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ABSTRACT

The Impact of Immigration and Integration Policies on Immigrant-Native Labor Market Hierarchies*

Across European Union (EU) labor markets, immigrant and native populations exhibit disparate labor market outcomes, signifying widespread labor market hierarchies. While significant resources have been invested in migration and integration policies, it remains unclear whether these contribute to or mitigate labor market hierarchies between natives and immigrants. Using a longitudinal model based on individual-level EU LFS and country-level DEMIG POLICY and POLMIG databases, we explore variation in changes of immigration and integration policies across Western EU member states to study how they are associated with labor market hierarchies in terms of unemployment and employment quality gaps between immigrant and native populations. Our findings imply that designing less restrictive policies may help mitigate immigrant-native labor market hierarchies by reducing existing labor market disadvantages of immigrants and making the most of their potential.

JEL Classification:	J15, J18, J61, K37
Keywords:	decomposition, immigrant-native gaps, labor market, DEMIG POLICY database, immigrant integration, hierarchies

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1. Introduction

The migration of people across international borders has the potential to contribute to multiple dimensions of human development. Evidence from a number of receiving countries documents that immigration contributes positively to a range of economic and social outcomes, such as income, welfare, trade, foreign direct investment or innovation (Fassio, Montobbio & Venturini, 2019; Martinsen & Pons Rotger, 2017). Immigration has also been shown to increase labor productivity and alleviate labor shortages (Fassio, Kalantaryan & Venturini, 2020; Guzi, Kahanec & Kureková, 2018). However, at the same time, immigrants and their families continue to encounter barriers to their social and labor market integration in destination countries. Immigrants are more likely than natives or nationals to be exposed to low-paid or precarious employment, unemployment, or social exclusion (Kahanec & Zimmermann, 2011; Guzi & Kahanec, 2015) or face down-skilling (Stanek et al., 2021; Voitchovsky, 2014; Guzi & Kahanec, 2017; Kogan, 2011). Even within the European Union where free mobility is established, intra-EU migrants from Central and Eastern European countries (EU12) generally have high employment rates but face a problem of down-skilling and typically work in less-skilled occupations than natives, earning comparatively lower wages (Drinkwater et al., 2009; Voitchovsky, 2014; Leschke & Weiss, 2020; Clark et al., 2019).

Some of the theoretical explanations for the differences between immigrants and comparable natives include those based on the market value of the education acquired in different sending countries, the lack of country-specific skills such as language and/or knowledge of the receiving countries' labor market institutions, spatial segregation, institutional factors and various forms of discrimination (De la Rica et al., 2015; Kahanec et al. 2013). The higher incidence of precarious employment observed among immigrants may arise from a variety of factors, including labor market rigidities that tend to favor insiders over outsiders or structural factors (Clark et al., 2019). Worse labor market outcomes may disappear or decline with time since migration, with the improvement of immigrants' language skills or educational level, or when controlling for individual characteristics (Dustmann et al., 2003; Felbo-Kolding & Leschke, 2021).

Differences in labor market outcomes are apparent not only between natives and immigrants, but also appear between different immigrant groups. Empirical evidence shows that the labor market status of immigrants in EU host countries varies considerably (Kahanec & Zimmermann, 2011; Dustmann et al., 2013; Felbo-Kolding et al., 2019). Following the Eastern enlargement of the EU in 2004 and 2007, significant differences in labor market outcomes have been identified between intra-EU immigrants from different parts of the EU (Felbo-Kolding et al., 2019; Stanek et al., 2021), but also between intra-EU workers and those immigrating from the countries outside the EU (non-EU) (Clark et al., 2019). For example, intra-EU immigrants from new member states tend to have very high participation rates, while non-EU immigrants often face greater barriers to labor market integration (Kahanec et al., 2011; Trenz & Triandafyllidou, 2017).

Differences in employment and job quality persist between EU15 and EU12 migrants, in spite of formally equal free movement and labor market access conditions. We therefore find it

justified to examine EU migrant groups separately. Non-EU immigrants have less favorable migration status and can be expected to have more difficult access to the labor market. The incentives for non-EU immigrants to take a lower-quality job can be relatively higher for several reasons. They have limited access to the social safety net in the host (or home) country, and the earnings opportunities in low-skilled jobs may be acceptable considering the income standards in their home countries. In addition, immigrants have strong incentives to work in order to be able to support household members who remain in their home country. These factors could reduce immigrants' reservation wages and channel them to lower-quality employment vis-à-vis the natives. Another reason for the high propensity for employment in elementary occupations among EU12 and non-EU immigrants may be a qualification mismatch caused by barriers in the recognition of qualifications across countries, job search strategies as well as discrimination.

Across the EU, national states continue to define their unique approaches to migration management, and the plethora of policies continues to grow rather than shrink (Trenz & Triandafyllidou, 2017; Helbling & Kalkum, 2018; Cerna, 2014). Of key relevance in this respect are admission policies, which regulate access to the labor market and the composition of immigrants, and integration policies, which aim to smooth the transition into the host country's labor market and society (Cangiano, 2014). A number of studies investigate how various policy initiatives affect immigrants' labor market integration (Kogan, 2016; Politi et al., 2021; Ersanilli & Koopmans, 2011), but it remains unclear how immigration and integration policies applied at the national level relate to immigrant-native labor market gaps. Indeed, there are few comparative studies that explicitly address the institutional and policy drivers of immigrants' labor market integration in the European context. In this paper, we specifically ask *whether liberalization of immigration policies and integration policies in Western European labor markets reshapes immigrant-native labor market hierarchies measured as unequal positions in labor market outcomes between different immigrant groups and natives*.

While the existing hierarchies between immigrants and natives can be partly explained by differences in the composition of immigrant and native populations (the explained component), our analysis focuses in particular on explaining immigrant-native labor market gaps attributable to factors beyond the simple compositional effects, namely: inter-group differences in ethnic or social capital, behavioral factors, returns to human or social capital, unobservable characteristics, or in how members of different groups are treated in the labor market, i.e. discrimination.

Our analysis proceeds in two steps. First, using the large-scale EU labor force survey (EU LFS), we decompose the gap in the outcome variable between immigrants and natives into a part attributable to differences in group characteristics (educational attainment, gender, or age composition), and the part of the gap attributable to unobservable characteristics. The sum of both components determines the total immigrant-native gap. In general, the bulk of the gap in the labor market outcomes is attributed to unobservable characteristics, which is also confirmed by other studies (e.g., Huber, 2015).

In the second step, the unexplained part of the gap becomes the dependent variable that we explain with variables tracking changes in the immigration and integration policy sourced from DEMIG POLICY and POLMIG databases.[2] Using a longitudinal model, we explore the variation in changes of immigration and integration policies across Western European Union member states to study how they are associated with labor market hierarchies in terms of participation in the labor market, unemployment, and employment quality gaps between the native workforce and immigrants originating from EU-15, EU12, and non-EU countries. We understand hierarchies as unequal positions in labor market outcomes in Western European labor markets; we find this conceptualization useful in the discussion on the functioning of the European single market.

We contribute to the literature by studying the impact of multiple policy areas on relative labor market outcomes over time, net of observable individual-level characteristics, at the level of European Union and from the perspective of different immigrant groups. The findings from the analysis inform the debate on the role of immigration and integration policies in shaping labor market outcomes of EU and non-EU migrant groups and their relative standing compared to natives (Helbling et al., 2020; Cangiano, 2014). We provide additional evidence to the critical discussion about the intervening role of regulation in the functioning of the European single market, and its markedly hierarchized nature.

2. Literature review

An expanding body of literature has investigated factors responsible for the lower performance of immigrants in European labor markets in comparison to the native population. The existing literature on differences in labor market performance between immigrants and native workers in the EU documents that immigrants' social and demographic backgrounds only partially explain the existing differences, and that the observed gaps may be attributed to other structural factors in the receiving countries, including the structure of the labor market and relevant regulations, educational and welfare systems, and immigration and integration policies.

Migration policies

Immigration and integration policies play an important role in determining immigrants' position in the host country labor market by affecting the mode of entry, the composition of immigrants, or their legal status. The landscape of admission and integration policies continues to be highly diverse across country contexts. EU countries differ, first, in how they *select immigrants at arrival* (e.g., a point-based system, quota scheme, selective bilateral agreements, refugee admission policies), and, secondly, by means of *labor market access restrictions and regulations*, i.e., various types of permits for residence and employment apply differently for different immigrant groups upon arrival (e.g., restrictions on the employment of spouses, students, or refugees, or work permits).

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[2] The full name of the DEMIG project is Determinants of International Migration: A Theoretical and Empirical Assessment of Policy, Origin and Destination Effects.

With substantial migration waves across the world and within the EU, particularly South-North and East-West migration waves, the debate concerning the effectiveness of immigrant admission and integration policies has remained in the spotlight of academic and policy discussions. This debate became especially heated during the 2014–2015 European immigration crisis when hundreds of thousands of refugees illegally crossed the EU's outer and inner borders. Although the notion of a strong state strictly controlling flows of people across its international borders has habitually been invoked in political debates, experts have argued that, in the long run, immigration policy restrictions have had limited effects on inflows of immigrants, as migration is primarily driven by economic, demographic and political developments in the sending and receiving countries (Czaika & de Haas, 2013).

Along these lines, Ruhs and Martin (2008) argue that immigrants decide about their future destinations based on the expected earnings *and* expected rights in destination areas. Countries attract particularly high-skilled immigrants by offering them more generous rights, such as permanent settlement, family reunification, or the right to work for spouses. Ruhs (2011) argues that the rights granted to immigrant workers play an important role in shaping the outcomes of labor migration. In particular, he observes that programs targeting high-skilled immigrants place fewer restrictions on admission and are more often associated with permanent residence status. While most programs entitle immigrants to economic and political rights, programs targeted to low-skilled immigrants are less supportive towards immigrants in their integration policy in terms of social, residency, and family rights. Ruhs (2011) identifies that the most commonly restricted rights are political rights, the spouse's right to work, direct access to citizenship, time limit and security of residence (residence and family rights), unemployment benefits and social housing (social rights), but also the free choice of employment (economic right). Similarly, access to welfare benefits for intra-EU immigrants depends on the social protection entitlement and generosity of the country of origin (Bruzelius et al., 2017; Kureková, 2013).

Importantly, the interaction of admission and integration rules may also result in significant differences between the labor market outcomes of diverse immigrant groups (Dustmann et al. 2003; Helbling et al., 2020). For example, Anderson and Ruhs (2008) argue that the employment restrictions in the UK limit immigrant mobility across occupational sectors and thereby keep immigrant workers in unattractive jobs with low wages or in remote geographical regions (the temporary, seasonal agricultural worker scheme is an example of such a policy). This in turn may explain the poorer labor market outcomes of immigrants in such countries. Kanas and Steinmetz (2021) find that the economic disadvantage of family reunification immigrants and refugee immigrants is lowered in countries that grant them more rights in labor market access.

Migration policy indices

In the last decade, there have been several attempts to construct indices to measure immigration and integration policies in order to conduct systematic comparative analyses (e.g., fRDB, 2009; Cerna, 2014; Ruhs, 2011; de Haas et al., 2014). Among the more recent data collection initiatives are the MIPEX index (Solano & Huddleston, 2020), IMPALA database (Gest et al.,

2014; Beine et al., 2016), the IMPIC database (Helbling & Kalkum, 2018) and the DEMIG databases (de Haas et al., 2014). These projects, and others, have compiled, coded and systematized various immigration and integration policies across countries and over time, greatly facilitating large-N analysis across countries and over time.[3]

The literature to date is nuanced on whether more restrictive migration management policies support or hinder the labor market integration of immigrants. For example, Ramos et al. (2013) show that immigrant-native wage gaps are lower in countries with more favorable integration policies, measured by the MIPEX migration policy index. In an EU-wide analysis of the responsiveness of immigrants to labor and skill shortages, Guzi, Kahanec, and Kureková (2018) show that in the EU-15 countries with more open immigration and integration policies, immigrants more fluidly fill existing skill gaps in the labor market. Platt et al. (2022) show that anti-discrimination legislation fosters immigrants' occupation attainment but policies seem to benefit only groups potentially less exposed to anti-migrant sentiment (e.g. women and highly-skilled immigrants). Kanas and Steinmetz (2021) used labor market access sub-indexes of the MIPEX index to study the economic integration of immigrants of different migration motives (economic, refugee, family reunification). They find that the economic disadvantage of non-economic immigrants is lower in the countries with greater legal support for immigrants' labor market mobility. In contrast, Hebling et al. (2020) find that more restrictive immigration policies lead to better labor market outcomes for immigrants from non-OECD countries and that social and political integration outcomes are weakly affected by the regulation of immigration, with the impact varying for different immigrant groups. Finally, Fleischmann and Dronkers (2010) study the unemployment rates of immigrants in 13 EU countries but find no significant effect of immigrant integration policies. The diversity of the measured impacts of immigration and integration policies on immigrant-native labor market hierarchies further justifies a comprehensive analysis distinguishing between different groups of migrants, which we aim to offer in this study.

Our contribution

As the above review of existing research demonstrates, how changes in immigrant admission and integration policies shape immigrant integration outcomes in the labor market remains a topical question. We further build on this research and expand it in a number of ways. First, we study economic integration in relative terms, operationalized as labor market gaps and conceptualized as hierarchies, between different immigrant groups and natives. This approach helps us to control for relative differences in the performance of national labor markets, and focuses on relative disadvantage to the key competitor group, i.e. natives. While we follow Guzi et al. (2021), Garcia-Serano and Hernanz (2022) and Duman et al. (2022) in how we measure labor market outcomes, these studies do not focus on immigration and integration policies but rather study the impact of institutions (Guzi et al., 2021; Garcia-Serano and Hernanz, 2022) and of immigrant welfare inclusion (Duman et al. 2022) on labor market gaps.

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[3] By 2020, nearly 70 indexes existed which had typically focused on immigration and citizenship policies in Western democracies and advanced economies (Helbling & Solano, 2021).

With the exception of Guzi et al. (2021), these studies also do not differentiate between immigrant groups, and compare all immigrants to natives.

Second, we rely on the EU LFS data to understand the differentiated role of migration and integration policies on immigrants with varied characteristics and possibilities. In addition to employment and unemployment outcomes, we also examine job quality aspects, which have been relatively less studied (for a review, see Garcia-Serano and Hernanz, 2022). Third, our work does not focus on a single country or a few receiving countries (e.g., Drinkwater et al., 2009; Fellini, 2018; Dustmann et al., 2013) but studies Western European countries in a comparative longitudinal design. Lastly, most studies analyze immigration and integration policies separately, while in our work different aspects of immigration policy, and integration policy are discussed together.

Empirical expectations

We hypothesize that the institutional context in terms of immigration and integration policy changes may have different effects on immigrants of different origins in their host country. This is due to the different policy regimes they are subjected to, as well as different access to other support structures (e.g., social welfare rights), which arguably intervene in labor market outcomes and are not captured in our analyses of immigration and integration policies.

Regarding the association of policy liberalization and its impact on labor market gaps in employment and job quality between natives and different immigrant groups, following other studies, we expect to find that greater liberalization in legal entry, exit and return and enhanced integration policies lead to better immigrant labor market outcomes, and hence lower gaps between immigrant groups, in particular EU12 and non-EU, and natives. Under conditions of greater options for legal entry as well as exit and return, and more extensive support in integration, we expect that immigrants attain better labor market outcomes, and that the gaps between immigrants and natives decline with respect to participation in the labor market and job quality.

3. Empirical strategy

The analysis to study the impact of policy variables on immigrant-native gaps proceeds in two steps.[4] In the first step, we use Oaxaca (1973) and Blinder (1973), and Yun's (2004) extension to nonlinear models to decompose the gaps in the labor market status variables into the part that is explained by differences in the observed characteristics of immigrant and non-migrant populations, and the part that remains unexplained, reflecting differences in returns to characteristics and other unobserved variables, such as social and ethnic capital or

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[4] An alternative approach is to perform decomposition on a pooled sample by jointly including a set of policy and individual characteristics as explanatory variables. This is a more restrictive approach because the coefficients of the explanatory variables are constrained to be invariant across countries and over time. The two-step strategy is less restrictive while it allows for differences in the coefficients of explanatory variables across countries and over time.

discrimination. We adapt the framework to represent two groups, immigrant and native individuals characterized by two relationships

$$Y^m = \alpha^m + X^{m\prime}\beta^m + \varepsilon^m, (1)$$

$$Y^n = \alpha^n + X^{n\prime}\beta^n + \varepsilon^n, (2)$$

where Y is the outcome variable; X is the vector of individual characteristics; α and β are the intercepts and the vector coefficient; ε is an error term; and superscripts *m* and *n* denote immigrants and natives, respectively. In order to examine sources of outcome differences between immigrants and natives, a counterfactual equation is constructed where immigrants are treated as natives. In other words, the intercept and coefficient in the immigrants' equation are replaced by those of the natives' equation. The counterfactual outcome $\overline{Y}^m$ is defined as

$$\overline{Y}^m = \hat{\alpha}^n + \overline{X}^{n\,\prime}\hat{\beta}^n \ (3).$$

The Blinder-Oaxaca decomposition of immigrant-native gap Δ_{kt} for each outcome variable, country *k* and year *t* then is

$$\Delta_{kt} \equiv \overline{Y}^m_{kt} - \overline{Y}^n_{kt} = \left(\overline{X}^m_{kt} - \overline{X}^n_{kt}\right)' \hat{\beta}^n_{kt} + \overline{X}^m_{kt}\left(\hat{\beta}^m_{kt} - \hat{\beta}^n_{kt}\right) + \hat{\alpha}^m_{kt} - \hat{\alpha}^n_{kt} \equiv \Delta^e_{kt} + \Delta^u_{kt}, \quad (4)$$

where $\overline{X}^m$ and $\overline{X}^n$ are vectors of the means of the explanatory variables for immigrants and natives, respectively, and $\hat{\beta}^m$ and $\hat{\beta}^n$ are estimated coefficients from regressions (1) and (2). The first term of equation (4) on the right-hand side, Δ^e, is the part of gap due to different (average) characteristics of immigrants and natives, hence *explained*. The second term, Δ^u, is the part of differential due to different coefficients that identifies differences in treatment or behavior of otherwise comparable immigrant and native workers, and in this sense remains *unexplained.* Decompositions are performed separately for each country and year so that the estimated explained and unexplained immigrant-native labor market gaps create a panel dataset. We note that under this approach, the coefficients of individual characteristics (i.e., the role of age, gender and education) are allowed to vary across countries and over time.

In the second step, we explain the longitudinal variation in immigrant-native labor market gaps using the panel dataset obtained in the first step as a function of the changes in the migration policy variables. The analysis proceeds with the part of the gap unexplained by differences in the characteristics of immigrant and native populations. Specifically, we estimate the following models using the OLS estimator:

$$\Delta^u_{kt} = \rho + I_{kt-1}'\delta + V_{kt-1}'\gamma + \mu_k + \eta_t + \varepsilon_{kt}, \qquad (5)$$

where matrix *I* represents the migration policy index, and matrix *V* includes the economic variables such as real GDP growth and unemployment rates to control for business-cycle variation. Explanatory variables are lagged by one year, as the reaction of workers to changes

in the migration policy and economic developments is likely to be delayed.[5] Country and year fixed effects are included in all models in the second step so our identification strategy relies on the within-country variation. The changes of policy variables over time are therefore more important than differences in levels between countries. This analysis sheds light on the types of policy approaches that are conducive (or not) to the integration of immigrants, as far as their treatment and behavior in the labor market are concerned.

4. Data

The EU LFS is the main source of data for this paper. The final sample used in the analysis covers the period 2004–2019 and includes individuals of working age (15-64) in the EU15, counting almost 31 million individuals, of which immigrants comprise 11.5%.[6] The origin of immigrants is given in the data, and we distinguish three immigrant groups: EU15 (immigrants born in one of the EU15 member states but residing in another one), EU12 (immigrants born in states that joined EU in 2004 and 2007), and non-EU (immigrants born outside the European Union).[7]

The compositional differences of the immigrant and native workforces are measured in terms of gender, age, and educational attainment (see Table 1). In general, all the groups are nearly gender-balanced, except for the group of EU12 immigrants, among whom females are more notably over-represented. EU15 immigrants are, on average, older and have higher rates of tertiary education relative to the native population. EU12 immigrants are younger, and attain higher rates of upper secondary education and lower rates of tertiary education attainment relative to natives and other immigrant groups. Immigrants originating from countries outside the EU constitute a highly heterogenous group in terms of education and age. Relative to the native workforce, non-EU immigrants are younger, and they have a similar share of tertiary-educated population but also the highest share of people with primary and lower secondary education.

We construct four dependent variables to assess the position of immigrants in the labor market. Labor force participation measures natives' and immigrants' *access* to the labor market, and unemployment status measures their labor market *outcomes*, i.e., chances of obtaining a job.

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[5] We assume that policy changes are related to the current labor market success of all immigrants as they concern immigrants in some aspects (through e.g. residence and work permit regulation). The liberalization of immigration policy may act as a signaling tool to immigrants and employers as well. It can influence the unobserved characteristics of immigrants (e.g. motivation), and the variation in institutional context may change the current recruitment and promotion practices of employers or the general competition in the labor market. We acknowledge that significant effects of migration and integration policies occur at the time of entry, but our two-stage approach addresses some of this variation by focusing on the unexplained part of immigrant-native gaps that captures the differences in treatment and behavior of otherwise comparable immigrant and native workers (i.e. controlling for the compositional effect but also the age cohort effects, which reflect the variation in integration and immigration policy at the time of entry). Our analysis captures precisely these changes in the labor market induced by policy changes.

[6] Countries included in the study are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

[7] As EU LFS data before 2004 recognize immigrants only from two origins (EU15 and other countries), we do not use earlier years.

Table 1 Individual characteristics of immigrant and native populations

	Non-EU	EU12	EU15	Native
Female	51%	55%	50%	50%
Age 15-29	26%	30%	19%	27%
Age 30-44	42%	46%	36%	31%
Age 45-64	33%	24%	45%	42%
Edu low	42%	27%	32%	31%
Edu medium	33%	50%	36%	43%
Edu high	25%	22%	33%	26%

Source: Own calculations based on the 2004-2019 waves of EU LFS.
Note: Sample of working-age population (15-64 year old). Statistics are weighted by design weights. *Edu low* includes persons with primary and lower-secondary education, *Edu medium* includes persons with upper-secondary education and *Edu high* includes persons with tertiary education.

Table 2 Labor market outcomes of immigrant and native populations (rates, in %)

|	Non-EU	EU12	EU15	Native
Participation	69%	79%	75%	73%
Unemployment	16%	12%	8%	8%
Elementary occupation	22%	27%	10%	8%
Temporary contract	21%	20%	13%	13%

Source: Own calculations based on the 2004-2019 waves of EU LFS.

Two variables gauge the *quality* of jobs immigrants and natives are able to obtain: employment in an elementary occupation; and temporary contract employment. Following the ILO definition, we consider labor force participants of working age (15-64) who are either employed or unemployed, i.e., they have no job but are actively looking for and can take one. Elementary occupation includes occupations in the major group 9 of the International Standard Classification of Occupations. Temporary contracts are identified as work contracts of limited duration.

Table 2 compares the labor market outcome variables for natives and immigrants. Participation rates of immigrants born outside the EU are lower than those pertaining to the natives; the opposite holds for immigrants from the EU12 and EU15. In general, unemployment rates and the prevalence of elementary occupation or temporary contract are higher for EU12 and non-EU immigrants than natives. Labor market outcomes of EU15 immigrants are very similar to natives. The largest immigrant-native gaps are documented in the elementary occupation and temporary employment for EU12 and non-EU immigrants.

We rely on the DEMIG POLICY and POLMIG databases to measure the changes in the immigration and integration policy. The DEMIG (2015) migration policy database tracks changes measured from 1945 to 2014 in four policy areas: border control, legal entry,

Figure 1 DEMIG policy index by policy area, 2004-2019
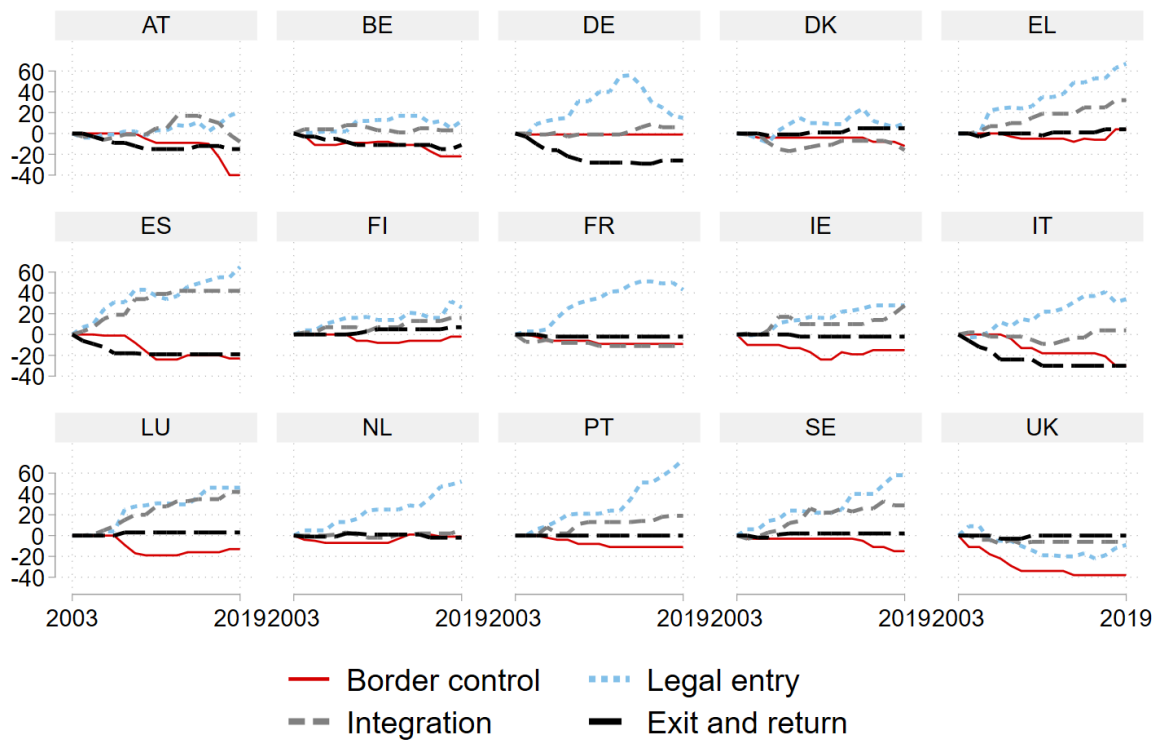
Source: Own calculations based on DEMIG (2015) and Kovacevic and Mara (2021)
Note: The index is set at zero in 2003 and higher (lower) values in subsequent years indicate the measures intending to expand (reduce) the rights of immigrants. Positive values indicate liberalization (reduced restrictiveness), and negative values indicated de-liberalization (increased restrictiveness) of a given policy area.

integration, exit and return. The POLMIG database compiled by Kovacevic and Mara (2021) extends the DEMIG database to 2019. Importantly, each policy change is assessed as to whether it made the existing policy framework more or less restrictive. The magnitude of policy change is stated in qualitative terms that we use to construct a weighted index of policy change. We assign weights to qualitative assessment of policy change as follows: 1="fine tuning", 2="minor change", 3="Mid-level change", 4="Major change". We combine policy changes (number of changes and the degree of change) to construct the cumulative index of migration policy change in each policy area. The DEMIG index is set at zero in 2003, and higher (lower) values in subsequent years indicate the measures intending to expand (reduce) the rights of immigrants (see Figure 1).[8] Hence positive values indicate liberalization (reduced restrictiveness), and negative values indicated de-liberalization (increased restrictiveness) of a given policy area. The DEMIG database conceptualizes higher (lower) restrictiveness as reduction (expansion) of rights to immigrants, and not as greater (smaller) selectivity of immigrants (conceptualization used in Helbling et al. (2020), for example).

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[8] We have checked that all findings remain valid when we use policy changes as a dichotomous variable and ignore the degree of change.

Figure 1 illustrates that, with respect to border control and exit policies, policy changes in Western European countries have been towards greater restrictiveness or have remained largely unreformed relative to 2003, which is a reference year. Control of external EU border is also an area in which the European Union has taken the most coordinated approach across the member states (Trenz and Triandafyllidou, 2017). Except for the UK, most EU15 countries liberalized their policies related to enabling the legal entry of immigrants. Regarding integration policies, we again see mostly liberalization of these policies (i.e., granting more rights to immigrants) relative to the early 2000s, with the exception of the UK, France, Denmark, and the Netherlands.

5. Results

The estimates from regression model (5) measuring the association of immigration and integration policy changes and immigrant-native labor market gaps are presented in Table 3 for all immigrants taken as a whole. Each coefficient is the estimate from a separate regression. The interpretation of the measured effects depends on the labor market outcome. A negative coefficient in the model with labor force participation indicates that an increase in a DEMIG policy index is associated with a decrease in the immigrant-native gap and thus a higher probability of participation of natives than immigrants, and in that sense disfavors immigrants. Negative coefficients in the models for unemployment, elementary occupation, and temporary employment indicate that an increase in a DEMIG policy index is associated with a decrease in the gap in the respective variable and hence favors immigrants vis-à-vis natives.

Table 3 Impact of migration and integration policy on immigrant-native hierarchies in labor market outcomes

	Participation (1)		Unemployment (2)		Elementary occupation (3)		Temporary contract (4)	
Border and land control	-0.089	***	-0.124	***	-0.093	***	0.052	*
	(0.019)		(0.024)		(0.028)		(0.027)	
Legal entry and stay	-0.035	***	-0.041	***	-0.066	***	0.016	
	(0.010)		(0.010)		(0.009)		(0.012)	
Integration	-0.056	***	-0.067	**	-0.035		-0.123	***
	(0.020)		(0.029)		(0.030)		(0.037)	
Exit and return	0.079	***	-0.071		-0.005		0.003	
	(0.028)		(0.049)		(0.042)		(0.046)	

Source: Own calculations.

Note: The estimation sample includes 239 observations. Each cell reports the estimate on the policy index from a separate OLS regression. Dependent variables are unexplained gaps from Oaxaca-Blinder decompositions. All models include unemployment rate, GDP growth, year, and country fixed effects. Explanatory variables are lagged by one year. Population weights are applied. Robust standard errors in parentheses, * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

Estimates in Table 3 show how legislative changes in different areas of immigration and integration policy affect labor market gaps between immigrants and natives. Our first finding is that immigration and integration policies matter for immigrant-native labor market hierarchies, as the effects are statistically significant and the observed patterns are not trivial. The negative estimates in Column 1 imply that policies removing border controls, expanding rights on legal entry and facilitating integration of immigrants have an unfavorable association with immigrants' labor market participation. Possibly enlarging the sample of immigrants who are allowed to enter the country reduces their labor market activity in general. In contrast, the positive estimate with the last variable in Column 1 indicates that policies removing restrictions on exit and return policy favor the labor participation of immigrants vis-à-vis the natives, possibly through selection into exit based on unobservable characteristics (less employable migrants leaving the country with a higher probability).

The negative estimates in Column 2 imply that easing or simplifying border controls, facilitating legal entry and stay, or upgrading immigrant integration policies each reduces the gap in unemployment and thus improves immigrants' labor market position vis-à-vis the natives. Similarly, negative estimates in Columns 3 and 4 further imply that expanding immigrants' rights in border control, legal entry, and integration policy areas is associated with improved quality of employment among immigrants, relative to the natives (by reducing gaps in elementary occupation and temporary employment). These findings suggest that introducing policy changes towards less restrictiveness by granting more rights to immigrants may put immigrants on a more equal footing with natives in terms of employment quality, but it may also contribute to gaps vis-à-vis the natives in their attachment to the labor market.

To differentiate between immigrant groups with different histories and different status with respect to the institutional and policy contexts, we perform Oaxaca-Blinder decompositions separately for the three groups of immigrants: EU15 (pre-2004 EU member states), EU12 (member states that entered the EU after January 2004), and non-EU, while natives remain the comparison group in the decompositions. Table 4 summarizes estimates on the DEMIG policy indexes from regression model (5) for different immigrant groups.

Most estimates for EU15 migrants are statistically insignificant (Table 4, block A); hence the impact of changes in migration and integration policies on their labor market outcomes with respect to the natives appears to be limited. This is not surprising since EU15 immigrants enjoy full labor market access to other EU countries and, as shown above, their labor market outcomes are comparable to native workers. Among the statistically significant findings, our estimates imply that the implementation of less restrictive integration measures harms EU15 workers and increases the risk of unemployment and their concentration in elementary occupations. This might suggest that greater integration efforts may lead to more intense competition for jobs, especially higher skilled ones, between EU15 workers and other immigrant groups. Further supporting this conjecture, we find that policies facilitating return migration favor EU15 immigrants, improve their labor market participation, and reduce their propensity for elementary occupation and temporary contract. As above, some of these results

may be due to selection into entry and exit based on unobservable characteristics (e.g. less employable immigrants more likely leaving the country).

Table 4 Impact of immigration and integration policy changes on labor market outcomes for different immigrant groups

	Participation (1)	Unemployment (2)	Elementary occupation (3)	Temporary. contract (4)
A: EU15 vs Natives				
Border and land control	-0.002	-0.012	-0.031	0.006
	(0.026)	(0.026)	(0.024)	(0.023)
Legal entry and stay	-0.009	-0.006	-0.025 **	0.006
	(0.011)	(0.012)	(0.011)	(0.009)
Integration	0.015	0.125 ***	0.08 ***	-0.004
	(0.019)	(0.023)	(0.020)	(0.018)
Exit and return	0.099 ***	-0.109 ***	-0.085 ***	-0.074 ***
	(0.022)	(0.031)	(0.027)	(0.021)
B: EU12 vs Natives				
Border and land control	0.037	-0.176 **	-0.115	-0.011
	(0.049)	(0.068)	(0.108)	(0.082)
Legal entry and stay	-0.014	-0.097 ***	-0.132 ***	-0.025
	(0.018)	(0.032)	(0.036)	(0.027)
Integration	-0.099 ***	-0.065	-0.086	-0.276 ***
	(0.037)	(0.083)	(0.102)	(0.090)
Exit and return	0.082	-0.099	0.202	-0.158
	(0.056)	(0.105)	(0.125)	(0.102)
C: NonEU vs Natives				
Border and land control	-0.067 ***	-0.121 ***	-0.022	0.066 **
	(0.020)	(0.023)	(0.021)	(0.028)
Legal entry and stay	-0.027 **	-0.045 ***	-0.036 ***	0.018
	(0.011)	(0.009)	(0.007)	(0.013)
Integration	-0.075 ***	-0.095 ***	-0.039	-0.133 ***
	(0.022)	(0.025)	(0.025)	(0.040)
Exit and return	0.117 ***	-0.048	-0.001	0.017
	(0.027)	(0.047)	(0.031)	(0.050)

Source: Own calculations.
Note: See note to Table 3.

The effect of migration and integration policies on access to the labor market for EU12 and non-EU workers, vis-à-vis the natives, is more complex (Table 4, blocks B and C). Labor market access for EU12 workers has been entirely liberalized over the studied period, but restrictions remain for non-EU workers.[9] Estimates in Columns 1 and 2 imply that removing restrictions on border control, and legal entry and stay reduce unemployment for both groups but also reduce labor market participation for non-EU workers. Again, this latter finding might suggest that as immigrants' access to the country improves, competition between immigrant groups grows, thus increasing immigrant-native labor market hierarchies. Relaxing regulations

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[9] The 2003 Accession Treaty allowed EU15 member states to restrict the right of workers from EU12 countries during a seven-year transitional period (see Kahanec, Pytlikova & Zimmermann, 2015).

on exit and return policy is associated with improved labor market participation of non-EU immigrants. The negative and significant estimates in Columns 3 and 4 for EU12 and non-EU migrants imply that measures intending to increase the rights of immigrants improve the quality of employment for both immigrant groups. One exception is that expanding immigrants' rights in border control increases the propensity for temporary employment for non-EU workers.

These results provide further evidence that immigration and integration policies are associated with immigrant-native hierarchies at a more granular level, with differentiated effects across immigrant groups.

6. Conclusion

The analysis presented in this paper provides evidence of marked EU-wide differences in labor market outcomes between natives and three immigrant groups: Western European immigrants (EU15), Eastern European immigrants (EU12) and non-EU immigrants. Furthermore, it contributes to the debate on what types of immigration and integration policy approaches are more (or less) conducive to immigrant-native hierarchies in Western European labor markets. Specifically, we study immigrant-native labor market hierarchies measured as gaps in labor market outcomes unexplained by simple compositional effects, i.e. differences in observed gaps in native and immigrant characteristics.

The paper contributes to the literature in several ways. First, we explore the variation in migration and integration policies and immigrant-native labor market hierarchies across Western EU member states. While changes in the integration policy are crucial to improving the labor market outcome of migrants, we also focus on policies related to border control, legal entry, and exit and return. Next, we decompose the hierarchical disadvantage of immigrants into two parts: the explained gap reflecting immigrant-native group differences that arise outside of the labor market, and the unexplained gap signifying unequal treatment or differentiated behavior of immigrants and natives in the labor market, including different returns to human or social capital or discrimination. The specific two-step methodology adopted offers a relatively unrestrictive empirical framework in that it permits – quite realistically – a variation of returns to characteristics of immigrants and natives between immigrant and native groups, across countries, and over time.

Based on this empirical framework, we find that immigration and integration policies matter for labor market hierarchies between immigrants and natives, and that these effects are differentiated across various policies and measures of labor market outcomes. The effects are nontrivial in that some of them might mitigate, but others deepen, the observed immigrant-native labor market hierarchies.

In particular, our findings indicate that the strongest association with increased participation for non-EU immigrants stems from liberalization of external immigration policies (e.g., legislation facilitating circular migration). Our results thus contrast the findings of Helbling et al. (2020), who show that restrictive internal immigration policies (laws regulating status

security and permit rights) improve the employment integration of immigrants originating from non-OECD countries. We further show that improvements in integration policy are associated with reduced unemployment for non-EU immigrants. This finding is in line with other studies showing that greater inclusion of immigrants supported by integration efforts leads to more favorable labor market outcomes for them (e.g., Ramos et al., 2013; Kanas & Steinmetz, 2021; Duman et al., 2022). Our findings enrich existing knowledge by showing that policy interventions in a range of domains are associated *with improved quality of job*s that immigrants take, i.e., lower representation of immigrants in elementary occupations and in less stable forms of contracts. The employment quality of immigrants has been less extensively analyzed to date but has implications for the quality of life and integration that immigrants enjoy in host countries.

Our work also confirms the unequal standing of different immigrant groups in European labor markets, comparing EU15, EU12, and non-EU immigrants to native populations. This is in line with other studies, such as Helbling et al. (2020) and Garcia-Serano and Hernanz (2022), which also find evidence showing that the same institutional framework might have a varied impact on different immigrant groups. This clearly poses many challenges in immigration and integration policy design and policy implementation.

From the policy perspective, the observed variation in the effects of various policies that we identify is important as it sheds light on the effectiveness of policies and highlight areas where efforts should be enhanced to maximize the benefits of migration for host countries and immigrants. Overall, our findings imply that designing less restrictive migration and integration policies might help mitigate immigrant-native labor market hierarchies by reducing existing labor market disadvantages of immigrants and making the most of their potential, but it can also increase competition in the labor market and affect the incumbent groups correspondingly. This also provides further evidence to the argument about the role of regulation, in addition to economic factors, in shaping EU mobility and its unequal benefits to different groups and individuals across and within EU member states.

With this exploratory study, we hope to inspire further research to identify the causal impacts on immigrant-native labor market hierarchies, particularly policy interventions, which we have shown to be significantly associated with increased or decreased immigrant-native labor market gaps. Future studies could analyze the role of immigration and integration policies in the broader institutional context of advanced economies to better understand how policies targeting immigrants' entry and their rights interact with, e.g., labor market regulation or skill and education policies.

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