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Integration policies and migrants' labour market outcomes: a local perspective based on different regional configurations in the EU

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Abstract

Migrants' integration process and their labour market inclusion occur within distinct local contexts. However, the existing literature has paid little attention to the role of the local context and its relationship with national-level policy outcomes on migrant integration. This study addresses this gap by using new regional (NUTS-2) data from Eurostat and integration policy data from MIPEX, coupled with multivariate analyses. We investigate how national-level integration policies are related to the employment rate gap between migrants and country nationals, and how this relationship varies depending on the local context. Results show that migrant integration policies exhibit no association with this gap in low-competitive, culturally homogeneous and rural regions. Conversely, integration policies are associated with a larger gap in high-competitive and diverse urban regions. Notably, consistent with previous national-level literature, inclusive integration policies are associated with negative outcomes for migrants compared to country nationals. However, a shift toward more inclusive policies is found to reduce this gap, suggesting that inclusive policies may be a response to a widening divide between country nationals and migrants. This study offers valuable insights into the role of regional configurations and the impact of national-level integration policies on migrants' labor market outcomes, providing a local perspective that enhances our understanding of migrant integration processes.

Keywords: Labour market inclusion, Migrant integration policies, Urbanisation, Regions

Introduction

Migrant integration involves the process of settlement and interactions with the receiving society following immigration (Entzinger, 2000; Garcés-Mascreñas & Penninx, 2016). It is a two-way process that encompasses both migrants and the receiving society. Integration involves multiple dimensions, including employment, education, health, civil rights, social welfare, and family. Integration in the labour market has been considered as one of the key factors for migrants' full integration in the receiving society by policy makers. Despite this, in most European countries, non-EU nationals are less likely

to participate in the labour market and have higher unemployment rates than country nationals (Ballarino & Panichella, 2015; Cantalini et al., 2022; Reyneri & Fullin, 2011).

Many studies have focused on migrants' labour market trajectories and have analysed the reasons for their disadvantaged position in the labour market. Those articles predominantly examined the importance of socio-demographic characteristics and other individual attributes, such as education, language skills, reason for migration, and age at migration (Bakker et al., 2017; Ballarino & Panichella, 2018; Borjas, 1994; Hoxhaj et al., 2020; Kanas & Steinmetz, 2021; Reyneri & Fullin, 2011; Zwysen, 2019). In addition, other factors might explain these challenges, such as discrimination and unequal opportunities, as well as limited familiarity with the local labour market (Bilgili et al., 2015; Caponio & Pettrachin, 2021; European Commission, 2016, 2020).

To tackle these challenges, some authors point to the potential advantages of integration policies to assist migrants to enter the labour market and secure sustainable employment (Bilgili et al., 2015; Butschek & Walter, 2014; Solano et al., 2022). There is a growing knowledge on the link between migrant integration policies on migrants' labour market integration, although results are not conclusive (Bilgili et al., 2015; Huddleston, 2020). However, by and large, the existing literature does little to address the role of the local context where migrants live and how this influences the role of national-level policies on their integration (Caponio & Pettrachin, 2021; Grubanov-Boskovic et al., 2017). However, Eurostat data shows that migrants' labour market outcomes and gaps with country nationals vary between and within countries (De Coninck et al., 2022; Natale et al., 2019). Therefore, the link between national-level policies and integration outcomes in the labour market may vary according to the local context to which they apply. The configurations of the local context where migrants live and work—for example, the number of migrants, the regional economic conditions, the degree of urbanization—may influence migrants' integration patterns and the link with national-level policies (Manatschal et al., 2020; OECD, 2018; Pisarevskaya et al., 2021). Many studies have examined this dynamic, but most of those mainly focused on a single case and as such did not include a large-scale perspective. Existing large-scale quantitative research on the topic has traditionally focused on the national level because of limitations in data availability at the sub-national level (Solano, 2022a, b; Wolffhardt et al., 2019). Therefore, the association between national-level policies and local-level integration outcomes remains unclear (Caponio & Pettrachin, 2021; Grubanov-Boskovic et al., 2017). Thus, a question arises: *how are national policies related to migrants' integration patterns in the labour market at the sub-national (or regional) level, taking into account regional structural characteristics?* This article aims to answer this question.

This article addresses this topic by looking at the link between national-level integration policies and the labour market integration of migrants at the sub-national level. In particular, we focus on the employment gap between non-EU-28 migrants and country nationals. To do so, we paired data on migrant integration policies from the Migrant Integration Policy Index (MIPEX; Solano & Huddleston, 2020) with Eurostat data on NUTS-2 European regions. In this article we follow the approach of Caponio and Pettrachin (2021), who suggest to compare different types of local settings based on a combination of several conditions. Rather than exploring how different regional characteristics are associated with labour market integration of migrants, we investigate how national

policies are linked with labour market integration of migrants in different regional settings.

We first identified meaningful configurations of regions based on their structural characteristics (e.g. migration trends, regional economic conditions and regional competitiveness). By means of a cluster analysis, two regional configurations emerge. The first is composed of mostly urban regions with high GDP, high degree of regional competitiveness (RCI), and high diversity (in terms of net migration flows and share of foreign-born population). Mostly rural regions with low GDP and RCI and low diversity are included in the second configuration. We then ran a set of linear regression analyses to disentangle the different associations of integration policies with the employment gap between non-EU-28 migrants and country nationals based on the two regional configurations.

In this study, we focus on migrants in general—a decision that was primarily driven by the availability of data on migrants' labour market integration outcomes. Unfortunately, there is a lack of data that does not allow for a detailed breakdown of integration outcomes by different types of migrants (i.e. asylum seekers, refugees, economic migrants) at the local level. Without such data, it becomes challenging to analyse and compare integration outcomes across different migrant groups. By focusing on migrants in general, we aim to provide insights into the overall patterns and dynamics of migrant integration in the labor market.

Before moving to the theoretical framework, we first want to address the biggest limitation of this paper: it does not take into account the fact that there might be local-regional policies and/or possible differences in the implementation of policies, which may also affect integration outcomes of migrants in the labour market (Emilsson, 2015; Lidén & Nyhlén, 2022). While the role of these sub-national policies and the implementation of policies is surely relevant, unfortunately there is no available EU-wide data on this (Manatschal et al., 2020; Pasetti et al., 2022). We extensively address these issues in the discussion and conclusion.

Background

Integration policies and labour market outcomes of migrants

Migrant integration encompasses the process of migrants settling in a new society and engaging with the local community as a result of immigration (Entzinger, 2000; Garcés-Mascareñas & Penninx, 2016). It is a dynamic two-way process involving both migrants and the receiving society in which they reside. The objective of integration is for migrants to establish themselves in the destination country and achieve practical and tangible outcomes, such as finding employment, accessing healthcare services, registering with local authorities, and more. Integration is a multifaceted journey that spans various domains, including employment, education, health, civil rights, social welfare, family policies, and others. The interaction and interplay among these different areas shape the overall process of migrant integration (Entzinger, 2000; Garcés-Mascareñas & Penninx, 2016).

The receiving society creates the conditions that support or hinder migrants' integration. Integration policies refer to the conditions required to become and to remain part of a specific society and the entitlement rights as well as the support migrants receive (Garcés-Mascareñas & Penninx, 2016; Hammar, 1990). These policies need to

pay attention to all integration areas and ensure access to rights, opportunities, and services to tackle the challenges that migrants face when they arrive in a country (Bilgili et al., 2015; Solano & Huddleston, 2020). In this way, such policies may enable migrants' untapped potential and allow them to fully contribute to the country of destination.

Although integration is a multifaceted process, among others, one important dimension involves labour market entry. Laws, policies and measures play a significant role in shaping the opportunities available to migrants and, consequently, their likelihood of finding employment. Migrants' position on the labour market is influenced by the legal framework (i.e. guaranteeing equal access to employment for migrants and national citizens) and the policy measures directly targeting them or their specific needs (i.e. guaranteeing equal opportunities for migrants as a vulnerable group) (Huddleston & Vink, 2015).

In this article, we focus on the country-level overall migrant integration policy framework and specific policies targeting the labour market inclusion of migrants. The integration policy framework is critical to alleviate or remove institutional barriers and overcome challenges that migrants encounter in the receiving society (e.g. discrimination, language barriers, health issues) (Huddleston, 2020). This can ultimately support their inclusion in the labour market. Similarly, policies focused on the labour market are important for alleviating or removing institutional barriers for labour market entry as well as support the inclusion of migrants through specific targeted support measures (Bilgili et al., 2015). Furthermore, policies on labour market can promote the recognition and use of migrants' credentials and skills, as well as the acquisition of new skills (Kanas & Steinmetz, 2021).

Over the years, policy makers have implemented policies to support migrants to find employment (Solano & Huddleston, 2020). However, what is the link between integration policies and employment outcomes of migrants? Despite extensive research, a clear answer to this question has not yet emerged, and the findings have been somewhat surprising. In many cases, no significant relationship has been found between integration policies, including those specifically targeting labour market integration, and the actual integration of migrants into the labour market (Bergh, 2014; Bredtmann & Otten, 2015; Cebolla-Boado & Finotelli, 2015; Lancee, 2016). Labour market integration seems to be primarily explained by countries' general economic context rather than by integration policies (Huddleston, 2020). However, slightly more encouraging results emerge about the potential benefits of integration policies for the long-term outcomes of employed migrants. Some studies show that, under inclusive policies, migrants are more likely to improve their language and professional skills in the country (Zwysen & Demireva, 2020), to secure better jobs available on labour markets (Guzi et al., 2015; Hoxhaj et al., 2019; Platt et al., 2021), and decrease the risk of overqualification (Prokic-Breuer & McManus, 2016).

In contrast, other studies found a negative relationship. These studies show that policies tend to be better developed in countries where migrants are in a disadvantaged position in the labour market situation, while policies tend to be underdeveloped in countries where migrants are in a better position on the labour market. More inclusive policies seem to be linked to migrants' overqualification, lower income levels, higher unemployment rates, and a greater employment gap between migrants and country

nationals (Cebolla-Boado & Finotelli, 2015; Hoxhaj et al., 2019; Kislev, 2017; Levels et al., 2017). Bilgili et al. (2015) and Huddleston (2020) hypothesised that this is due to policy responsiveness: policy makers developed more inclusive policies in response to the unfavourable labour market situation of migrants. However, to the best of our knowledge, this hypothesis has never been tested.

Different contexts, different integration processes, different policy outcomes?

In the past decade, the EU has received unprecedented numbers of migrants. As a result, migrants are not concentrated only in urban, highly competitive, and affluent areas. They now live and integrate in different types of areas and regions, and these are forced to deal with migrants' integration (Caponio et al., 2021; Natale et al., 2019). Eurostat statistics indicate that labour market outcomes and gaps between migrants and country nationals vary across regions within the same country. Migrants' integration patterns tend to differ based on structural and economic characteristics of the region in which they reside. A recent analysis based on Eurostat data comparing the labour market integration outcomes of migrants in rural, intermediate and urban regions shows that there are integration differences between areas based on the degree of urbanisation (De Coninck et al., 2022). The gap between migrants and natives is on average higher in urban and intermediate regions, as well as in highly competitive and affluent regions than in rural, low-competitive, and poorer regions.

Literature has pointed at the different opportunities for labour market integration that migrants have based on different sub-national local contexts and their characteristics (Çağlar & Glick Schiller, 2018; Pisarevskaya et al., 2021).

Urban and more populated regions may be more equipped to integrate newcomers. Caponio and Pettrachin's (2021) review of the literature on the topic suggests that urban areas with a large total population have higher levels of administrative capacity and a strongly structured civil society. The same applies to areas with a large migrant population, which are better prepared to support migrants in their integration (Lidén & Nyhlén, 2022; OECD, 2018; Steen & Røed, 2018; Williamson, 2018).

Beside the population size, scholars also showed that population diversity (e.g. in terms of number and/or share of migrants and net migration) plays a role in policy making. Socially and culturally diverse communities are more likely to be open and inclusive towards newcomers (OECD, 2018; Pastore & Ponzio, 2016). However, recent findings from an OECD study (2018) indicate that regions with larger proportion of non-EU migrants tend to exhibit wider income gaps between migrants and native-born individuals. This could be attributed to the challenges associated with settlement and integration processes in areas with a high concentration of migrants. The presence of a significant migrant population may contribute to the formation of ethnic enclaves, a greater prevalence of 3D jobs (i.e. dirty, dangerous, and demeaning jobs) (Barberis & Pavolini, 2015), as well as higher levels of segregation between migrants and country nationals (Lichter et al., 2010, 2015). These factors can have implications for migrants' knowledge of the local language, awareness of opportunities, and their overall integration into the host society (Barberis & Pavolini, 2015; Putnam, 2007; Tintori et al., 2018).

Finally, literature stressed the importance of the economic situation and labour market of the local areas where migrants live (Lichter et al., 2010, 2015; Kristiansen et al.,

2022). The seminal work of Glick Schiller and Çağlar (2009) shows only how local contexts may offer very different integration pathways for migrants depending on their economic situation and positioning in that global economic structure. A major distinction has been identified in literature between better-off and left-behind areas, however this literature pointed at different possible outcomes on migrant integration. On the one hand, some scholars emphasised the positive contribution that migrants can bring to the local economy and, therefore, suggest that this can favour their labour market inclusion (Aure et al., 2018; Simard & Jentsch, 2009). This can also lead to a more favourable and pro-active approach towards migrant integration as well as a better implementation and application of national-level social and migrant integration policies (Søholt et al., 2018). On the other hand, living in economically deprived areas, which are also likely to be characterised by limited service provision, can lead to tensions over the distribution of scarce resources, fewer opportunities, more challenges to enter the labour market and, therefore, worse integration outcomes (Simard and Jentsch, 2009). The results of an OECD (2018) study seem to corroborate this second view. It shows that less innovative regional areas tend to have higher unemployment rates for migrants as well as greater employment gaps between migrants and natives. Scholars suggest that the limited resources of these areas, which often lack the necessary and effective governance structures, may result in poor provision of services and more restrictive and exclusionary dynamics and policies (Barberis & Pavolini, 2015; Lidén & Nyhlén, 2015; Williamson, 2018).

These regional characteristics might affect how national-level integration policies function at the subnational level. As observed by Lidén and Nyhlén (2022, p. 8), “the translation of national policy into local circumstances involves challenges that will often create different results in different local settings”. First, different policies may be needed depending on the different regional configurations as specific conditions pose context-based challenges. Second, national-level are applied and articulated at the local level and the way this happens depends on the characteristics of the sub-national local contexts (Careja, 2019; Dekker et al., 2015; Varsanyi, 2010).

The local dimension of integration policies has been analysed following the so-called ‘local turn’ (Caponio & Borkert, 2010; Zapata-Barrero et al., 2017). Most studies adopt a multi-level governance perspective and focus on how national policies are implemented at the local level and the divergence and convergence of national and sub-national policies and policy making (for a summary see: Barberis & Pavolini, 2015; Caponio & Pettrachin, 2021; Emilsson, 2015). Despite this, to the best of our knowledge, existing literature on the topic does little to address the role of the context in the link between policies at the national level and integration outcomes. In particular, large-scale comparative analyses of the sub-national outcomes of migrant integration policies are missing (Manatschal et al., 2020). Integration policies and outcomes at the local level have been disproportionately analysed—in a rather descriptive fashion—through single case studies and, often, extreme or very peculiar cases (Caponio & Pettrachin, 2021; Schammann et al., 2021). Furthermore, most of the studies on local policies, particularly in Europe, tend to focus on large cities or central/global regions and partially disregard peripheral and rural areas (Barberis & Pavolini, 2015; Caponio & Pettrachin, 2021). This is also due to the lack of data, as data on migrant integration have been available exclusively at the national

level for a long time, while Eurostat only recently published regional-level (NUTS-2) data on the topic (Solano, 2022a, b; Wolffhardt et al., 2019). The analyses illustrated in the following sections provide a first step to filling this gap on the link between integration outcomes at the local level and country-level integration policies.

Methodology

Data and sample

The main data source for comparable employment statistics was the EU Labour Force Survey (LFS) from 2019, a large quarterly sample survey that covers the resident population aged 15 and above in private households in all EU countries. Non-EU-28 migrant indicators were calculated for two broad groups: the foreign population determined by country of birth and the foreign population determined by citizenship. In the main results, we highlight the findings for the latter group, but we added the analyses based on country of birth as a robustness check (see the Additional file 1: Online Appendix).

All indicators were considered at the NUTS-2 level. It should be noted that some EU member states have a small population and may therefore not be subdivided at some (or even all) of the different levels of the NUTS classification. For example, five of the member states included in this analysis—Estonia, Cyprus, Latvia, Luxembourg, Malta—were composed of a single NUTS-2 region according to the 2016 version of the NUTS classification. We decided not to delete them as those countries were similar or even smaller in size and population to some of the EU regions. Overall, the sample consisted of 281 NUTS-2 regions across 28 EU countries. See Table 1 for a descriptive overview of the sample.

Table 1 Descriptive statistics

	Min	Max	Mean (SD)
MIPEX: Overall	35	87	54.84 (10.67)
MIPEX: Change 2019–2014	– 5	11	0.08 (2.7)
MIPEX: Labour market integration	17	94	58.06 (17.42)
Employment gap between non-EU-28 migrants and country nationals	– 31.10	19.50	– 6.65 (10.36)
Net migration ratio	– 14.15	16.00	2.41 (4.44)
Share of foreign born	0.32	41.96	12.38 (7.70)
GDP in PPS	30.00	217.50	93.31 (33.46)
RCI	0.00	100.00	57.76 (24.88)
Total population	29,228.67	5,894,429.67	1,673,487.04 (1,124,555.05)
Education gap between non-EU-28 migrants and country nationals	– 26.80	31.60	– 6.65 (12.40)
Share of female non-EU-28 migrants	31.11	91.67	52.51
Degree of urbanisation	n	%	
Rural	137	49%	
Intermediate	45	16%	
Urban	99	35%	

Measures

In this section, we illustrate the dependent and independent variables included in the analyses. See Additional file 1: Online Appendix (Section 1) for a more detailed description of the variables.

Employment gap between non-EU-28 migrants and country nationals at NUTS-2 level

The indicator for labour market integration included in the current study was the gap between migrants and country nationals in their employment rate. It has been widely used to identify successes or challenges in the process of migrant integration at the national level (Huddleston, 2020). To create the employment gap variable, we subtracted the employment rate of country nationals from the employment rate of non-EU-migrants. For example, if the employment rate of non-EU-28 migrants was 45% and of country nationals was 80%, the gap would be -35% . Thus, a negative score indicated that non-EU-28 migrants had worse employment outcomes than country nationals.

We decided to employ the gap between migrants and country nationals rather than the employment rate of migrants. As literature stresses (Bilgili et al., 2015), looking at the gap is a more solid analytical strategy to assess the role of integration policies given that the employment rate of migrants is strongly influenced by the employment opportunities. Looking at the gap allowed us to address the disadvantage that migrants face compared to country nationals and explore whether and how integration policies mitigated this gap.

Integration policies

We used data from the Migrant Integration Policy Index (MIPEX) to assess migrant integration policies in 2017. MIPEX is a country-level index of migrant integration policies that simultaneously considers 50+ policy indicators from eight policy domains (healthcare, education, political participation, labour market mobility, anti-discrimination, permanent residence, access to nationality, family reunion). For each answer, there are a set of options with associated values (from 0 to 100, e.g., 0–50–100). The maximum of 100 is awarded when policies meet the highest standards for equal treatment. Scores range from 0 (the most restrictive policies) to 100 (the most inclusive integration policies). Within each of the eight policy areas, the indicator scores are averaged together to give the policy area score for each of the eight policy areas per country which, averaged together one more time, lead to the overall scores for each country. Aside from using the aggregated MIPEX policy score, we also considered labour market integration policies.

We used data from 2017 despite the fact that data from more recent years (up until 2019) were available because previous research shows that there is a certain lag between the time when policies take effect and when outcomes of these policies can be measured (Bakker & van Vliet, 2021; Bellemare et al., 2017; Solano & Huddleston, 2020). Thus, rather than using 2019 data to relate to integration outcomes in 2019, we selected the integration policy data from 2017 to relate to integration outcomes of 2019.

Furthermore, given that literature points at a possible mechanism of policy responsiveness (Bilgili et al., 2015; Huddleston, 2020), we also included a variable on policy change. We calculated to what extent policies have changed between 2014 and 2017 by

subtracting the overall 2014 MIPEX score from the overall 2017 MIPEX score. A positive score means that integration policies had become more inclusive, while a negative score indicates that integration policies had become more restrictive.

Finally, we also believe that the role of the policy level in 2017 may vary by changes in these policies over previous years. To investigate this, we calculated the following interaction variables: the change in MIPEX-policies between 2014 and 2017 with overall MIPEX scores and labour market mobility scores, respectively.

Regional characteristics at the NUTS-2 level

As regional characteristics, based on data availability, we included the following regional level characteristics that previous studies have identified as significant factors that may be linked to migrant integration outcomes:

- *Net migration* ratio, which refers to the population change attributable to migration (immigration minus emigration), and not to births and deaths.
- *Share of foreign-born population*, which is the number of foreign-born population as a percentage of the population.
- *GDP in PPS*. The gross domestic product (GDP) in purchasing power standards (PPS) eliminates differences in price levels between countries.
- *Regional Competitiveness Index (RCI)*, which provides a picture of territorial competitiveness for each of the NUTS-2 regions of the 28 EU countries.
- *Population size*. We also included the population size of the NUTS-2 region on 1 January of 2017.
- *Degree of urbanisation*. Regions are sorted in: Predominantly Urban (PU); Intermediate (IN); Predominantly Rural (PR).

Finally, we also controlled for the (1) education gap between non-EU-28 migrants and country nationals at NUTS-2 level and (2) the share of female non-EU-28 migrants at the NUTS-2 level. The education gap was constructed in a similar way to the employment gap, considering the gap between migrants and country nationals in their tertiary education rate. If the tertiary education rate of non-EU-28 migrants was 35% and of country nationals was 70%, the gap would be – 35%. A negative score indicates that non-EU-28 migrants had worse education outcomes than country nationals. Information on the gender distribution of the non-EU-28 migrant population was retrieved from Eurostat. Data on both education and gender referred to 2019.

Data on other possible relevant interesting control variables were not available, so we did not include them. First, unfortunately, data on the distribution of migrants per legal status were not available at the local level and this prevented us from controlling for this relevant information (see '[National-level integration policies in the two regional configurations](#)' section). We did not include the national-level data as the distribution of different types of legal status varies based on the urban versus rural setting (Grubanov-Boskovic et al., 2017; OECD, 2018). Second, the proportion of recent migrants might also influence the outcome of policies, but no data were available on this information at the regional level.

Analytical strategy

Our analytical strategy consisted of two steps. Following the approach of Caponio and Pettrachin (2021), we first wanted to create a typology of regional configurations based on different characteristics and provide a refined multidimensional conceptualisation of the different regional situations (rather than focusing on one dimension/characteristic). To do so, we employed cluster analysis, which can be used to assign cases, i.e. records or units (here, NUTS-2 regions), to groups (clusters) that are mutually exclusive. We ran the cluster analysis based on the following selected regional characteristics: GDP in PPS; net migration rate; total population; share of foreign born; RCI. The degree of urbanisation was not included in the cluster analysis because it was a categorical indicator, and cluster analysis allows only for metric indicators. Group members will share some properties, so that the degree of associations is strong between cases of the same clusters and weak(er) between cases of different clusters. The resulting classification can then provide policy-relevant insights and aid the interpretation of integration outcomes because it may reveal associations between regional characteristics and integration outcomes. The clusters themselves may, in turn, contribute to the definition of classification of regions or even suggest models with which to describe a grouping of regions. In this way, we set out to group regions by regional level characteristics that previous studies have identified as significant factors that affect migrant integration outcomes.

Subsequently, we conducted a multilevel OLS regression analysis to detect differences in the association of integration policies with employment outcomes between clusters. Following existing literature (see for example Möhring, 2012), we opted for a multilevel model rather than a fixed effect model for two reasons. First, the fixed effect model would not allow us to explore the association with policies directly. Second, given the large number of groups in the multilevel analysis (281 NUTS-2 regions clustered within 28 countries), these multilevel models are unlikely to suffer from estimation and/or omitted variable bias—as we also control for a large number of regional characteristics.

The dependent variable was the employment gap between non-EU-28 migrants and country nationals. As independent variables, we included the MIPEX scores (overall and employment scores) and MIPEX change in scores between 2014 and 2017. Furthermore, we controlled for the degree of urbanisation (with intermediate region as reference category), the five NUTS-2 variables that were used for the cluster analysis (GDP in PPS, net migration rate, total population, share of foreign born, and RCI), and two control variables at the NUTS-2 level (education gap between non-EU-28 migrants and natives, and the share of female non-EU-28 migrants). All variables were standardised.

In the analyses, first, the clusters were used as independent variables (with cluster 1 as the reference category) and, in a second step, we split the multilevel analysis by the clusters. We constructed the models in a stepwise manner, particularly with regards to the integration policy variables. As MIPEX scores are correlated—the overall scores represent the mean of the seven policy area scores including labour market—, rather than adding all MIPEX-scores at once, we ran each model twice: once with the overall MIPEX-score, then we swapped that indicator with the MIPEX labour market

score. The indicator regarding policy change and the control variables were included in all models. Subsequently, we ran the same analyses but included two interactions (in separate models, but aggregated into one table): the change in MIPEX-policies between 2014 and 2017 with overall MIPEX scores and labour market mobility scores, respectively.

It is worth reiterating that this article's goal is to investigate how national policies are linked to labour market integration of migrants in different regional settings, rather than exploring how different characteristics are associated to labour market integration of migrants. To do so, we decided to perform a cluster analysis to identify the most relevant characteristics that differentiate regional settings in terms of labor market integration. This approach allowed us to capture the heterogeneity across regions and understand how national policies interact with these characteristics to influence integration outcomes. Although we did not directly include these individual characteristics in the multilevel models, we incorporated the variables used in the cluster analysis as control variables.

Results

Two configurations of European regions

The set of variables that we considered for the cluster analysis included five metric variables (GDP in PPS, net migration, population size, share of foreign born and RCI), given that traditional cluster analysis is only feasible with such variables as it is based on the calculation of a distance matrix. K-Means clustering assigns cases to clusters based on the smallest amount of distance between the cluster mean and each case. This is an iterative process that stops once the cluster means do not significantly change in successive steps. The output of the cluster analysis (Table 2, Fig. 1) indicated that a two-cluster solution provided the best fit with the data. A Kruskal–Wallis test confirmed that all variables—except population size—had significant power to discriminate between clusters. To explore the degree of urbanization of regions in the two clusters, we calculated the share of rural, intermediate and urban regions in each cluster (Table 3). A T-test confirmed that clusters differed significantly regarding the degree of urbanisation.

Cluster 1 was largely composed of high-competitive and affluent, culturally diverse regions. First, it was characterised by a high regional GDP in PPS and RCI. This indicates that this cluster mostly consisted of relatively wealthy regions that provided an attractive environment for residents to work in. Furthermore, this cluster had a high degree of net migration and a large share of foreign born, meaning that these were rather diverse

Table 2 Final cluster centres

Regional characteristics	Cluster 1 (n = 157)	Cluster 2 (n = 123)	Kruskal–Wallis H
GDP in PPS	0.56	− 0.73	4.49*
Net migration rate	0.59	− 0.75	4.91*
Total population	− 0.04	− 0.17	0.41
Share of foreign born	0.48	− 0.71	4.15*
RCI	0.65	− 0.83	17.49***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

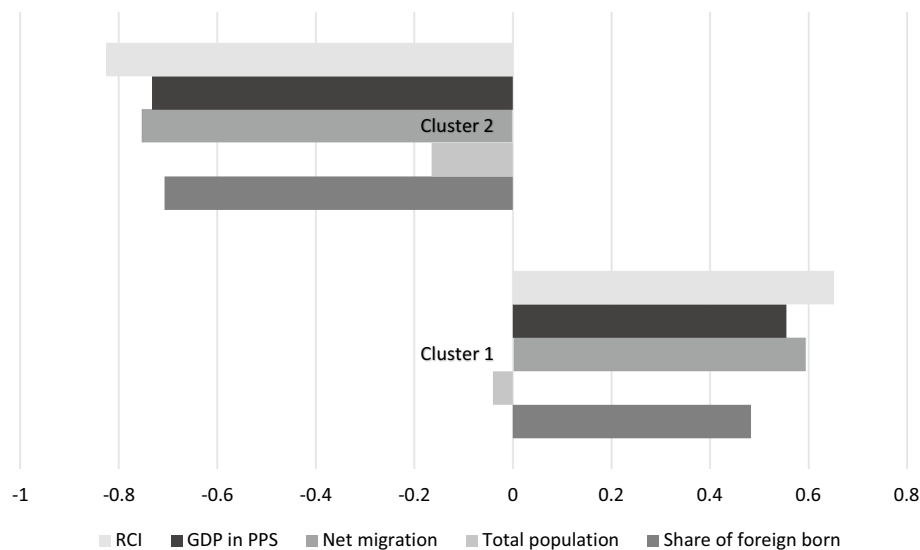


Fig. 1 Clusters based on regional characteristics

Table 3 Distribution of regions in each cluster per degree of urbanisation (%)

Degree of urbanisation	Cluster 1 (n = 157)	Cluster 2 (n = 123)	T-test (degree of freedom)
Share of urban regions	53	12	− 9.524 (279)***
Share of intermediate regions	20	11	1.925 (279)*
Share of rural regions	27	77	7.964 (279)***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

regions. Table 3, which displays the distribution of regions in each cluster per degree of urbanization, shows that the majority of regions included in this cluster were urban regions. Examples of NUTS-2 regions in cluster 1 are Vienna, Brussels, Antwerp, Berlin, Catalonia, North Holland, South Holland, Stockholm, and South Sweden.

Cluster 2 presented the opposite picture: low-competitive and poorer, non-diverse regions. It was composed of regions with a relatively low GDP in PPS and RCI, coupled with low net migration rates and share of foreign born. The large majority of regions included in this cluster were rural regions (Table 3). Examples of NUTS-2 regions in cluster 2 are Canary Islands, Southern Ireland, East and Midland Ireland, and the UK's West Midlands.

National-level integration policies in the two regional configurations

In Table 4, we ran a set of multilevel regressions to link integration policies to the employment gap. The intra-class correlation coefficient (ICC) indicates that, in the null model, 60.7% of the variance of the employment gap between non-EU-28 migrants and country nationals was explained by between-country variance. First, the previously-identified clusters were used as independent variables (with cluster 1 as the reference category) and, in a second step, we split the multilevel analysis by the clusters. We also

Table 4 Multilevel regression analysis of employment gap between non-EU-28 migrants (by citizenship) and country nationals

	Employment gap non-EU-28 migrants and country nationals		
	Full sample	Cluster 1	Cluster 2
Intercept	− 0.08 (0.18)	− 0.18 (0.22)	− 0.32 (0.28)
Clusters (ref. = Cluster 1)			
Cluster 2	0.42** (0.14)	—	—
Degree of urbanisation (ref. = intermediate)			
Predominantly rural	− 0.07 (0.11)	− 0.12 (0.14)	0.41* (0.17)
Predominantly urban	0.12 (0.12)	0.02 (0.13)	0.72** (0.22)
MIPEX: Overall	− 0.34** (0.11)	− 0.44** (0.15)	− 0.17 (0.15)
MIPEX: Change 2019–2014	0.20 (0.14)	0.41* (0.19)	0.02 (0.21)
MIPEX: Labour market integration	− 0.36* (0.17)	− 0.38* (0.15)	− 0.25 (0.16)
Control variables at regional level			
GDP in PPS	0.04 (0.07)	− 0.08 (0.07)	− 0.37 (0.23)
Net migration	0.06 (0.06)	0.09 (0.07)	0.29** (0.10)
Total population	0.14* (0.06)	− 0.01 (0.07)	0.34*** (0.09)
Share foreign born	0.05 (0.06)	0.06 (0.06)	− 0.20 (0.15)
RCI	− 0.15 (0.11)	0.38** (0.13)	− 0.60** (0.20)
Education gap non-EU-28 migrants/natives	0.11 (0.09)	0.14 (0.08)	0.09 (0.11)
Share of female non-EU-28-migrants	0.03 (0.05)	0.04 (0.06)	0.01 (0.05)

*** $p < .001$; ** $p < 0.01$; * $p < 0.05$. Standardized coefficients presented, standard errors between brackets

controlled for the degree of urbanization and for regional characteristics. It would have been interesting to control for the different distribution of migrants per legal status, which influences their labour market status (Kanas and Steinmetz, 2020). Unfortunately, legal status data were not available at the local level and the possible differences between regions in the same country prevented us from using the national-level data (see Grubanov-Boskovic et al., 2017; OECD, 2018). The same applies for other key individual-level variables (e.g. skills, education, reason for migration, age) that were not available at the regional level (see also [Conclusions](#)).

Looking at the results for the full sample (combining regions from Cluster 1 and 2), more inclusive integration policies—the overall MIPEX ($b = -0.34$, $p < 0.01$) and labour market ($b = -0.36$, $p < 0.05$) integration policy scores—were associated with more negative outcomes for non-EU-28 migrants as opposed to country nationals. The change in the MIPEX score between 2014 and 2017 was not associated with labour market integration gaps. We found that the labour market integration gap between migrants and

country nationals tended to be smaller in low-competitive and non-diverse mostly rural regions than in high-competitive and diverse mostly urban regions, probably due to the fact that both migrants and non-migrants face several challenges in the former. The ICC in this model was 42.8%.

Looking at the findings of the analysis sorted by regional cluster, in Cluster 1 (i.e. diverse, competitive, wealthy regions), the negative moderate association of inclusive integration policies was confirmed for the overall MIPEX ($b = -0.44$, $p < 0.01$) and labour market policies ($b = -0.38$, $p < 0.05$). However, a positive change in integration policies was associated with a moderate reduction in this gap ($b = 0.41$, $p < 0.05$). Conversely, integration policies were not associated with the employment gap in Cluster 2 (i.e. less diverse, wealthy and competitive regions). These results were confirmed for the overall integration policies and labour market policies and policy change.

Furthermore, we checked the combined effect of the level of policies and the change over time of these policies. We included two interactions (in separate models, but aggregated into one table): the change in MIPEX-policies between 2014 and 2017 with overall MIPEX scores and labour market mobility scores, respectively. The interaction effects were not significant, for both groups of regions (see Additional file 1: Table A1 in the Online Appendix).

As for the control variables, in the Cluster 1-model, competitive regions tended to have more favourable outcomes for migrants ($b = 0.38$, $p < 0.01$). In the Cluster 2 model, we found in that both rural ($b = 0.41$, $p < 0.05$) and urban regions ($b = 0.72$, $p < 0.01$), employment outcomes for non-EU-28 migrants were significantly better than in intermediate regions. NUTS-2 regions in this cluster that had a larger population ($b = 0.34$, $p < 0.01$) and higher net migration ($b = 0.29$, $p < 0.01$) also tended to have better outcomes for migrants, while competitive regions had less favourable outcomes for them ($b = -0.45$, $p < 0.05$).

These findings were based on the non-EU-28 migrant indicators calculated the foreign population determined by citizenship. We also conducted the analyses based on country of birth as a robustness check (see Additional file 1: Table A2 in the Online Appendix). However, there were little to no differences in findings between both groups.

Discussion and conclusion

This study examines the relationship between national integration policies and the labor market outcomes of migrants in various regional settings. Instead of focusing on the role of specific regional characteristics, we used a cluster analysis to determine which European regions fall into two clusters with varying degrees of economic competitiveness, wealth, and diversity. The main goal of this study was to investigate how (non-EU-28) migrants' labour market integration at regional (NUTS-2) level is associated with national-level integration policies, depending on regional characteristics. We used the MIPEX, a country-level indicator of integration policies, to relate to regional-level labour market integration outcomes of migrants. Integration is measured as the gap in employment rate between non-EU-28-migrants and country nationals. In addition, we also constructed clusters of regions based on five characteristics at the NUTS-2 level:

GDP per capita, the Regional Competitiveness Index, the share of foreign-born residents, the net migration ratio, and the total population in the region.

Our findings indicate that ‘welcoming’ integration policies are associated with poorer labour market integration outcomes for non-EU-28-migrants (compared to country nationals). Although perhaps surprising at first sight, these findings are consistent with literature on this subject at the national level (Cebolla-Boado & Finotelli, 2015; Hoxhaj et al., 2019; Kislev, 2017; Levels et al., 2017). We do not imply that integration policies would somehow be responsible for more adverse integration outcomes for non-EU-28-migrants. It is important to note that our study does not draw a causal link between integration policies and outcomes. It is possible that greater targeted support is developed in response to the unfavourable labour market situation of certain migrant groups, which we have tried to illustrate through our analysis of policy change. The positive association of inclusive changes in integration policies provides support for this policy responsiveness perspective (Bilgili et al., 2015; Huddleston, 2020). Policy makers may recognize the widening gap between migrants and natives and react by implementing policies to stimulate integration for migrants.

Another reason why these policies are not always linked with migrant integration outcomes may be because integration policies may prioritise improving migrants’ skills, knowledge, and qualifications rather than focusing solely on labor market participation. According to this logic, these policies encourage migrants to make investments in long-term skills even if participation in these programmes may temporarily lower their participation in the labour market (Bilgili et al., 2015; Huddleston, 2020). These policies might also be designed to be responsive to the needs of at-risk groups. In that case, policies would be stronger in countries with mostly non-economic migrants but the gap with the country nationals would be still greater than in countries with more economic migrants. For example, Kanas and Steinmetz (2021) found that family reunification migrants and refugees have considerably lower employment rates than economic migrants. In other words, the absence of a positive relationship between policies and outcomes can be interpreted as the ineffectiveness of policies, but also as the responsiveness of these policies to specific (national) contexts.

Our results show that national integration policies are associated with migrants’ labour market integration in high-competitive, diverse and mostly urban regions only. The negative association between integration policies and employment gap is observed primarily in high-competitive and diverse urban regions. In addition, our analysis shows that, in high-competitive and diverse urban regions, a shift towards more inclusive policies over time is linked to a reduced employment gap between EU-28-migrants and country nationals.

We found no association between integration policies and employment gap in low-competitive and mostly rural regions. This lack of significance may be attributed to the challenges faced by sub-national actors in influencing national-level authorities and policy makers, as demonstrated by a recent OECD (2018) survey. The multilevel governance of migrant integration raises conflicts that are framed according to the scalar positions of the actors involved (Barberis & Pavolini, 2015). Those positions affect the power that sub-national actors have in influencing top-tier institutions and their decision making. In this context, high-competitive, diverse, and urban regions are more likely to have their

needs and concerns heard and, therefore, policies may better align with their specific requirements. Additionally, the degree of independence in implementing national-level policies at the local level in many European countries could contribute to variations in policy effectiveness, due to poorer implementation in low-competitive and non-diverse mostly rural regions (Barberis & Pavolini, 2015; Lidén & Nyhlén, 2015).

Finally, although migrants at this regional level are still subject to these national policies, local regions develop additional policies to stimulate migrant integration in a number of areas (Lidén & Nyhlén, 2022; Pasetti et al., 2022). Therefore, our findings may be influenced by the combined effect of national- and local-level integration policies which may reinforce or contrast each other (Emilsson, 2015). While such local policies are likely to strongly affect migrant integration, no large-scale databases currently exist to our knowledge that collect information on these policies that could subsequently be quantified in analyses (Manatschal et al., 2020; Pasetti et al., 2022). We strongly encourage integration policy scholars to collect this highly relevant data at the local level.

Although this study has provided new insights into migrants' labour market outcomes at the regional level, there are also some limitations to note. In addition to the lack of local integration policy-data, as highlighted, we did not consider employment policies in the analyses. General policies to stimulate labour market participation and reduce unemployment rates at the national level may also stimulate migrant employment. However, previous studies have shown that such policies do not play a critical role in the labour market participation of migrants (Butschek & Walter, 2014; Grubanov-Boskovic et al., 2017).

Furthermore, the analysis has been limited by the lack of available information at the regional level on relevant matters, such as the distribution of migrants per legal status or the proportion of recent migrants. Other information on important individual-level key variables (such as skills, education, reason for migration, age) were unfortunately not available at the regional level from Eurostat, or it was not possible to gather them directly from the Labour Force Survey (LFS) data. The same applies to employment outcomes. Literature points at the different association of integration policies with employment rate and quality of employment (Hoxhaj et al., 2019). Unfortunately, no data on job quality are available at the regional level.

In conclusion, this article investigated how national-level integration policies are related to the labour market integration of migrants in different regional settings. Results suggested that national-level migrant integration policies, which may be a reaction to wider employment gaps and weaker conditions of certain categories of migrants, do mainly fit high-competitive, culturally diverse and mostly urban regions.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s40878-023-00347-y>.

Additional file 1. Overview of measures and additional analyses.

Author contributions

GS and DDC have contributed to this article equally. The research on which this article is based was carried out by GS and DDC together. GS gathered the data on migrant integration policies. DDC performed all the statistical analyses illustrated in this article. GS and DDC wrote together the sections 'Introduction', 'Methodology' and 'Discussion and Conclusion'. GS drafted the 'Background' section. DDC drafted the section 'Results'. All authors critically revised several versions of the manuscript for intellectual content. All authors read and approved the final manuscript.

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Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Competing interests

The authors declare that they have no competing interests.

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