.02)		(0.06)		(0.02)		(0.07)	
Labour market mobility		0.04		0.02		0.04		0.00		0.05**		-0.08*		0.06***		-0.08*
		(0.03)		(0.06)		(0.03)		(0.06)		(0.02)		(0.04)		(0.01)		(0.05)
Family reunion		0.07**		-0.06		0.07***		-0.03		0.05*		0.00		0.05*		-0.02
		(0.03)		(0.06)		(0.02)		(0.06)		(0.03)		(0.06)		(0.02)		(0.06)
Permanent residence		-0.04		0.10**		-0.03		0.11**		-0.04		-0.00		-0.04		0.00
		(0.03)		(0.04)		(0.04)		(0.04)		(0.03)		(0.03)		(0.03)		(0.03)
Access to nationality		-0.01		0.02		-0.00		-0.00		-0.09***		-0.07**		-0.09***		-0.05*
		(0.03)		(0.04)		(0.03)		(0.04)		(0.02)		(0.02)		(0.01)		(0.03)
Anti-discrimination		0.10**		-0.01		0.08		-0.00		-0.00		-0.02		-0.00		-0.03
		(0.04)		(0.12)		(0.05)		(0.10)		(0.03)		(0.05)		(0.01)		(0.06)
Political participation		-0.04		-0.03		-0.02		-0.02		0.10***		-0.01		0.09***		-0.01
		(0.03)		(0.04)		(0.03)		(0.05)		(0.02)		(0.03)		(0.01)		(0.04)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	256	256	256	256	256	256	256	256	265	265	265	265	265	265	265	265
Year fixed effects	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes
Country fixed effects	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
R-squared	0.525	0.550	0.323	0.340	0.521	0.536	0.379	0.393	0.600	0.683	0.588	0.593	0.572	0.658	0.616	0.620
Number of countries	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Number of years	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Control variables include share of working age immigrants compared to natives, share of men immigrants compared to natives, share of immigrants among the total population, unemployment rate one year before, employment protection legislation, union density, net replacement rate in case of unemployment, active labour market policies as a % of GDP and employment rate of natives. The sample covers EU countries except Cyprus, Malta, Bulgaria and Romania over the period 2007-2019.

**Table A5**  
**Impact of integration policies on employment rate of medium-educated immigrants by origin**

	EU immigrants								Non-EU immigrants							
	(1)	(1')	(2)	(2')	(3)	(3')	(4)	(4')	(5)	(5')	(6)	(6')	(7)	(7')	(8)	(8')
MIPEX Overall index	0.11*** (0.03)		0.01 (0.20)		0.11*** (0.03)		0.02 (0.18)		-0.03 (0.02)		0.18 (0.16)		-0.03 (0.03)		0.24* (0.13)	
Labour market mobility		0.11*** (0.04)		-0.05 (0.07)		0.11*** (0.03)		-0.04 (0.07)		0.02 (0.02)		-0.02 (0.10)		0.02 (0.02)		-0.01 (0.09)
Family reunion		0.00 (0.03)		-0.10 (0.06)		0.01 (0.02)		-0.11 (0.07)		0.24*** (0.03)		0.05 (0.05)		0.25*** (0.02)		0.03 (0.06)
Permanent residence		-0.01 (0.04)		-0.01 (0.05)		-0.01 (0.04)		0.01 (0.06)		-0.09*** (0.03)		-0.04 (0.05)		-0.10*** (0.02)		-0.04 (0.05)
Access to nationality		-0.05* (0.03)		0.10* (0.05)		-0.05* (0.03)		0.11** (0.05)		-0.09*** (0.02)		-0.03 (0.05)		-0.09*** (0.02)		0.02 (0.05)
Anti-discrimination		0.16*** (0.05)		0.02 (0.10)		0.15*** (0.04)		0.02 (0.09)		-0.04 (0.03)		0.18*** (0.06)		-0.04 (0.03)		0.18*** (0.05)
Political participation		-0.05** (0.03)		-0.05 (0.05)		-0.05 (0.04)		-0.06 (0.05)		0.02 (0.02)		0.01 (0.07)		0.01 (0.02)		-0.01 (0.06)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	270	270	270	270	270	270	270	270	274	274	274	274	274	274	274	274
Year fixed effects	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes
Country fixed effects	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
R-squared	0.601	0.634	0.450	0.471	0.595	0.621	0.476	0.496	0.668	0.790	0.631	0.651	0.653	0.784	0.669	0.688
Number of countries	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Number of years	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Control variables include share of working age immigrants compared to natives, share of men immigrants compared to natives, share of immigrants among the total population, unemployment rate one year before, employment protection legislation, union density, net replacement rate in case of unemployment, active labour market policies as a % of GDP and employment rate of natives. The sample covers EU countries except Cyprus, Malta, Bulgaria and Romania over the period 2007-2019.

**Table A6**  
**Impact of integration policies on employment rate of low-educated immigrants by origin**

	EU immigrants								Non-EU immigrants							
	(1)	(1')	(2)	(2')	(3)	(3')	(4)	(4')	(5)	(5')	(6)	(6')	(7)	(7')	(8)	(8')
MIPEX Overall index	0.25*** (0.05)		0.16 (0.14)		0.25*** (0.04)		0.23 (0.17)		0.10** (0.04)		0.03 (0.17)		0.09* (0.05)		0.05 (0.17)	
Labour market mobility		0.23*** (0.05)		0.13 (0.08)		0.25*** (0.05)		0.14* (0.08)		-0.06* (0.03)		-0.02 (0.08)		-0.05* (0.03)		-0.01 (0.08)
Family reunion		-0.21*** (0.06)		-0.05 (0.10)		-0.22*** (0.05)		-0.06 (0.12)		0.37*** (0.04)		-0.04 (0.08)		0.36*** (0.05)		-0.04 (0.08)
Permanent residence		-0.06 (0.07)		0.02 (0.07)		-0.05 (0.07)		0.06 (0.08)		-0.18*** (0.05)		-0.13** (0.05)		-0.17** (0.07)		-0.13** (0.05)
Access to nationality		-0.14*** (0.04)		0.06 (0.08)		-0.13** (0.05)		0.07 (0.10)		-0.04 (0.04)		-0.14** (0.05)		-0.04 (0.03)		-0.12* (0.06)
Anti-discrimination		0.21*** (0.06)		-0.05 (0.06)		0.23*** (0.06)		-0.03 (0.06)		-0.19*** (0.06)		0.13** (0.05)		-0.19*** (0.05)		0.12** (0.05)
Political participation		0.22*** (0.05)		0.04 (0.06)		0.20*** (0.05)		0.05 (0.07)		0.19*** (0.03)		0.15*** (0.05)		0.18*** (0.03)		0.14*** (0.04)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	218	218	218	218	218	218	218	218	237	237	237	237	237	237	237	237
Year fixed effects	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes
Country fixed effects	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
R-squared	0.456	0.613	0.488	0.498	0.471	0.625	0.531	0.541	0.570	0.740	0.566	0.603	0.564	0.738	0.580	0.611
Number of countries	20	20	20	20	20	20	20	20	22	22	22	22	22	22	22	22
Number of years	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Control variables include share of working age immigrants compared to natives, share of men immigrants compared to natives, share of immigrants among the total population, unemployment rate one year before, employment protection legislation, union density, net replacement rate in case of unemployment, active labour market policies as a % of GDP and employment rate of natives. The sample for EU immigrants' specifications (columns 1 to 4') covers EU countries except Poland, Slovakia, Estonia, Lithuania, Cyprus, Malta, Bulgaria, Romania over the period 2007-2019. The sample for non-EU immigrants' specifications (column 5 to 8') covers EU countries except Poland, Slovakia, Cyprus, Malta, Bulgaria and Romania over the period 2007-2019.

**Table A7**  
**Impact of integration policies on bilateral migration rates - Alternative fixed effect structures**

<i>Fixed effects:</i>	Overall MIPEX				MIPEX sub-indicators			
	o, i, t (1)	oi (2)	oi, t (3)	ot, i (4)	o, i, t (5)	oi (6)	oi, t (7)	ot, i (8)
MIPEX <i>i</i>	-2.09 (1.55)	-2.83* (1.58)	-2.33 (1.60)	-1.56 (0.96)				
ln GDP pc <i>o</i>	-0.94 (0.75)	-1.19 (0.80)	-0.69 (0.68)		-0.73 (0.71)	-1.07 (0.77)	-0.50 (0.67)	
ln GDP pc <i>i</i>	5.36* (2.87)	2.37 (1.70)	5.66* (2.97)	5.11** (2.41)	5.91** (2.73)	2.01 (1.78)	6.31** (2.87)	5.59** (2.25)
ln Unemployment rate <i>o</i>	0.25 (0.21)	0.26 (0.19)	0.36* (0.20)		0.27 (0.19)	0.26 (0.20)	0.35* (0.20)	
ln Unemployment rate <i>i</i>	-0.47 (0.68)	-0.75 (0.59)	-0.38 (0.68)	-0.27 (0.45)	-0.50 (0.51)	-0.83* (0.48)	-0.39 (0.52)	-0.30 (0.36)
ln Migrant stock <i>oi</i>	0.77*** (0.07)	0.14 (0.11)	0.15 (0.12)	0.76*** (0.07)	0.77*** (0.07)	0.13 (0.11)	0.14 (0.11)	0.76*** (0.07)
Democracy <i>o</i>	0.01 (0.04)	0.00 (0.04)	0.01 (0.04)		0.00 (0.04)	-0.00 (0.04)	-0.00 (0.04)	
Political instability <i>o</i>	0.06 (0.13)	0.01 (0.17)	0.07 (0.13)		0.09 (0.12)	0.05 (0.16)	0.12 (0.12)	
Conflict <i>o</i>	0.01 (0.06)	0.02 (0.07)	0.03 (0.07)		0.01 (0.06)	0.00 (0.06)	0.01 (0.06)	
Common border				-0.20 (0.20)				-0.19 (0.19)
Common language				0.20 (0.17)				0.20 (0.17)
ln Distance				-0.11 (0.10)				-0.11 (0.10)
MPR Entry <i>i</i>	1.15 (0.87)	1.35** (0.60)	1.08 (0.88)	0.49 (0.47)	0.85 (0.67)	1.02** (0.48)	0.75 (0.67)	0.35 (0.41)
ln Labour market mobility					-0.64 (0.63)	-0.35 (0.80)	-0.66 (0.65)	-0.41 (0.45)
ln Family reunion					-0.63** (0.32)	-0.64** (0.31)	-0.63** (0.30)	-0.61** (0.24)
ln Permanent residence					1.47*** (0.40)	1.10** (0.49)	1.43*** (0.37)	1.32*** (0.34)
ln Access to nationality					0.15 (0.59)	-0.15 (0.57)	0.06 (0.58)	0.05 (0.33)
ln Anti-discrimination					-1.81** (0.80)	-1.55** (0.72)	-1.92** (0.80)	-1.27** (0.56)
ln Political participation					-1.80* (1.02)	-2.07* (1.10)	-1.70* (1.02)	-1.50** (0.71)
Constant	-52.88 (34.28)	-8.83 (23.68)	-52.03 (35.66)	-61.66** (27.91)	-57.14* (30.56)	-4.05 (23.76)	-57.26* (31.51)	-64.14*** (23.50)
Observations	25333	20253	20253	25881	25333	20253	20253	25881
R2	0.241	0.246	0.247	0.248	0.242	0.247	0.248	0.248
Number of destinations	27	26	26	28	27	26	26	28
Number of years	7	7	7	7	7	7	7	7

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the PPML estimator with alternative fixed effects structures, i.e. origin, destination and year fixed effects (columns 1 and 5); bilateral fixed effects (columns 2 and 6); the combination of bilateral fixed effects and year fixed effects (columns 3 and 7), or origin-year and destination fixed effects (columns 4 and 8). Standard errors are clustered by country of destination. The sample covers the period 2008-2017 (inclusion of the MPR Entry index removes observations after 2014). The sample of destination countries contains EU countries except Malta in columns 1 and 5. In columns 2-3 and 6-7, Croatia drops from the sample of destination countries.

**Table A8**  
**Impact of integration policies (t-2) on bilateral migration rates**

	Overall MIPEX	Entry control	Interactions	Sub-indicators	Sub-ind & entry
	(1)	(2)	(3)	(4)	(5)
MIPEX <i>i</i>	2.90** (1.36)	1.24 (2.27)	2.65 (3.02)		
ln GDP pc <i>o</i>	-1.42** (0.56)	-1.98* (1.05)	-2.06** (1.02)	-0.71 (0.50)	-1.38** (0.69)
ln GDP pc <i>i</i>	0.44 (1.27)	3.42 (2.25)	3.04 (2.42)	0.13 (1.03)	1.84 (1.97)
ln Unemployment rate <i>o</i>	0.16 (0.18)	-0.05 (0.26)	-0.04 (0.25)	0.32** (0.16)	0.09 (0.18)
ln Unemployment rate <i>i</i>	-1.71*** (0.55)	-0.80 (0.84)	-0.87 (0.84)	-1.87*** (0.47)	-0.89 (0.59)
ln Migrant stock <i>oi</i>	0.83*** (0.05)	0.80*** (0.07)	0.80*** (0.07)	0.83*** (0.05)	0.80*** (0.07)
Democracy <i>o</i>	-0.03 (0.03)	-0.00 (0.05)	0.00 (0.04)	-0.03 (0.03)	-0.00 (0.04)
Political instability <i>o</i>	0.21*** (0.06)	-0.01 (0.19)	-0.01 (0.19)	0.19*** (0.05)	0.01 (0.15)
Conflict <i>o</i>	0.01 (0.12)	0.04 (0.09)	0.04 (0.09)	0.05 (0.12)	0.01 (0.08)
Common border	-0.18 (0.12)	-0.21 (0.16)	-0.21 (0.16)	-0.18 (0.12)	-0.21 (0.16)
Common language	0.14 (0.16)	0.13 (0.18)	0.13 (0.18)	0.13 (0.16)	0.14 (0.18)
ln Distance	-0.04 (0.08)	-0.05 (0.10)	-0.05 (0.10)	-0.03 (0.08)	-0.04 (0.10)
MPR Entry <i>i</i>		0.98* (0.52)	-2.58 (2.96)		0.89*** (0.27)
MIPEX x MPR Entry <i>i</i>			0.91 (0.82)		
ln Labour market mobility				-0.41 (1.00)	-1.25 (1.27)
ln Family reunion				-0.29 (0.71)	-0.67 (1.18)
ln Permanent residence				3.29* (1.68)	3.71 (2.53)
ln Access to nationality				0.40 (0.47)	0.47 (0.59)
ln Anti-discrimination				-0.84 (0.80)	-1.14 (1.26)
ln Political participation				0.02 (0.03)	-2.90* (1.54)
Constant	-15.69 (12.10)	-35.25 (28.74)	-35.95 (28.61)	-16.39 (12.81)	-14.03 (23.73)
Observations	32949	21444	21444	32949	21444
R2	0.246	0.243	0.244	0.247	0.246
Number of destinations	27	26	26	27	26
Number of years	9	6	6	9	6

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the PPML estimator with origin and destination fixed effects. Standard errors are clustered by country of destination. Inclusion of the MPR Entry index (columns 2, 3 and 5) removes observations after 2014. The sample of destination countries contains EU countries except Malta. In columns 2-3 and 5-6, Croatia drops from the sample of destination countries.

**Table A9**  
**Impact of integration policies (t-3) on bilateral migration rates**

	Overall MIPEX	Entry control	Interactions	Sub-indicators	Sub-ind & entry
	(1)	(2)	(3)	(4)	(5)
MIPEX $i$	3.34*	2.95	3.21		
	(1.82)	(3.41)	(3.34)		
ln GDP pc $o$	-0.93	-2.07**	-2.13**	-0.45	-1.17**
	(0.81)	(0.98)	(0.94)	(0.69)	(0.58)
ln GDP pc $i$	-1.59	0.45	0.35	-1.97	1.44
	(2.33)	(3.54)	(3.51)	(1.99)	(2.55)
ln Unemployment rate $o$	0.31	-0.21	-0.19	0.34*	-0.14
	(0.20)	(0.17)	(0.18)	(0.19)	(0.13)
ln Unemployment rate $i$	-2.10**	-1.34	-1.34	-2.35***	-1.04
	(0.85)	(1.17)	(1.14)	(0.84)	(0.87)
ln Migrant stock $oi$	0.86***	0.83***	0.83***	0.86***	0.83***
	(0.05)	(0.06)	(0.06)	(0.05)	(0.06)
Democracy $o$	-0.03	-0.01	-0.01	-0.03*	0.00
	(0.02)	(0.04)	(0.04)	(0.02)	(0.02)
Political instability $o$	0.14***	-0.03	-0.03	0.15***	-0.01
	(0.04)	(0.12)	(0.12)	(0.04)	(0.10)
Conflict $o$	0.00	-0.19	-0.19	0.05	-0.13
	(0.17)	(0.13)	(0.13)	(0.17)	(0.09)
Common border	-0.18	-0.21	-0.21	-0.18	-0.21
	(0.12)	(0.16)	(0.16)	(0.12)	(0.17)
Common language	0.11	0.09	0.09	0.10	0.09
	(0.18)	(0.20)	(0.20)	(0.17)	(0.20)
ln Distance	-0.01	-0.01	-0.01	-0.00	-0.00
	(0.07)	(0.09)	(0.09)	(0.08)	(0.09)
MPR Entry $i$		0.95**	-1.10		0.83***
		(0.46)	(1.63)		(0.31)
MIPEX x MPR Entry $i$			0.57		
			(0.53)		
ln Labour market mobility				-0.03	-1.12
				(1.29)	(1.31)
ln Family reunion				0.38	1.60
				(0.58)	(1.28)
ln Permanent residence				1.79	3.13**
				(1.27)	(1.28)
ln Access to nationality				0.25	-0.83
				(0.55)	(0.53)
ln Anti-discrimination				-0.10	-1.05
				(0.64)	(1.16)
ln Political participation				-0.04*	-3.92
				(0.02)	(2.54)
Constant	-0.57	-8.86	-7.97	3.46	-10.20
	(17.75)	(39.20)	(38.64)	(18.01)	(26.99)
Observations	29067	17627	17627	29067	17627
R2	0.249	0.247	0.247	0.249	0.249
Number of destinations	27	26	26	27	26
Number of years	8	5	5	8	5

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the PPML estimator with origin and destination fixed effects. Standard errors are clustered by country of destination. Inclusion of the MPR Entry index (columns 2, 3 and 5) removes observations after 2014. The sample of destination countries contains EU countries except Malta. In columns 2-3 and 5-6, Croatia drops from the sample of destination countries.

**Table A10**  
**Impact of integration policies (t-2) on bilateral migration rates from EU vs non-EU**

	EU migrants		Overall MIPEX (3)	Non-EU migrants			
	Overall MIPEX (1)	Sub- indicators (2)		Entry control (4)	Interac- tions (5)	Sub- indicators (6)	Sub-ind & entry (7)
MIPEX <i>i</i>	3.39*** (1.08)		2.04 (1.92)	-0.25 (3.17)	0.56 (3.41)		
ln GDP pc <i>o</i>	-1.78 (1.12)	-0.89 (1.05)	-1.25** (0.58)	-1.40 (1.04)	-1.36 (1.02)	-0.62 (0.47)	-0.37 (0.74)
ln GDP pc <i>i</i>	0.25 (1.48)	0.06 (1.15)	0.43 (1.79)	3.43 (3.24)	3.35 (3.29)	-0.56 (1.73)	0.45 (2.69)
ln Unemployment rate <i>o</i>	0.15 (0.27)	0.35 (0.25)	0.13 (0.11)	0.05 (0.18)	0.04 (0.18)	0.20* (0.11)	0.10 (0.19)
ln Unemployment rate <i>i</i>	-1.82*** (0.53)	-1.98*** (0.44)	-1.69** (0.66)	-0.41 (0.98)	-0.46 (0.95)	-1.95*** (0.64)	-0.77 (0.74)
ln Migrant stock <i>oi</i>	0.79*** (0.07)	0.79*** (0.08)	0.81*** (0.06)	0.76*** (0.08)	0.76*** (0.08)	0.81*** (0.06)	0.76*** (0.08)
Democracy <i>o</i>			-0.03 (0.03)	0.00 (0.04)	0.00 (0.04)	-0.03 (0.03)	0.00 (0.03)
Political instability <i>o</i>			0.20*** (0.06)	0.01 (0.16)	0.01 (0.16)	0.19*** (0.04)	0.06 (0.11)
Conflict <i>o</i>			0.03 (0.12)	0.07 (0.08)	0.07 (0.09)	0.07 (0.12)	0.05 (0.08)
Common border	-0.12 (0.21)	-0.13 (0.22)	0.42 (0.28)	0.48 (0.39)	0.48 (0.39)	0.43 (0.28)	0.48 (0.39)
Common language	-0.29 (0.32)	-0.29 (0.32)	0.32** (0.15)	0.40** (0.18)	0.40** (0.18)	0.31** (0.15)	0.40** (0.18)
ln Distance	-0.16 (0.15)	-0.16 (0.15)	0.11 (0.18)	0.17 (0.24)	0.17 (0.24)	0.11 (0.18)	0.17 (0.24)
MPR Entry <i>i</i>				2.90*** (0.93)	-0.80 (3.48)		1.96*** (0.69)
MIPEX x MPR Entry <i>i</i>					0.94 (1.02)		
ln Labour market mobility		-0.64 (0.89)				-0.22 (1.28)	-1.42 (1.52)
ln Family reunion		0.18 (0.46)				-0.83 (0.92)	-0.21 (1.45)
ln Permanent residence		2.55** (1.27)				4.01** (2.00)	4.31* (2.35)
ln Access to nationality		0.22 (0.37)				0.53 (0.73)	0.30 (1.31)
ln Anti-discrimination		-0.19 (0.79)				-1.27 (0.98)	-2.08 (1.65)
ln Political participation		0.03 (0.02)				-0.00 (0.04)	-4.05** (1.80)
Constant	-9.71 (17.12)	-12.18 (15.95)	-15.42 (15.87)	-36.46 (37.83)	-39.19 (36.50)	-11.05 (18.27)	-5.23 (33.13)
Observations	5897	5897	27052	17629	17629	27052	17629
R2	0.2	0.201	0.258	0.254	0.254	0.26	0.257
Number of destinations	27	27	27	26	26	27	26
Number of years	9	9	9	6	6	9	6

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the PPML estimator with origin and destination fixed effects. Standard errors are clustered by country of destination. Inclusion of the MPR Entry index (columns 4, 5 and 7) removes observations after 2014. The sample of destination countries contains EU countries except Malta. In columns 4, 5 and 7, Croatia drops from the sample of destination countries.

**Table A11**  
**Impact of integration policies (t-3) on bilateral migration rates from EU vs non-EU**

	EU migrants		Overall MIPEX (3)	Non-EU migrants			
	Overall MIPEX (1)	Sub- indicators (2)		Entry control (4)	Interac- tions (5)	Sub- indicators (6)	Sub-ind & entry (7)
MIPEX <i>i</i>	4.56** (2.11)		1.33 (1.88)	2.91 (3.27)	3.09 (3.12)		
ln GDP pc <i>o</i>	-1.08 (1.87)	0.26 (1.69)	-0.77 (0.76)	-2.13* (1.13)	-2.07* (1.11)	-0.66 (0.69)	-0.90 (0.80)
ln GDP pc <i>i</i>	-1.91 (2.97)	-2.54 (2.03)	-2.25 (2.48)	3.16 (4.58)	3.18 (4.58)	-3.03 (2.57)	1.86 (3.59)
ln Unemployment rate <i>o</i>	0.28 (0.50)	0.45 (0.46)	0.24* (0.13)	0.35* (0.20)	0.33* (0.19)	0.19 (0.12)	0.16 (0.15)
ln Unemployment rate <i>i</i>	-2.30** (1.00)	-2.81*** (0.90)	-2.20** (0.87)	-0.51 (1.12)	-0.54 (1.11)	-2.36** (0.93)	-0.58 (0.88)
ln Migrant stock <i>oi</i>	0.79*** (0.07)	0.80*** (0.07)	0.84*** (0.05)	0.80*** (0.06)	0.80*** (0.06)	0.84*** (0.05)	0.80*** (0.07)
Democracy <i>o</i>			-0.04* (0.02)	-0.01 (0.04)	-0.01 (0.03)	-0.04* (0.02)	0.00 (0.02)
Political instability <i>o</i>			0.14*** (0.03)	-0.10 (0.11)	-0.09 (0.11)	0.14*** (0.03)	-0.03 (0.08)
Conflict <i>o</i>			0.01 (0.17)	-0.20* (0.12)	-0.20* (0.12)	0.03 (0.17)	-0.13* (0.08)
Common border	-0.07 (0.22)	-0.07 (0.23)	0.42 (0.26)	0.55 (0.39)	0.55 (0.39)	0.42 (0.26)	0.54 (0.39)
Common language	-0.33 (0.34)	-0.33 (0.35)	0.30** (0.14)	0.42** (0.17)	0.42** (0.17)	0.30** (0.14)	0.41** (0.16)
ln Distance	-0.16 (0.15)	-0.16 (0.15)	0.18 (0.19)	0.34 (0.26)	0.34 (0.26)	0.18 (0.19)	0.35 (0.26)
MPR Entry <i>i</i>				2.76* (1.42)	-0.46 (2.86)		2.19** (1.06)
MIPEX x MPR Entry <i>i</i>					0.87 (1.15)		
ln Labour market mobility		-0.37 (1.07)				0.27 (1.54)	-1.61 (1.42)
ln Family reunion		1.31*** (0.40)				-0.94 (0.89)	1.27 (1.59)
ln Permanent residence		1.27 (0.90)				2.61 (1.75)	3.65** (1.53)
ln Access to nationality		-0.02 (0.37)				0.46 (0.82)	-2.50* (1.51)
ln Anti-discrimination		0.07 (0.66)				0.02 (0.89)	-1.62 (1.45)
ln Political participation		-0.04** (0.02)				-0.05* (0.03)	-4.21 (3.33)
Constant	1.87 (25.36)	5.14 (18.77)	11.36 (19.38)	-42.28 (51.09)	-43.39 (50.87)	14.62 (23.66)	-10.08 (39.22)
Observations	5196	5196	23871	14488	14488	23871	14488
R2	0.203	0.204	0.261	0.255	0.256	0.262	0.257
Number of destinations	27	27	27	26	26	27	26
Number of years	8	8	8	5	5	8	5

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the PPML estimator with origin and destination fixed effects. Standard errors are clustered by country of destination. Inclusion of the MPR Entry index (columns 4, 5 and 7) removes observations after 2014. The sample of destination countries contains EU countries except Malta. In columns 4, 5 and 7, Croatia drops from the sample of destination countries.

**Table A12**  
**Impact of integration policies on the scale of medium-skilled immigration**

	Overall MIPEX	Entry control	Interactions	Sub-indicators	Sub-ind & entry
	(1)	(2)	(3)	(4)	(5)
MIPEX <i>i</i>	-2.49 (1.64)	-2.60 (2.23)	-2.89 (3.08)		
ln GDP pc <i>o</i>	-0.08 (1.57)	-2.10 (4.46)	-1.82 (4.74)	0.36 (1.37)	-5.13 (3.87)
ln Unemployment rate <i>o</i>	-0.55 (0.46)	-1.31 (0.86)	-1.21 (1.01)	-0.33 (0.47)	-1.35 (0.84)
ln Migrant stock <i>oi</i>	-0.09 (0.43)	-0.99 (0.84)	-1.07 (0.82)	-0.05 (0.39)	-1.29 (0.88)
MPR Entry <i>i</i>		0.43 (0.56)	3.93 (12.16)		-0.07 (0.75)
MPS <sup>skill</sup>		0.09 (0.08)	0.14 (2.42)		0.09 (0.09)
MIPEX x MPR Entry <i>i</i>			-0.86 (2.99)		
MIPEX x MPS <sup>skill</sup>			-0.01 (0.61)		
ln Labour market mobility				-0.88 (0.87)	-1.71 (1.85)
ln Family reunion				1.19 (1.44)	0.11 (1.24)
ln Permanent residence				1.44 (2.39)	4.97 (3.23)
ln Access to nationality				-1.13*** (0.36)	-1.44** (0.67)
ln Anti-discrimination				0.61 (1.00)	0.63 (1.14)
ln Political participation				-0.43 (0.29)	0.46 (0.36)
Constant	14.75 (16.46)	44.72 (47.65)	43.26 (50.18)	-4.88 (16.55)	55.54 (44.11)
Observations	209	113	113	229	113
R2	0.033	0.076	0.077	0.049	0.109
Number of destinations	25	20	20	28	20
Number of years	13	8	8	13	8

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the OLS estimator with destination fixed effects. Standard errors are robust to heteroskedasticity and autocorrelation, and clustered by country of destination. Inclusion of the MPR Entry index (columns 2, 3 and 5) removes observations after 2014. The sample of destinations contains EU countries (column 3) or EU countries except Bulgaria, Croatia and Romania (column 1). In columns 2, 3 and 5, also Cyprus, Estonia, Latvia, Lithuania and Malta are dropped from the sample of destination countries from column 1.

**Table A13**  
**Impact of integration policies on the share of medium-skilled immigration**

	Overall MIPEX	Entry control	Interactions	Sub-indicators	Sub-ind & entry
	(1)	(2)	(3)	(4)	(5)
MIPEX <i>i</i>	-1.13 (1.73)	-0.75 (1.83)	0.37 (1.85)		
ln GDP pc <i>o</i>	-2.25 (1.34)	-2.29 (2.70)	-2.42 (3.14)	-1.58 (1.43)	-2.90 (3.11)
ln Unemployment rate <i>o</i>	-0.20 (0.36)	-0.23 (0.69)	-0.28 (0.85)	0.01 (0.40)	-0.24 (0.86)
ln Migrant stock <i>oi</i>	0.22 (0.37)	0.45 (1.19)	0.42 (1.16)	0.51 (0.37)	0.47 (1.26)
MPR Entry <i>i</i>		-0.32 (0.74)	-0.45 (6.13)		-0.41 (0.78)
MPS <sup>skill</sup>		-0.03 (0.06)	-1.58 (1.15)		-0.02 (0.07)
MIPEX x MPR Entry <i>i</i>			0.08 (1.48)		
MIPEX x MPS <sup>skill</sup>			0.39 (0.30)		
ln Labour market mobility				-1.15* (0.66)	-0.65 (1.48)
ln Family reunion				-0.48 (1.55)	0.04 (1.94)
ln Permanent residence				2.25 (2.12)	2.09 (2.21)
ln Access to nationality				0.04 (0.40)	-0.52 (0.44)
ln Anti-discrimination				-0.26 (0.72)	0.27 (1.48)
ln Political participation				-0.41** (0.20)	-0.20 (0.51)
Constant	26.57** (11.95)	24.09 (31.64)	21.58 (33.47)	12.39 (15.05)	22.79 (32.14)
Observations	265	134	134	297	134
R2	0.022	0.015	0.025	0.033	0.024
Number of destinations	25	20	20	28	20
Number of years	13	8	8	13	8

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the OLS estimator with destination fixed effects. Standard errors are robust to heteroskedasticity and autocorrelation, and clustered by country of destination. Inclusion of the MPR Entry index (columns 2, 3 and 5) removes observations after 2014. The sample of destinations contains EU countries (column 3) or EU countries except Bulgaria, Croatia and Romania (column 1). In columns 2, 3 and 5, also Cyprus, Estonia, Latvia, Lithuania and Malta are dropped from the sample of destination countries from column 1.

**Table A14**  
**Impact of integration policies on the scale of low-skilled immigration**

	Overall MIPEX	Entry control	Interactions	Sub-indicators	Sub-ind & entry
	(1)	(2)	(3)	(4)	(5)
MIPEX <i>i</i>	3.63 (2.87)	-0.64 (3.04)	-1.14 (4.24)		
ln GDP pc <i>o</i>	-0.64 (1.09)	1.07 (4.08)	0.80 (4.34)	-0.60 (0.76)	0.63 (4.96)
ln Unemployment rate <i>o</i>	-0.75** (0.34)	-0.48 (0.69)	-0.56 (0.66)	-0.70* (0.36)	-0.47 (0.66)
ln Migrant stock <i>oi</i>	-1.09* (0.61)	-0.69 (0.97)	-0.53 (1.02)	-0.86** (0.36)	-0.94 (1.21)
MPR Entry <i>i</i>		0.90 (0.54)	-0.41 (9.05)		0.83 (0.65)
MPS <sup>skill</sup>		0.02 (0.08)	0.77 (1.12)		-0.01 (0.08)
MIPEX x MPR Entry <i>i</i>			0.32 (2.12)		
MIPEX x MPS <sup>skill</sup>			-0.19 (0.27)		
ln Labour market mobility				0.11 (0.90)	1.21 (1.57)
ln Family reunion				4.27* (2.37)	-0.58 (2.01)
ln Permanent residence				0.97 (3.36)	0.24 (3.49)
ln Access to nationality				-0.93 (1.04)	-0.48 (1.29)
ln Anti-discrimination				1.61 (0.94)	0.65 (1.84)
ln Political participation				0.26 (0.34)	0.29 (0.33)
Constant	2.64 (13.67)	-0.24 (49.87)	3.67 (55.76)	-11.17 (15.31)	-1.94 (54.47)
Observations	183	92	92	201	92
R2	0.063	0.128	0.134	0.094	0.151
Number of destinations	25	20	20	28	20
Number of years	13	8	8	13	8

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the OLS estimator with destination fixed effects. Standard errors are robust to heteroskedasticity and autocorrelation, and clustered by country of destination. Inclusion of the MPR Entry index (columns 2, 3 and 5) removes observations after 2014. The sample of destinations contains EU countries (column 3) or EU countries except Bulgaria, Croatia and Romania (column 1). In columns 2, 3 and 5, also Cyprus, Estonia, Latvia, Lithuania and Malta are dropped from the sample of destination countries from column 1.

**Table A15**  
**Impact of integration policies on the share of low-skilled immigration**

	Overall MIPEX	Entry control	Interactions	Sub-indicators	Sub-ind & entry
	(1)	(2)	(3)	(4)	(5)
MIPEX $i$	1.35 (1.96)	-0.68 (1.50)	-0.26 (1.80)		
ln GDP pc $o$	-1.92 (1.29)	2.25 (2.67)	1.72 (2.96)	-2.11* (1.21)	0.37 (3.95)
ln Unemployment rate $o$	0.24 (0.40)	0.71* (0.40)	0.51 (0.53)	0.23 (0.37)	0.43 (0.44)
ln Migrant stock $oi$	0.14 (0.33)	0.85 (0.64)	1.05 (0.69)	0.21 (0.29)	0.97 (0.82)
MPR Entry $i$		1.19** (0.55)	-6.77 (9.99)		1.16 (0.76)
MPS <sup>skill</sup>		0.09 (0.07)	-0.24 (1.87)		0.10 (0.09)
MIPEX x MPR Entry $i$			1.95 (2.47)		
MIPEX x MPS <sup>skill</sup>			0.08 (0.48)		
ln Labour market mobility				-0.81 (0.96)	-1.92 (2.21)
ln Family reunion				1.70 (1.64)	0.81 (1.95)
ln Permanent residence				1.94 (2.14)	-2.15 (3.07)
ln Access to nationality				-0.83** (0.40)	-0.13 (0.58)
ln Anti-discrimination				1.70** (0.80)	1.24 (1.14)
ln Political participation				0.41 (0.27)	-0.23 (0.37)
Constant	12.43 (12.26)	-28.51 (33.71)	-25.38 (33.55)	2.50 (15.97)	-1.99 (42.45)
Observations	221	107	107	239	107
R2	0.03	0.072	0.078	0.051	0.094
Number of destinations	25	20	20	28	20
Number of years	13	8	8	13	8

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the OLS estimator with destination fixed effects. Standard errors are robust to heteroskedasticity and autocorrelation, and clustered by country of destination. Inclusion of the MPR Entry index (columns 2, 3 and 5) removes observations after 2014. The sample of destinations contains EU countries (column 3) or EU countries except Bulgaria, Croatia and Romania (column 1). In columns 2, 3 and 5, also Cyprus, Estonia, Latvia, Lithuania and Malta are dropped from the sample of destination countries from column 1.

**Table A16**  
**Impact of integration policies on the scale of high-skilled immigration (negative flows set to 0.00001)**

	Total migrants		EU migrants		Non-EU migrants	
	Overall (1)	Entry control (2)	Overall (3)	Entry control (4)	Overall (5)	Entry control (6)
MIPEX $i$	9.40*	12.86**	8.15	6.25	7.27	14.31**
	(4.75)	(5.61)	(5.37)	(6.12)	(5.32)	(6.12)
ln GDP pc $o$	5.33	13.31	0.45	6.10	2.70	3.76
	(4.42)	(8.37)	(4.14)	(11.40)	(5.31)	(11.40)
ln Unemployment rate $o$	-3.05**	-1.22	-1.30	-1.33	-3.21**	-3.93*
	(1.30)	(2.12)	(0.99)	(2.06)	(1.40)	(2.16)
ln Migrant stock $oi$	-4.34**	-8.37**	-4.00***	-4.18	-1.57	-1.67
	(1.69)	(3.91)	(1.36)	(3.15)	(0.99)	(3.29)
MPR Entry $i$		-0.51		-3.06**		0.83
		(2.91)		(1.43)		(2.53)
MPS <sup>skill</sup>		0.50		0.40		0.54
		(0.32)		(0.34)		(0.43)
Constant	-62.39	-137.94	-18.10	-68.14	-44.28	-81.63
	(50.29)	(110.38)	(44.05)	(148.93)	(56.02)	(122.73)
Observations	322	160	311	152	301	152
R2	0.069	0.096	0.031	0.042	0.042	0.042
Number of destinations	25	20	25	19	24	19
Number of years	13	8	13	8	13	8

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the OLS estimator with destination fixed effects. Standard errors are robust to heteroskedasticity and autocorrelation, and clustered by country of destination. Inclusion of the MPR Entry index (columns 2, 4 and 6) removes observations after 2014. The sample of destinations contains EU countries except Bulgaria, Croatia and Romania (columns 1 and 3). Additional destinations dropped from the sample are: Cyprus, Estonia, Latvia, Lithuania and Malta (column 2); Cyprus, Estonia, Germany, Latvia, Lithuania and Malta (columns 4 and 6); and Malta (column 5).

**Table A17**  
**Impact of integration policies on the share of high-skilled immigration (negative flows set to 0.00001)**

	Total migrants		EU migrants		Non-EU migrants	
	Overall (1)	Entry control (2)	Overall (3)	Entry control (4)	Overall (5)	Entry control (6)
MIPEX $i$	-1.21	2.08	4.44	4.32	4.83	1.59
	(6.14)	(9.41)	(5.83)	(5.27)	(6.27)	(5.40)
ln GDP pc $o$	9.95*	18.36	-3.36	-9.63	9.97*	5.46
	(4.89)	(13.27)	(3.70)	(8.12)	(5.44)	(8.64)
ln Unemployment rate $o$	0.67	-1.05	-1.39	-0.49	1.25	-2.00
	(1.34)	(2.61)	(1.17)	(1.88)	(1.52)	(3.31)
ln Migrant stock $oi$	-0.60	3.42	-0.59	1.38	-1.69	0.40
	(1.27)	(3.68)	(1.19)	(1.76)	(1.03)	(3.23)
MPR Entry $i$		-0.30		-2.25		2.50
		(1.76)		(1.36)		(2.14)
MPS <sup>skill</sup>		-0.14		-0.16		0.38
		(0.25)		(0.29)		(0.39)
Constant	-101.37**	-226.40	20.33	74.50	-121.36**	-64.79
	(44.82)	(141.58)	(42.19)	(85.03)	(55.21)	(101.86)
Observations	322	160	311	152	301	152
R2	0.021	0.053	0.006	0.018	0.022	0.024
Number of destinations	25	20	25	19	24	19
Number of years	13	8	13	8	13	8

Note: (standard errors), \* significant at 90 %, \*\* significant at 95 %, \*\*\* significant at 99 %. Estimates reported are obtained using the OLS estimator with destination fixed effects. Standard errors are robust to heteroskedasticity and autocorrelation, and clustered by country of destination. Inclusion of the MPR Entry index (columns 2, 4 and 6) removes observations after 2014. The sample of destinations contains EU countries except Bulgaria, Croatia and Romania (columns 1 and 3). Additional destinations dropped from the sample are: Cyprus, Estonia, Latvia, Lithuania and Malta (column 2); Cyprus, Estonia, Germany, Latvia, Lithuania and Malta (columns 4 and 6); and Malta (column 5).

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