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The Impact of Youth Immigration on Unemployment: Macro and Micro Evidence from Europe

Abstract. *The purpose of this paper is to investigate the potential impact of youth migration on labour markets in order to promote evidence-based debates and discourse. To generate reliable results, we chose a two-stage complementary analysis at the aggregate (country) and individual levels. In the first stage, macroeconometric panel data modelling is used to investigate the potential systemic effects of young asylum seekers on the labour market in 28 European countries between 2010 and 2018. Second, we use microdata from 24 European countries between 2002 and 2018, as well as a counterfactual approach, to delve deeper into individual determinants of participation. The aggregate analysis found that asylum-seeking youth had no effect on youth unemployment rates. In line with this, the counterfactual analysis shows no difference in labour market integration between young migrants and similar young natives.*

Keywords: *migration, youth unemployment, Asylum seekers, Panel Data Analysis, counterfactual analysis.*

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1. Introduction

Young people are among the main catalysers of migration. They leave their home countries in search of work, to study, or join their families. The most vulnerable ones are arguably those who were forced to migrate, fleeing from human rights violations, war, and extreme poverty. In the context of the 'migration crisis' of 2015, asylum seekers were under the spotlight of the public and political discourse in many European countries, as their number increased significantly. Some politicians as well as media outlets often portrayed them as a threatening and disruptive force, capable of damaging the well-being and economic standing of European nationals.

The aim of this paper is to scientifically explore the potential impact asylum seeking youth presence and size may have on labour markets, in order to promote debates and discourse based on evidence rather than prejudice. We chose a two-stages

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complementary analysis at the aggregate (country) and individual levels to generate reliable results, which has recently gained popularity. (Hemming et al., 2019). This study focuses specifically on the potential influences of young asylum applicants, a group of migrants that is increasing in magnitude and in relevance across Europe and on which suitable statistical data are available.

In the first stage, the study applies macroeconometric panel data modelling to investigate the potential systemic effects that the presence of young asylum seekers can have on the labour market in 28 European countries, between 2010 and 2018. Secondly, we use micro data from 24 European countries between 2002 and 2018 and a counterfactual approach for a deeper exploration of individual determinants of labour participation, zooming in on the impact of being a migrant on decisions to drop out of the labour force.

This paper adds to the growing empirical literature on international migration's effects on labour market outcomes (see, for example, Borjas and Monras (2017), Cengiz and Tekguc (2022)). In comparison to previous research, our paper is unique in several ways. It begins by focusing on youth migration and its impact on youth unemployment. Thus, we document on the specific demographic group of young migrants, which is frequently included in general population analyses. On the one hand, this group is highly relevant in terms of migration because of its high mobility; on the other hand, it is vulnerable in the labour market, with unemployment rates higher than the general population and various barriers to employment. Second, we examine the effect of size and share of young migrants on unemployment, employing a cross-country panel approach that captures the general equilibrium effects of various drivers. Finally, we supplement the cross-country analysis with a counterfactual analysis on individual data, looking at how being a migrant affects labour market status, as well as other factors.

Our findings suggest that there are no impacts of the young migration from third countries (TCs) on the unemployment in European countries during the last decade. Furthermore, we do not find differences between young migrants and natives in their employment status. These results are both statistically and economically meaningful, reflecting that young individuals face similar barriers to employment irrespective of origin.

The remainder of the paper is structured as follows. Section 2 sets the stage by describing the debate on the immigration effect on labour markets. The data and methodology employed in two stages are described in Section 3. Section 4 discusses the aggregate and individual-level results. The fifth section concludes.

2. Literature review

A key aspect in the immigration debate has been the concern regarding the negative impact of immigration on the labour market (Borjas, 2003). Theoretically, immigration is likely to create excess supply in the labour market of the host country, which may lead to natives being replaced by immigrants in employment. Consequently, native employment rates are expected to decrease (Ceritoglu et al.,

2017) whereas the unemployment rate would increase. The concern has been fuelled by the new immigrant waves in the last decades, stimulating the empirical research on this topic, with mixed results reported.

A first line of the literature finds a rather low impact of immigrants on the labour market. In their seminal paper, Friedberg and Hunt (1995) sustain, using a wide range of empirical approaches, that the effect of immigration on the labour market of the host country is rather small. Contrary to the public assumption that immigrants have a negative impact on the wages and employment rates of the local population, they find no significant evidence supporting this claim. Specifically, their empirical analysis at the US level and other countries suggest a reduction of native wages by at most 1% for an increase of 10% in the ratio of immigrants in the total population. Other studies (Goldin, 1994) argue also that immigration has only a negligible impact on the labour market outcomes and the local population in the US.

At European level, immigration consequences on the labour market are harder to evaluate and evidences are more fragmentary (Angrist and Kugler, 2003). Studies point that the impact of immigration on the European local population employment levels has been modest. An explanation could be that, at least on short run, immigrant workers are not good substitutes for local ones, since the human capital stocks of immigrants cannot be transferred to the host country's economy rapidly enough. (Ceritoglu et al., 2017). D'Amuri et al. (2010) find, however, that in Germany recent immigrants have a negative effect on the employment rates and wages of the previous waves of immigrants. This reinforces the argument that migrant and native workers are imperfect substitutes, while old and new migrants could be perfect substitutes.

Moreover, it is argued (Fakih and Ibrahim, 2016) that refugees and asylum seekers impact on the labour market of host countries is expected to be even lower than that of immigrants. The reason for this is that refugees' migration is push-driven rather than pull-driven, since they forced movement is usually due to war, violence, and conflict. Thus, they are less likely to migrate in search of work opportunities, being non-economic migrants.

Several papers analyse the impact of different refugee inflows – 1960s in France, across Europe in the 1990s (Angrist and Kugler, 2003) or in Israel in the 1990s (Friedberg, 2001). However, evidences showed insignificant economic impact of the refugees on the host economies' labour markets. Although Angrist and Kugler (2003) find an effect of the refugees from the Balkan War in European countries during the 1990s (an increase with one percentage point in the migrant stock would lead to an increase in the locals' unemployment by 0.83 percentage point), results are statistical imprecise and authors warn of identification problems in their instrumental variables estimates.

Another strand of research has questioned the small impact of immigrants and refugees on the labour market, debating whether there is a missed effect of refugees on subgroups of local populations, for instance, on the ones least skilled. Borjas (2003) findings suggest that immigrants contribute to the reduction of employment rates for natives in the US. However, he highlights that the effect on wages differs

significantly between groups of immigrants in terms of educational attainment or work experience.

Furthermore, Borjas and Monras (2017) revisit the effects of four refugee waves: Marielitos in Miami in 1980; Algerians in France in the 1960s; Jewish immigrants in Israel in the early 1990s; refugees from the former Yugoslavia into European countries in the 1990s. Contrarily to prior existing evidence, their results show that that refugees have a negative effect on the labour market opportunities of native workers. However, Clemens and Hunt (2019) show that after a specification correction of the instrumental variables used in the study by Borjas and Monras (2017), the results are similar to the original ones that argues insignificant effect of refugees of the labour market.

Recently, the inflow of hundreds of thousands of Syrian refugees into many European and Middle East countries in the past 10 years has renewed researchers' interest for the effects of the refugee supply shock on the labour markets in the destination countries. Fakih and Ibrahim (2016) assess the impact of the Syrian refugees on Jordan's labour market since 2011 and they find no relationship between the wave of Syrian refugees and the outcomes of the Jordanian labour market.

Although the new wave of refugees arriving to Europe especially between 2014 and 2017 is labelled a "refugee supply shock", the share of refugees compared to the employed population is only about one to two percent in traditionally receiving European countries. Thus, it is often highlighted that the impact of refugees on unemployment rates and wages in receiving economies will be small to null. (Barslund et al., 2018). A similar conclusion is reached by Cengiz and Tekguc (2022), who study the effect the inflow of approximately 2.5 million Syrian migrants, in the period 2012 – 2015, had on the Turkish labour market. No significant negative impact is found on native workers' employment or wages, including those without a high school diploma. However, several factors offset the labour supply shock, such as increased native participation in the formal sector, growth in construction, new capital infusion, and business expansion.

Analysing the impact of the same migrant wave on Turkish labour demand, Aksu et al. (2022) find a negative impact on Turkish workers with temporary jobs, less educated and young workers, but also on women part- and self-employed and workers in construction and agriculture. Nonetheless, authors highlight the beneficial effect of Syrian migrant on the formal sector increase. A negative effect of migration on vulnerable groups on the labour market has also been found by Morales (2018) for the Colombian economy. Vulnerable groups include workers with temporary jobs, less educated, or young workers in the informal sector.

As highlighted in this section, the bulk of studies that examine the effect of immigrants on the labour market in the host countries are usually focused on the effect of economic migrants on a single economy (mostly the United States or Western European countries). However, apart from the study of Angrist and Kugler (2003), we fail to identify studies focusing on the impact of the new wave of refugees on the labour market of the European countries overall. Moreover, since the literature shows that the impact on vulnerable groups could be different from the overall one,

we add to the literature by analysing also the youth segment, more precisely the effects that young asylum seekers may have on the youth labour market.

3. Data and Methods

To better understand and explain the relationship between young migration and unemployment, we combine two complementing empirical methodologies, at the macro and micro levels.

3.1 Macro level analysis

As we have observed from the literature review, studies regarding the impact of specific subgroups of immigrants, such as asylum seekers, and, within this group, young asylum seekers, on the host economies labour market outcomes are still limited. Moreover, since most of the studies of migration economics rely mainly on survey data and identify effects in a single country, our research deals with capturing potential systematic effects at the macroeconomic (country) European level.

To achieve the research objectives, we begin with macro-level statistical data from the Eurostat database, which offers a standardised data collection methodology ensuring comparability across time and countries. The dataset used for the econometric analysis is in the form of a balanced panel from 2010 until 2018 (9 time periods) for 28 countries, namely 26 countries from EU (Croatia not included due to missing values), Norway, and the United Kingdom. The total number of observations was 252.

The variable of interest aims to capture the presence and size of the young asylum seekers, for measuring their potential effects on the host countries' labour markets. Multiple variables have been evaluated as possible suitable candidates for this purpose, including: young third-country nationals (TCNs) (available data only starting 2013), population with citizenship non-EU (available data only starting 2014), and young asylum seekers (available starting 2010). Since the distribution and size of asylum seekers were significant in the last decade and on a sharp upward trend, it is of interest to analyse the potential effects of this subgroup of migrants for answering the research questions. Considering also data availability, we decided to consider as the variable of interest young asylum seekers (aged 18 to 34 years). An asylum applicant or asylum seeker is a person who has submitted an application for international protection or who has been included in such an application as a family member during the reference period.

Starting from 2010 the total number of asylum applications increased to more than double in European countries, with highest values recorded in 2015 and 2016, when the number of applications increased almost five times. Countries with the highest number of young asylum seekers are, as expected, traditionally receiving countries such as: Germany (with around half of all young asylum applicants in the analysed countries), Italy, France, United Kingdom, Austria, or Sweden.

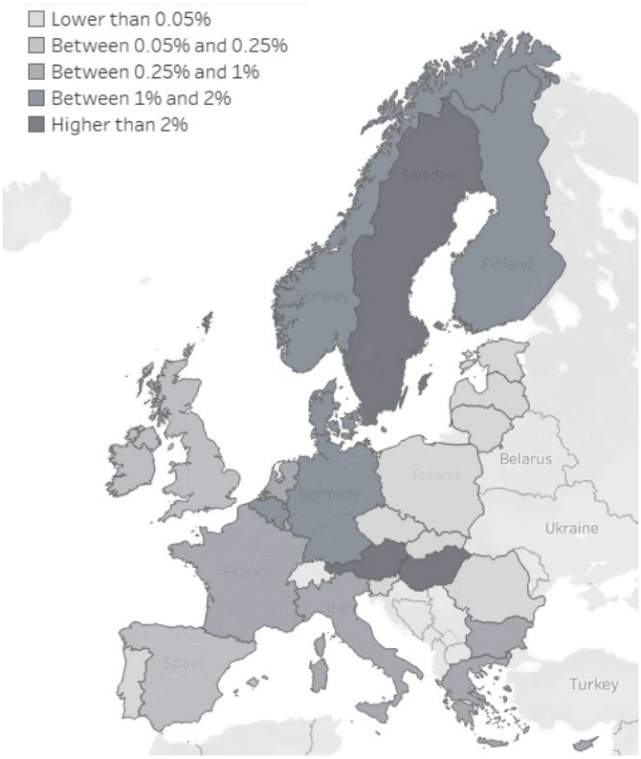

Figure 1. Share of young asylum seekers in young population (2015)
Source: Authors' own creation.

The number of asylum seekers varies greatly in the European countries. That is why, for comparability purposes, we have computed the share of the young asylum seekers in the total population of the corresponding age group, which is 18-34 years (according to the Eurostat data disaggregation by age groups), this being the main independent variable of interest in our econometric models (see Table 1).

Figure 1 illustrates the distribution of the shares of young asylum seekers in the corresponding young population, in 2015. Larger shares are recorded in the case of the larger recipients: Germany, Austria, Sweden, Norway, United Kingdom. Eastern Europe countries (Romania, Poland, Czechia, Slovakia, and Baltic countries) have the smallest shares. A special case is Hungary, a country found on the Syrian refugees' path, determining fluctuating number of asylum applicants from one year to another.

As mentioned earlier, the models constructed aim to assess the effect of young asylum seekers on the labour market. The youth unemployment rate (YOUTH_UNEM) is used as a proxy for the labour market outcome, following the literature. To validate the robustness of the results obtained, we have estimated a similar set of models for the overall labour market, using as the main factor the share of asylum seekers (for all ages) in the total population and as an effect variable the total unemployment rate (UNEM).

Table 1. Variable description and source of data

Variable Name	Variable Description	Data Source
YOUNG_ASYLUM	Share of young asylum applicants (aged 18 to 34 years) in the total young population (aged 20 to 34 years)	Eurostat [migr_asyappctza]/ [DEMO_PJANGROUP]
ASYLUM	Share of asylum applicants (all ages) in the total population	Eurostat [migr_asyappctza]/ [DEMO_PJAN]
YOUTH_UNEM	Youth unemployment is the percentage of unemployed young people (people aged 15-24) in the total active population of this age group.	Eurostat [yth_empl_100]
UNEM	Unemployment rate represent unemployed persons as a percentage of the labour force (persons aged 15 – 74 years).	Eurostat [TPS00203]
L_INC	Mean equivalised net income, in PPS, for age group 18 – 64 years. The variable is taken in logarithmic form.	Eurostat [ilc_di16]
GINI	The Gini coefficient is defined as the relationship of cumulative shares of the population arranged according to the level of equivalised disposable income, to the cumulative share of the equivalised total disposable income received by them	Eurostat [TESSI190]
LOWEDU	The ratio between population with low education and country's total population	Eurostat [edat_lfs_9912]
MEDEDU	The ratio between population with medium education and country's total population	Eurostat [edat_lfs_9912]
DEM	The EIU Democracy Index provides assess the state of democracy, being based on five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture.	Economist Intelligence Unit (EIU)
GOV	Government index – component of the Democracy index evaluating the functioning if the government	Economist Intelligence Unit (EIU)
YOUNG	Share of young population (aged 20 to 34 years) in the total country's population	Eurostat [DEMO_PJANGROUP]/ [demo_pjan]

Source: Authors' processing.

Following the economic crisis of 2008-2009, the unemployment rate increased substantially, peaking in 2013 at almost 24% for the youth population and at around 11% at European level. However, since then, both youth and total unemployment began a decreasing trend, reaching minimum levels of 14.4% (youth unemployment) and 6.3% (total unemployment) in 2019. Nonetheless, there are some countries which exhibit very large youth unemployment rates in 2018, such as: Greece (40%), Spain (34%) or Italy (32%) and the gaps between youth and total unemployment rate remain high. This gap can be explained by the limited work experience of the young population, but it also shows that structural barriers exist which hinder the access of

youth on the labour market (ILO, 2020). Usually young immigrants feature higher unemployment rates than native workers in most EU countries. On the labour market, immigrants are more likely to have low-skilled jobs and be active in sectors such as construction, services, or trade.

Apart from the main factor variable (share of young asylum seekers in the total young population, denoted with YOUNG_ASYLUM), we have also introduced a batch of control variables in the regression models, as follows: income per capita (in logarithm form) (L_INC), Gini inequality index (GINI), Low and Medium Education level (LOWEDU, MEDEDU), Democracy and Government index (DEM, GOV), Demographic structure (YOUNG). The selection of the control variables is in line with the empirical literature. Income per capita is used as a proxy for development level and economic performance, as most studies agree that aggregated economic development is a decisive factor of youth unemployment (Condratov, 2014). Likewise, the positive correlation between inequality and unemployment has been extensively documented (Cysne, 2009) and supported by a variety of quantitative models. The level of education is expected to have an impact on young people's employment prospects and, consequently, on the unemployment rate. To account also for the political influence on the unemployment (relationship approached in a plethora of studies – see, for instance, Veiga and Chappell, 2002, for a review), the Democracy and Governments indexes have been considered as proxies. Lastly, the demographic structure was also included as a covariate, as evidence shows that large youth cohorts lead to increases in youth unemployment rates. All variable description, definitions, notations and data source are found in Table 1, while Table 2 offers main descriptive statistics for all variables used in the macro-econometric analysis.

Panel data regressions were employed as the main quantitative method used for explaining the effects of the number of asylum seekers on the labour market in European countries. As the available data has the structure of a panel, with countries as individual units, using this method was the natural choice. Moreover, panel data regression models allow capturing the effects of various factors on a result variable, using the variability between various units (in our case, countries) and also considering the time variability for each unit. In the context of a small sample and also using a short time period, the method has the advantage of producing reliable results by increasing the number of observations.

Table 2. Descriptive Statistics

Variable	Obs.	Mean	Standard Deviation	Minimum	Maximum
YOUNG_ASYLUM	252	0.4064	0.6044	0.0045	5.5818
ASYLUM	252	0.1510	0.2271	0.0014	1.7973
YOUTH_UNEM	252	21.2273	10.6259	6.2	58.3
UNEM	252	9.1186	4.8316	2.2	27.5
L_INC	252	9.6876	0.4656	8.3560	10.6612
GINI	252	29.7678	3.9464	20.9	40.2
LOWEDU	252	46.6341	7.5908	20.1	64.2
MEDEDU	252	44.8940	6.2981	31.1	61.7

Variable	Obs.	Mean	Standard Deviation	Minimum	Maximum
DEM	252	80.4257	8.4736	63.8	99.3
GOV	252	74.3694	12.9009	53.6	96.4
YOUNG	252	19.8458	1.8928	15.9218	25.1314

Source: Authors' own calculations.

Two estimation methods are applied for dealing with panel data in this paper – the fixed and the random effect regression models. In the fixed effects regression model (which we will denote with FE), the intercept is allowed to vary across individuals, to account for the characteristics of each unit, in our case of each country. An important assumption is that these characteristics are specific to the cross-section (countries) and should not be correlated with the others (Baltagi, 2008). The fixed effects model could be written as:

$$y_{it} = \sum_{j=1}^{k} \beta_j x_{j,it} + \alpha_i + u_{it} \quad (1)$$

Where y_{it} represents the dependent variable for country i (with i=1,2,..,N) and year t (with t =1,2,…,T); $x_{j,it}$ with j=1,2,…,k – represent the independent variables, for country i (with i=1,2,..,N) and year t (with t =1,2,…,T); β_j, j=1,2,…,k – represent the coefficients of the independent variables; α_i (with i=1,2,…,N) represent the country specific intercepts. The time invariant intercept, α_i , can be further decomposed into an intercept common to all cross- sections (countries) and an unobservable variable that varies from one country to another (Baltagi, 2008).

The second method used for estimating the panel data regression models is the random effects one, which we will denote by RE. In the random effect approach, the unobserved variable characteristic specific to the cross-section (country) is included in the error term. An advantage of the RE models is that it can include time invariant variables, while in the FE approach these variables are already integrated in the intercept. We can write the RE model as follows:

$$y_{it} = \gamma + \sum_{j=1}^{k} \beta_j x_{j,it} + \varepsilon_i + u_{it} \quad (2)$$

Where the same notations used for the FE model apply, ε_i being the individual (country) specific error and u_{it} incorporating both cross section and time series error. γ is the intercept of the RE model, the same for all cross-sections (countries).

Considering heteroscedasticity in the panel data employed, we will report the robust estimation of the regression models. Since the Hausman test implies that the error structure is homoscedastic (Wooldridge, 2002), it can no longer be used to differentiate between fixed and random effects models. Instead, we will apply the artificial regression approach described by Wooldridge (2002) where the random effects model is re-estimated by being augmented with additional variables representing the original regressors' deviations from the mean.

This test of FE versus RE is also a test of overidentifying restrictions, using the Sargan-Hansen statistic. Rejection of the null hypothesis implies that the fixed effect model is the preferred one.

An important aspect when analysing migration, and vulnerable migration, in particular, is the endogeneity of this phenomenon. Endogeneity may emerge due to reversed causality between the model's factors and the dependent variables (Giuliettti et al., 2013). Most authors suggest the estimation of dynamic or system generalized method of moments to control the endogeneity that may occur within the observed variables (Teixeira & Queirós, 2016). The dependent variable's lag may also address the endogeneity problem. However, since our data set relies on a short time series, we could not use the mentioned approaches and apply the FE and RE approaches. The panel regression models are applied in various specification for the young migrants. As a robustness check, we employ the same model specification for the overall population, verifying the consistency of the results.

3.2 Micro-level (individual) analysis

By looking at the data on individual unemployment in Europe, we augment the cross-country research. The use of micro data enables a more in-depth investigation of individual and household-level participation factors, focusing on the influence of technology and the extent to which policy might lessen this influence on people's decisions to leave the labour market. We combine data from the European Social Survey, using data from all nine survey rounds that were conducted every two years between 2002 and 2018. The included countries and the number of survey rounds are: Austria- 6, Belgium-9, Switzerland -9, Czechia -8, Germany -9, Denmark -7, Estonia -8, Spain -9, Finland -9, France -9, UK -9, Hungary -9, Ireland -9, Lithuania -5, Netherlands -9, Norway -9, Poland -9, Portugal -9, Sweden -9 and Slovenia -9. The significant majority of the 20 countries in the dataset participated in all nine survey rounds.

We selected respondents who were between the ages of 15 and 29. The sample totals 58,458 respondents under the age of 30, 3,187 of whom are TCN immigrants (1,653 are EU mobile youth and the rest, over 53 thousand are the native youth). While there are hardly any immigrant youth in the samples of the post-communist countries in Central East Europe (7 in Poland, 14 in Hungary, and 25 in Czech Republic), six countries account for more than half (56%) of the sample (Table 3). This is similar to macro-statistical population data, which show significant differences in the share (and numbers) of TCN immigrants in European countries (Norway, UK, Switzerland, Germany, Spain, and Sweden).

We utilise a counterfactual technique to analyse the impact of immigration on young people's labour market integration, which involves contrasting the treated group of immigrants from TCs with the control group of European locals. The probability of being unemployed and actively or inactively looking for work is one of the consequences that can be measured.

The two groups' visible characteristics should be as comparable as possible for the best results. As there is no way to choose similar people a priori in our quasi-experimental approach, we adopt the conventional strategy and use matching techniques like Propensity Score Matching (PSM). Rosenbaum and Rubin (1983)

proposed PSM for the use of impact assessment, and it has the advantage of reducing bias in treatment effects estimation based on observational datasets. It has recently gained popularity not only in program impact evaluation, but also in social and economic migration research. For example, Graham and Nikolova (2014) use this method to assess the impact of migration on subjective well-being, whereas Roman and Popescu (2014) use it to assess the impact of training on migrants' income.

Table 3. Descriptive statistics on European young natives and migrants

Variable	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max
	Young natives (Control group)					Young migrants (Treated group)				
AGE	57,892	22.31	4.222	14	29	3,268	23.31	4.066	15	29
GENDER	57,878	1.504	0.500	1	2	3,268	1.515	0.500	1	2
RURAL	57,794	0.347	0.476	0	1	3,258	0.179	0.383	0	1
CHILD	52,501	0.143	0.350	0	1	2,873	0.222	0.416	0	1
PARTNER	52,379	0.252	0.434	0	1	2,868	0.328	0.470	0	1
MUSLIM	57,892	0.017	0.128	0	1	3,268	0.258	0.437	0	1
EDU YEARS	57,441	12.84	3.046	0	27	3,215	12.56	3.679	0	26
PAR_EDU_LOW	47,035	0.090	0.285	0	1	2,407	0.225	0.418	0	1

Source: Authors' own calculations.

The quality of the counterfactual analysis design is the challenge of a credible impact evaluation. The method's basic idea is to create two groups of people who have similar observable characteristics, but the difference is that those in the treatment group had access to the intervention, while those in the control group did not. To avoid bias, matching methods are used to find a non-treated person who is similar to a participant, allowing an estimate of the intervention's impact to be calculated as the difference between the participant and the matched comparison case. The method provides an estimate of the mean program impact for the participants by averaging across all participants. Individuals' propensity scores to migrate are estimated as a first step of the method. As the second step, these scores are used to match treated and non-treated individuals using various techniques. Finally, the effects of migration are assessed by comparing the performance of two groups after they have been matched. After determining the propensity scores, a matching algorithm is required to properly connect the treatment units with the non-treatment units based on their scores. There are several matching algorithms, the most common of which are the Nearest-Neighbour Matching (NN), the Radius Matching, and the Kernel Matching. In this paper, we used NN in two ways: one-to-one matching and one-to-three matching. The option of common support was used as a control for best matching, ensuring that the matching has the adequate quality.

Table 3 presents descriptive statistics for TCNs and natives separately. TCNs are one year older than nationals (23 vs. 22), live in rural areas in smaller proportions

(17% vs. 34%), live with a partner in larger proportions (32% vs. 25%), and have children in larger proportions (22% vs. 14%). Additionally, a quarter of TCNs are Muslims, compared to only 1% of natives. The education level in the two groups is strikingly similar (12 schooling years are reported in both cases), but TCNs' parents have a higher proportion of lower education: 22% versus 8%.
The young migrants' country of origin dispersion validates the preferable locations (Manafi and Roman, 2021): Germany (11%), the United Kingdom, Spain (9%), Norway (8%), Sweden (9%), and Sweden (7%) and Finland (7%).

4. Results and discussion

4.1 Results from macro-level analysis

As a result of the first stage of our research, the estimated results for the fixed and random effects models are presented in Table 4. We employ a set of four models, considering the collinearity of control variables. Consequently, variables related to educational attainment (LOWEDU, MEDEDU) are employed one at a time. The same approach is used for control variables reflecting the political context (DEM, GOV), which are also introduced alternatively in the estimated models. Thus, four sets of models are estimated, each using the FE and the RE method. The Sargan-Hansen test statistic reported in Table 4 for each of the four pairs of models suggests rejection of the null hypothesis. Thus, for each set of estimated models, there is strong evidence against the null hypothesis, clearly indicating that the fixed model is preferred.

Results from all estimated models (Table 4) confirm that no statistically significant relationship can be established between the magnitude of young asylum seekers and the youth unemployment rate.

The outcome is in line with the string of literature stating that the effects of immigration on the native workers' employment level is usually very small or inexistent. As described in the literature review section, large refugee inflows (France 1960s, Israel 1990s', Europe 1990s') have had very small or no effects on the local labour market (Clemens & Hunt, 2019).

As highlighted before, Borjas and Monras (2017) consider that an impact can be found if the analysis is done on subgroups of population, such as less skilled workers. This means that the impact of migrants depends to a large extent on the characteristics of the migrants' labour force compared to the local one. Usually, if the local labour market is composed mostly of low-skilled workers, there can be a negative impact of the migrants on the native labour force. However, since in our models we didn't account for the structure of the labour force, it is not possible to observe the impact of the migrants' labour force skill distribution.

Table 4. Results of estimated models for young population

Dependent variable: YOUTH_UNEM								
Variable	**(I)**		**(II)**		**(III)**		**(IV)**	
	Fixed effects	**Random effects**	**Fixed effects**	**Random effects**	**Fixed effects**	**Random effects**	**Fixed effects**	**Random Effects**
YOUNG_ASYLUM	-0.069 (0.419)	-0.087 (0.411)	-0.078 (0.428)	-0.035 (0.420)	-0.047 (0.418)	-0.084 (0.398)	-0.083 (0.424)	-0.063 (0.407)
L_INC	-26.01 *** (4.986)	-21.06 *** (4.456)	-24.35 *** (4.789)	-17.845 *** (4.295)	-25.968 *** (5.091)	-21.26 *** (4.625)	-24.4 *** (4.875)	-18.18 *** (4.473)
GINI	0.671* (0.392)	0.490 (0.403)	0.677* (0.382)	0.402 (0.408)	0.674* (0.403)	0.478 (0.413)	0.670* (0.394)	0.376 (0.419)
LOW EDU	-0.043 (0.134)	0.009 (0.121)	0.016 (0.151)	0.080 (0.120)				
MEDEDU					-0.022 (0.150)	-0.115 (0.140)	-0.068 (0.161)	-0.168 (0.149)
DEM	-0.070 (0.237)	0.221 (0.184)			-0.076 (0.233)	0.217 (0.179)		
GOV			-0.294 ** (0.135)	-0.169 (0.130)			-0.297 ** (0.136)	-0.170 (0.134)
YOUNG	1.67*** (0.382)	1.64*** (0.435)	1.86*** (0.344)	1.87*** (0.369)	1.67*** (0.398)	1.63*** (0.450)	1.85*** (0.356)	1.84*** (0.386)
R-Square within	0.5169	0.5043	0.5401	0.5279	0.5167	0.5033	0.5406	0.5271
R-Square between	0.0885	0.0642	0.1203	0.0990	0.0909	0.0697	0.1233	0.1054
R-Square overall	0.1123	0.0978	0.1395	0.1253	0.1149	0.1041	0.1425	0.1320
F	13.4***		23.2***		13.8***		24.1***	
Rho	0.943	0.861	0.9531	0.8560	0.9428	0.8586	0.9526	0.8515
Sargan Hansen χ^2		33.734 ***		41.914 ***		36.697 ***		48.604 ***

Robust standard errors are reported in parenthesis; *** Significant at 1%; **Significant at 5%; *Significant at 10%;

Source: Authors' own calculations.

Our results confirm also the findings of Angrist & Kugler (2003) who used in their study also macroeconomic data and have not found a significant effect of non-EU immigrants overall on the local labour market. However, it is worth mentioning that similarly to the cited study, our estimated models omit important variables like time-varying productivity and labour demand shock, which could exhibit correlation to the share of immigrants.

Another possible explanation for the lack of significance of asylum seekers on the host countries' labour market could be that, at least on short run, immigrant workers are not good substitutes for local ones, since the human capital stocks of immigrants cannot be transferred to the host country's economy rapidly enough. (Ceritoglu et al., 2017). The lack of education and low experience in the labour market that usually characterise refugees could cause problems for their visibility on the labour market. What is more, they might have lower motivation than economic

migrants, which coupled with their lower skills would make it difficult for them to achieve their potential in the labour market.

However, the most plausible reason that could explain why we have not obtained a significant effect of asylum seekers on the labour market could be the low number of refugees compared to the total population and, as observed, the low number of young asylum seekers compared to the total youth population, confirming the findings of Barslund et al. (2018).

Regarding the control variables included, the proxy for development level and economic performance (income per capita) is a strongly significant factor in all models (FE and RE), having a negative correlation with the youth unemployment rate, as expected. The demographic structure (measured by the share of young people in the population, YOUNG), is also highly significant both in FE and RE models. The variable's coefficient is positive, something we had anticipated, considering that a higher weight of young people creates the premises for larger youth unemployment rates. The Gini coefficient is significant at a 10% level, only for the FE models. However, the sign of the coefficient (+) is in line with the economic theory. Education variables (LOWEDU, MEDEDU) are not statistically significant in any of the estimated models.

This could be due to the fact that we have not considered the main type of unemployment in each country or any other details about the conditions specific to the labour market. The political factor is only significant when measured by the Government index for the FE models, while the Democracy index is insignificant in all estimated models. The coefficient sign is negative for the Government index, reflecting that higher values for this index mean a better functioning of the government and, in turn, lower youth unemployment rates.

As a robustness check, similar models have been replicated on the overall labour market, to identify and confirm the effect of the asylum seekers (all ages) on the total unemployment rate. The results obtained for this set of models are in line with those of the youth models, from an economic and also from a statistic point of view.

4.2 Results from micro-level analysis

The counterfactual analysis conducted at micro level confirm the results presented in the previous subsection from aggregated data. The probit model that produced the matching scores utilised in the PSM took into account the following demographics: age, gender, residential area, marital status, having children, and religion. We are aware that education has an effect on both the decision to immigrate and the labour market situation. However, as it is also a pertinent indicator of people's human capital, we opt to include it in the matching model. The sample includes young people, so we assumed that parents would still have an impact on the migrants' economic situation. As a result, we also included the fathers' educational level as an observable factor in the calculation of parental background. Additionally, the countries where the interview was conducted were used as dummies because they count for certain labour.

Table 5. Results from the counterfactual analysis

Effect Variable	Sample	TCNs	Natives	Difference	Standard error	T-stat
Unempl_actively seeking for work	Unmatched	8.51%	6.02%	2.49%	0.005053	4.92
	Matched NN(1)	8.47%	7.81%	0.66%	0.007696	0.86
	Matched NN(3)	8.47%	8.00%	0.48%	0.007127	0.67

Source: Authors' own calculations.

The findings from the post-matching samples indicate that, in the case of those between the ages of 15 and 29, there is no statistically significant difference between young TCNs and the rest of the young population (European migrants and natives), as presented in Table 5. The outcome was compared between unemployed people who were actively looking for work, for the following cases: the case of unmatched samples, the case of matched samples using one neighbour and three neighbours, respectively. For the unmatched samples, the t-score (of 4.92) shows a significant difference in the share of unemployed between natives and young migrants (8.51% vs. 6.02%). This difference strongly decreases and became not statistically significant when we used the matched samples. Therefore, even if there is a slight variation in the likelihood of unemployment between the two groups, we cannot conclude that being an immigrant has an impact on young people's unemployment status. Unemployment does not differ by country of origin for this age group, as both young nationals and migrants from third countries face difficulties entering the labour market. Other individual and macroeconomic factors may influence the unemployment rate, but the origin is insignificant for this age group.

5. Conclusions

In this paper, we adopted a dual empirical strategy, using data at the country level and at the individual level, to test the effect of young migration on unemployment. The aggregate panel regression analysis found no impact of asylum-seeking youth on youth unemployment rates. In other words: the number of young asylum seekers living in the country does not seem to have any effect on the likelihood of young nationals to be unemployed.

The counterfactual assessment was conducted for comparing labour market integration of young migrants with similar young natives. For this age group, unemployment does not differ by country of origin, as both young nationals and migrants from TCs face difficulties entering the labour market. Other individual and macroeconomic factors can have an impact on the unemployment rate, but the source is insignificant for this age group. The results show that we cannot claim that young migrants are more likely to be unemployed compared to young natives, as initially hypothesised.

The lack of effect of the share of asylum seekers on the labour market suggests that the public discourse's fear of a pressure on economies and societies caused by refugees is not supported by scientific outcomes.

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