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LABOUR MARKET INTEGRATION OF UKRAINIAN REFUGEES IN ITALY

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ABSTRACT

Labour Market Integration of Ukrainian Refugees in Italy

The full-scale invasion of Ukraine has induced a large influx of refugees from Ukraine to the European Union (EU), becoming the largest humanitarian crisis in Europe since the World War II. Despite a growing interest in the topic, little is known about Ukrainian refugees' skills and their economic integration in the hosting countries. This paper provides novel evidence on this topic by analysing employment patterns and skills of displaced Ukrainians in Italy. Using primary data, our results show that previous employment and proficiency in Italian are essential for refugees' current employment status. Despite their high educational attainment, professional downgrading seems to be widespread as refugees with tertiary education perceive themselves as overqualified for their jobs. Moreover, regional context, namely the presence of Ukrainian immigrant community, also plays a role in refugees' employment outcomes and job-related perceptions. Our findings underscore the importance of skill recognition and language training in facilitating economic integration of refugees.

JEL CLASSIFICATION: F22, J61, R23, J24
KEYWORDS: forced migration, labour market inclusion, skill profiles, human capital, displaced persons

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1. Introduction

The full-scale invasion of Ukraine, which began on 24th February 2022, resulted in a large influx of people seeking safety. Given Ukraine's direct border with the European Union (EU), a flow of displaced Ukrainians arrived and settled in the EU Member States. As of 2025, a considerable number of war-displaced Ukrainians remains in the EU, raising a need to understand the extent of their integration in the hosting countries.

Over the last decades, EU Member States, including Italy, have experienced a considerable increase in the foreign-born population (Ambrosini, 2011), stimulating academic discussion on the economic integration of immigrants, their labour market outcomes, and the role of language proficiency for integration (Ghio et al., 2023; Fellini and Guetto, 2019; Euwals et al., 2010). Immigrants' performance, in terms of earnings, employment rates, working hours, is commonly compared with that of natives, consistently pointing out the disparities between the two groups. However, recently scholars have emphasized the importance of distinguishing between immigrants and refugees (Cortes, 2004). Refugees are a vulnerable socio-demographic group, who typically, and persistently, underperform in terms of labour market outcomes compared to natives and economic immigrants.

The main argument explaining refugees' persistent underperformance is related to possessing lower country-specific human capital when compared to economic immigrants. Another important reason, which is particularly pronounced for refugees' performance shortly after their arrival, is related to legal restrictions that prevent this group from participating in the labour market. However, initial years after forced migration and resettlement typically play a crucial role for refugees' long-term integration into host societies (Brell et al., 2020).

Arrival of Ukrainian refugees to EU is associated with a particular institutional context due to the activation of the Temporary Protection Directive by the European Council. According to it, Ukrainian citizens received, among other aspects, immediate access to the host country's labour market, which is typically not available for asylum seekers upon arrival. Moreover, preliminary evidence suggests that Ukrainian nationals tend to have high educational levels and skills (OECD, 2023). Nevertheless, large-scale administrative datasets and representative national surveys remain mostly unavailable, calling for a better understanding of Ukrainian refugees' skills and economic integration, especially given their more favourable, yet limited in time, protection status.

The aim of this paper is to analyze labour market outcomes of Ukrainian refugees in Italy. In particular, we aim to contribute to our understanding of their human capital, skills, education and investigate the role of these factors for refugees' employment. With our analysis we expect to offer

empirical evidence on the integration of refugees who were granted temporary protection status, which is relevant not only for the academic debate, but also for the policy discussion.

Italy offers an interesting case study for this aim since it hosts a sizeable number of displaced Ukrainians[1], who are beneficiaries of temporary protection. Moreover, one of the largest Ukrainian communities in Europe, about 220,000 individuals as of January 2021, is located in Italy (Ministry of Labour and Social Policies, 2021). This group represents the so-called Ukrainian diaspora, i.e. Ukrainian citizens who migrated to Italy prior to the full-scale invasion and were permanently residing in the country when it began. Being a historic destination for immigrants from Ukraine, Italy therefore offers an interesting context for understanding labour market outcomes of refugees from Ukraine.

The contribution of this paper is twofold. By using the primarily collected data, we examine employment patterns, skills, and determinants of labour market integration of Ukrainian refugees in Italy. Our results show a positive effect of pre-invasion employment status and skills in Italian for refugees' labour market participation. Moreover, we shed light on the geographic distribution of refugees and compare it to the settlement patterns of Ukrainian immigrants. Our findings suggest that the spatial distribution as well as socio-demographic characteristics of these two groups notably differ. Furthermore, we provide evidence on the so-called refugee gap in employment, despite the favorable institutional context.

The remainder of the paper is structured as follows. Section 2 outlines theoretical background by reviewing recent literature on forced migration, refugees' employment, along with the emerging evidence on Ukrainian refugees in the EU. Section 3 describes the data and main variables employed in our analysis. Section 4 outlines empirical methodology. Section 5 contains the results, while the last section concludes.

2. Theoretical background: forced migration, refugees' labour market integration and Ukrainian refugees

This section offers an overview of the characteristics of forced displacement, such as traumatic experience and uncertainty regarding the destination, which establish a fundamental difference

[1] The number of Ukrainian citizens who are beneficiaries of temporary protection is about 170 000 as of July 2025. The data are provided by Eurostat: https://ec.europa.eu/eurostat/databrowser/view/MIGR_ASYTPSM__custom_7394287/default/table?lang=en

between forced and voluntary migration. It also provides a review of literature on labour market integration of refugees, highlighting the role of human capital, skills and gender. Finally, it discusses emerging evidence on Ukrainian refugees in the EU.

2.1 Forced migration

Forced migration is a *life-changing* event. The fundamental difference between immigrants and refugees is their legal status and the motivation to migrate. First, refugees are people who seek safety in another country and their rights are protected by the international refugee law. Their legal status is defined by the Convention relating to the Status of Refugees (1951), but some countries have also introduced other more specific admittance schemes, such as temporary protection (Dustmann et al., 2017). Second, unlike a refugee, an international migrant is a person who is not protected by the international law, as they continue enjoying the protection from their country of origin. Third, international migrants decide to settle down abroad for work, education, family reunification or other purposes but not for direct threats to their life (Mantoo, 2023).

Moreover, forced migrants often experience traumatic events in their home country and/or during the evacuation, while their decision to relocate is forced and unexpected (Brell et al., 2020). It has been shown that such a traumatic experience affects refugees' mental health (Porter and Haslam, 2005). Besides poorer health outcomes (Chin and Cortes, 2015), other distinctive features of forced migration include loss of assets, limited control over the country of destination and uncertainty about returning home (Becker and Ferrara, 2019). Uncertainty about the destination country also results in a lower country-specific human capital, including language and occupational skills, possessed by refugees (Brell et al., 2020). This last point is of particular interest for our work as we discuss next.

2.2 Refugees' labour market integration: existing research

The literature on the effects of forced migration can be broadly divided into two groups: (*i*) the first strand of literature focuses on the impact of forced migration for the **hosting** countries, (*ii*) the second one on the impact of forced migration on the **displaced individuals** themselves (Ruiz and Vargas-Silva, 2013). As for the impact on the receiving countries, Ruiz and Vargas-Silva (2015) and Labanca (2020) found a short-term positive employment effect for natives working in governmental, construction and educational sectors.

The stream of literature investigating economic integration and employment of refugees is steadily

growing. In her seminal paper, Cortes (2004) showed that refugees and economic immigrants are two distinct groups, with the former working fewer hours and receiving lower earnings. The literature also reports that the employment rates of refugees are low immediately after arrival (Brell et al. 2020). This occurs due to a restrictive legal framework, which usually forbids asylum seekers from working before their refugees' status is approved.

Despite this initial disadvantage, refugees might catch up with other immigrants and natives in terms of labour market performance, as shown by Dustmann et al. (2017) and Cortes (2004) for the US. However, in the EU their employment rates, earnings and hours worked remain persistently lower than those of natives and other immigrants, sometimes even after a decade of forced migration (Fasani et al. 2022; Brell et al. 2020; Ruiz and Vargas-Silva 2018; Bratsberg et al. 2014). Existing evidence highlights that accumulation of host country human capital and improvement in language skills are among the determinants of higher employment rates, better working conditions and, eventually, higher earnings of refugees (Cortes, 2004; Lumley-Sapanski, 2021; Foged et al., 2024).

It is also important to note the gender dimension of forced migration. Overall, the share of women immigrants has been steadily increasing, leading to what is being claimed to be a sort of "feminization of migration". Moreover, there are gender differences in terms of initial employment rates for immigrants, which are persistently lower for women (Lee et al., 2022). As such, women refugees face a "double disadvantage" in the labour market due to both their immigrant status and their gender (Brell et al. 2020).

To sum up, according to existing empirical evidence host country human capital, language skills, time after arrival and gender are among the determinants of refugees' employment outcomes. This gender dimension of forced migration is particularly important for our investigation given that the majority of displaced Ukrainians in the EU are women.

2.3 Ukrainian refugees in the EU: institutional context and emerging evidence

On 4th March 2022, in response to the full-scale invasion of Ukraine, the European Council activated the Temporary Protection Directive (2001/55/EC)[2], offering immediate access to housing, labour market, social welfare assistance, medical care, education, and residency rights to Ukrainian refugees.

[2] The Council Implementing Decision (EU) 2022/382 of 4 March 2022 is available at: https://eur-lex.europa.eu/eli/dec_impl/2022/382/oj The Temporary Protection Directive was activated by all EU Member States, except Denmark, which did not adopt it and offered a similar protection scheme.

In line with this, Italy[3] adopted the temporary protection scheme in 2022, which initially lasted until 4 March 2023, with several prolongations of its duration[4]. Those refugees, who found accommodation autonomously, received the right to a monthly allowance of 300 euros per adult[5] over three months[6]. Finally, the Budget Law (16/2023) introduced an opportunity to convert the residence permits issued for temporary protection for residence permits for job purposes, a norm which was not available previously.

This institutional context makes Ukrainian refugees – beneficiaries of temporary protection – a particular group compared to previous cohorts of refugees coming to the EU. First, the citizens of Ukraine do not need a visa to cross the EU borders[7]. They could move freely within the EU during a 90-day period and choose a Member State in which to apply for temporary protection. Unlike other asylum seekers, who are typically waiting for the recognition of their refugee status, displaced Ukrainians got their protection status immediately. On the other hand, the duration of such protection is limited, coinciding with the duration of the Temporary Protection Directive[8], creating uncertainties regarding the future residency rights.

Italy offers an interesting case study for the analysis of Ukrainian refugees. First, it hosts about 170 000 Ukrainians who were granted temporary protection status as of July 2025[9], being ranked 6th in the EU. Second, Italy is also hosting one of the largest Ukrainian communities in Europe, about 220,000 individuals as of January 2021 (Ministry of Labour and Social Policies, 2021), who relocated before the full-scale invasion. This creates a relevant and interesting context to investigate the integration of Ukrainians refugees in the country, which has been a historical destination for voluntary migration of their co-nationals. Finally, evidence on a persistent "refugee gap" in employment was reported as a salient feature of the Italian labour market for earlier cohorts of refuges (Ortensi and

[3] In Italy Ukrainians received the right to work as an employee or become self-employed using the residence permit (or a proof of application) for temporary protection.
[4] Afterwards, this status was extended until 31 December 2023 by the Law Decree (no. 16 from 02/03/2023), while Art. 392 and 393 of the Budget Law (no. 213 from 30/12/2023) extended the temporary protection status until 31 December 2024. As a final step, Art. 2 of the Law Decree (no. 202 from 27/12/2024) announced that the residence permits valid until 31 December 2024 can be renewed upon the application of the interested party until 4 March 2026.
[5] For minor children this allowance was 150 euros.
[6] Eligible Ukrainian refugees could apply for this monetary allowance until 20 February 2025.
[7] According to the Regulation (EU) 2018/1806 of the European Parliament and of the Council of 14 November 2018, citizens of Ukraine are exempt from visa requirements for short stays up to 90 days in any 180-day period if they possess a valid biometric passport. The Regulation is available at: https://eur-lex.europa.eu/eli/reg/2018/1806/oj
[8] It was initially activated for one year, then it was automatically extended for one additional year until 4 March 2024. On 19 October 2023, the Council Implementing Decision (EU) 2023/2409 extended the duration of temporary protection until 4 March 2025. Finally, the Implementing Decision 2024/1836 of 25 June 2024 extended the temporary protection until 4 March 2026; it is available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024D1836&qid=1728919324248#ntr3-L_202401836EN.000101-E0003
[9] According to the Eurostat data.

Ambrosetti, 2022).

Despite the growing interest in forced migration and refugees' economic integration, little is known about refugees[10] from Ukraine, especially regarding their skills, human capital and employment. As for their socio-demographic characteristics, women represent the most numerous group of refugees from Ukraine, followed by children and men. This is due to the martial law prohibiting most conscript men aged 18-60 years from going abroad[11]. Although large-scale administrative data remain mostly unavailable, some initial evidence suggests that a relatively high share of Ukrainian refugees are university graduates (Kubiciel–Lodzińska et al., 2023; Malynovska, 2023; OECD, 2023). Van Tubergen et al. (2024) investigated self-selection patterns of displaced Ukrainians, revealing that young Ukrainian women (aged 26-35 years) with tertiary education, who speak English well and come from the most conflict-intense areas are more likely to go abroad.

Moise et al. (2024) investigated the evolution of attitudes towards Ukrainian refugees in the EU finding initially strong but gradually declining support. In addition, Jelínková et al. (2023) found a short-term positive impact of a massive arrival of displaced Ukrainians for the migrant integration policy in the Czech Republic. In relation to these aspects, integration policies aiming to create favourable conditions for immigrants and refugees, including labour market, citizenship acquisition, and political participation, are shown to be positively associated with the pro-immigrant sentiment from natives (Borgoni et al., 2025).

Several studies have focused on the employment patterns of Ukrainian refugees. According to Panchenko (2022) Ukrainian refugees in Germany express a high willingness to work. Duszczyk et al. (2023) showed that the "refugee gap" applies to displaced Ukrainians in Poland since their employment rate is lower than that of the pre-war economic immigrants from Ukraine. Some recent studies show that Ukrainian refugees are more likely to be employed in high-skilled sectors, such as IT, communication and education since their socio-demographic profiles differ from previous economic immigrants (Duszczyk et al., 2023; Kubiciel–Lodzińska et al., 2023), pointing to a positive self-selection. However, the evidence remains mixed as other researchers reported professional downgrading and skill mismatch (see, for instance, Lewandowski, 2025). Finally, Strzelecki et al. (2025) found a positive contribution from Ukrainian refugees to Poland's GDP growth in 2022-2023.

[10] The United Nations High Commissioner for Refugees (UNHCR) includes into the refugee category those individuals who are in a refugee-like situation: "*It includes groups of persons who are outside their country or territory of origin and who face protection risks similar to refugees but for whom refugee status has, for practical or other reasons, not been ascertained*" (UNHCR, 2015, p. 18). Therefore, we will continue to refer to the displaced Ukrainians as refugees despite the temporary nature of the granted protection.

[11] There are several exceptions, for instance fathers of three or more minor children, single fathers and disabled citizens are allowed to cross the border.

Aside from these few studies, mainly from Poland, research on economic integration and human capital of Ukrainian refugees in Europe remains scarce. No study so far investigated the Ukrainian refugees' skills and labour market outcomes in Italy. Therefore, in this paper we aim to provide some empirical evidence to contribute to this knowledge gap.

3. Data and variables

3.1 Primary and secondary data collection

Our analysis is based on primary data collected through a self-administrated online survey over a period of about one and half years. A pilot version of the survey was launched in September 2023, while a large part of responses was collected between January 2024 and July 2025.

Refugees belong to the hard-to-reach socio-demographic groups[12], raising some data collection challenges for such populations. The literature on monitoring left-behind vulnerable groups has emphasized the role of involving representatives of hard-to-reach populations to establish contact, enhance engagement and response rate (Denti, 2022; UNECE, 2020). In line with this evidence, we have contacted the official representatives of Ukrainian authorities in Italy, namely the Consulate General of Ukraine in Milan and the Consulate General of Ukraine in Naples, who provided assistance in disseminating the survey. In particular, a short description of the survey, a recruitment flyer (Figure A1), and the survey link were published on the official accounts of these authorities in social media. This institutional support allowed us to overcome potential safety concerns and helped to reach more representatives of the target group (UNECE, 2020). The survey was also disseminated through online communities of Ukrainians as well as via the official accounts of the University of Milano-Bicocca and the Gran Sasso Science Institute in social media. All communication materials were provided in Ukrainian, with a few occasional posts in English or Italian.

Our target sample includes individuals who meet the following criteria: (*i*) adult citizens of Ukraine[13] (aged 18 years or more), (*ii*) who fled from Ukraine after the beginning of the full-scale invasion, and (*iii*) who are residing in Italy. In addition, we also collected responses from adult Ukrainian citizens permanently residing in Italy as of 23 February 2022. More specifically, the focus of our analysis is

[12] Besides refugees, such hard-to-reach or left-behind groups also include seasonal migrant workers, homeless people, people with disabilities etc. (Denti, 2022).
[13] Some respondents were born outside Ukraine, for instance, in post-Soviet states, while they are citizens of Ukraine. These individuals are included in our study.

on adult Ukrainian refugees, while the additional group includes voluntary immigrants from Ukraine.

The survey was structured into five sections: (*i*) socio-demographic information, (*ii*) employment in Ukraine before 24 February 2022, (*iii*) forced migration, (*iv*) employment in Italy after 24 February 2022, and (*v*) plans for future. The questionnaire was available in Ukrainian and took around 25 minutes to complete.

We collected 603 responses through the online survey. Discarding questionnaires for which we did not have answers to the main variables, we reach a final sample consisting of 402 valid observations. For these respondents we know their location at NUTS 2 level.

We acknowledge that our method of collecting data is a non-probability, self-selective web survey. However, this approach has advantages for reaching refugee populations (Pötzschke, 2022). In fact, recruitment of respondents via social media is a straightforward and cost-effective method to recruit hard-to-reach groups. This method also enables relatively quick data collection, which is especially relevant for analyzing refugees' integration. The initial years after arrival are crucial for long-term integration of refugees (Brell et al., 2020), and timely information on refugees' employment and economic integration is highly relevant for policy-makers.

In addition to the survey data, we also retrieved available data from administrative sources. Data on applications for temporary protection were obtained from the Italian Civil Protection Department (Protezione Civile, 2024). These data are available at a highly granular level (NUTS 3) and include records on the entire population of Ukrainian applicants for temporary protection[14], along with basic socio-demographic information. Data on valid residence permits held by Ukrainian citizens across Italian provinces (NUTS 3), as well as regional (NUTS 2) employment rates, were retrieved from the Italian National Institute of Statistics (ISTAT, 2024).

Descriptive statistics for the main variables are shown in Table 1, while detailed variables' definitions are provided in Supplementary Table A1.

- Insert Table 1 about here -

3.2 Dependent variables

Our first dependent variable is employment status in Italy, recorded as a binary variable equal to 1

[14] These records cover the applications for temporary protection done by the citizens of Ukraine, requested in the period from 24 February 2022 to 19 January 2023.

if the respondent is employed and 0 otherwise. Then, we also focus on refugees' beliefs and expectations about labour market integration. More specifically, respondents answered to what extent they agreed with the following statements: "*I am overqualified for my current job*" (perception of being overqualified); "*I can get a job according to my qualification in Italy*" (perceived job-qualification match IT); "*I can get a job according to my qualification in another EU country*" (perceived job-qualification match EU). Responses were recorded on a ten-step Likert scale ranging from 1 (strongly disagree) to 10 (strongly agree). We classify responses of 6 or above as indicating agreement and create three binary variables corresponding to each statement.

3.3 Explanatory variables

Our explanatory variables can be grouped into three main categories: (*i*) previous work experience, (*ii*) skills, (*iii*) socio-demographic characteristics, and (*iv*) regional controls. The *work experience* group includes controls capturing employment history prior to the full-scale invasion. In particular, we include two binary variables: one indicating if the respondent was employed as of 23 February 2022 and another indicating whether they had a high-skilled job. The latter takes the value of 1 for individuals employed in white-collar occupations coded 1, 2 or 3 in the ISCO-08 at 1-digit level[15].

To account for *skills*, we include the respondent's proficiency in both Italian and English. Both are self-evaluated language proficiency levels on a scale from 1 (no knowledge) to 10 (fluent). Proficiency in the host country's language is known to be an important factor facilitating refugees' labour market integration (Foged et al., 2024). We also include English skills for two reasons. First, we intend to analyze its role for the employment status of Ukrainian refugees in Italy. Second, as discussed in previous section, Ukrainians who speak English were more likely to flee abroad (Van Tubergen et al., 2024).

Among *socio-demographic* controls, we include standard variables considered in the analysis of refugees' economic integration (Fasani et al., 2022; Ortensi and Ambrosetti 2022), such as age, gender, level of education, and whether the respondent has minor children.

We also include *regional controls* (at NUTS 2 level), i.e. employment rate and the number of legally residing Ukrainian nationals per 1,000 inhabitants as of 2021. We refer to the latter variable as Ukrainian diaspora, which comprises a population of approximately 223,000 individuals according to ISTAT. The presence of an established community of co-nationals might have a twofold effect.

[15] More information on the ISCO-08 and the associated skill levels is available at: https://isco-ilo.netlify.app/en/isco-08/

On one hand, it can positively affect labour productivity (Michelangeli et al., 2019). On the other, the spatial allocation of immigrants is often linked to network effects (Haug, 2008), potentially leading to a mismatch between local job opportunities and refugees' skills. Finally, to account for the data collection period we introduce a binary variable to control for the responses collected in 2025.

3.4 Ukrainian refugees and immigrants

Based on the secondary data from ISTAT and Civil Protection, Figure 1 shows the number of legally residing Ukrainians (panel *a*) and adult Ukrainian applicants for temporary protection (panel *b*) per 1,000 inhabitants across Italian provinces (NUTS 3). As it appears from the figure, Ukrainian diaspora is concentrated in some provinces of southern (Campania), central (Umbria) and northern (Emilia-Romagna, Lombardy) Italian provinces. In contrast, the distribution of Ukrainian refugees shows a different pattern, with higher shares of temporary protection applicants located in the Northern and Central provinces. Hence, the spatial distribution of Ukrainian refugees does not completely align with that of Ukrainian immigrants.

- Insert Figure 1 about here -

Several important socio-demographic characteristics define the legally residing Ukrainian population in Italy[16]. First, there is a pronounced gender imbalance, with nearly 80% of Ukrainian immigrants being women (ISTAT, 2024). Second, their age structure is skewed towards older cohorts, with around 40% aged 55 years and more (ISTAT, 2021). Third, the legally residing Ukrainian citizens possesses a higher educational attainment level, in particular a higher share of tertiary education compared to other non-EU nationals in Italy (Ministry of Labour and Social Policies, 2022). Despite the relatively higher education level, they are frequently employed in low-skilled occupations, such as domestic work and personal care services (Ministry of Labour and Social Policies, 2023).

A comparison between Ukrainian refugees and Ukrainian immigrants reveals several key differences, beyond spatial patterns discussed earlier. The majority of temporary protection applications were submitted by women, who account for just over 70% of all applicants (Protezione Civile, 2024). In contrast to the established Ukrainian residents, temporary protection applicants are considerably younger: slightly more than one-third are children (aged 0-17), and another third consists of young

[16] The data on Ukrainian immigrants refer to January 2021.

adults (aged 25-44). As a result, the arrival of newcomers has shifted the age composition of the Ukrainian community in Italy towards a younger and more working-age population.

Although it lies beyond the scope of this paper and we are not able to verify it with the available data, differences in regions of origin may also exist between the two groups. Ukrainian immigrants often originated from the western regions of Ukraine, whereas refugees tend to arrive from areas more impacted by the war, such as the eastern and southern regions, as well as Kyiv[17].

Figure 2 shows the distribution of respondents (refugees' group) from our final sample by age, gender, educational attainment, and region of origin in Ukraine. As can be seen from the figure, respondents are predominantly young women, with high levels of educational attainment, and originating from southern, eastern and northern regions of Ukraine.

- Insert Figure 2 about here -

4. Methodology

Exploiting the hierarchical structure of our data with individuals nested within regions, we estimate a multilevel logit model as defined by equation (1):

$$Pr(Y_{ij} = 1) = \beta_0 + \beta_1 EMP_{ij} + \beta_2 HSJOB_{ij} + \boldsymbol{\gamma' X_{ij}} + \boldsymbol{\vartheta' R_j} + u_j \qquad (1)$$

where Y_{ij} is one of the four dependent variables of interest of individual i residing in NUTS 2 region j, such as employment status, perception of being overqualified, perceived job-qualification match IT, or perceived job-qualification match EU. EMP_{ij} and $HSJOB_{ij}$ indicate the employment status and whether the respondent had a high-skilled occupation (coded 1-3 in ISCO-08) as of 23 February 2022 respectively. $\boldsymbol{X_{ij}}$ is a vector of controls including skills and socio-demographic controls. To account for the time of survey, we control for the most recent responses collected in 2025. Vector $\boldsymbol{R_j}$ contains regional controls, namely employment rate in region j and the number of legally residing Ukrainians per 1,000 inhabitants in region j. Finally, u_j is region-specific random intercept.

We estimate the model specified in equation (1) using post-stratification weights w_{ijk} (Hartman and

[17] This is according to the non-public information from Consulate General of Ukraine in Italy. In addition, the analysis of self-selection patterns of Ukrainian refugees done by Van Tubergen et al. (2024) confirms these patterns.

Levin, 2020) at individual level to account for over- or under-representation of certain subgroups in our sample. Such weights belong to the global adjustment weighting approaches (Cornesse et al., 2020). According to Loosveldt and Sonck (2008), post-stratification weighting can correct for proportionality in online surveys, which rely on non-probability sampling design[18].

Weight w_{ijk} of individual *i* residing in region *j* and belonging to stratum *k* according to the following equation (Bethlehem and Biffignandi, 2012):

$$w_{ijk} = \frac{N_k/N}{n_k/n} \quad (2)$$

where N represents the total population of adult Ukrainian refugees (or immigrants) in Italy, and n is a total number of respondents in the corresponding group in the sample. N_k and n_k indicate the number of individuals in stratum *k* in the population and the sample respectively.

We perform the test of equality of proportions and distributions between the sample and the target population (Supplementary Table A2). We find statistically significant differences in proportions according to NUTS 2 region of residence of refugees. Although test for proportions was not found to be significant for gender in the sample and population of refugees, we compute post-stratification weights based on both variables, namely NUTS 2 region and respondent's gender. By doing so, we aim to account for the distribution of female (and male) refugees across regions, thereby reducing potential bias of the regression estimates.

5. Results

The estimation results for the multilevel logit model specified in equation (1), with post-stratification weights from equation (2), are shown in Table 2. Our first dependent variable is employment status in Italy.

As can be seen from the results, skills acquired prior to the invasion play an important role in refugees' employment. However, the effect of the pre-invasion employment (0.306) is more stable across models and almost twice as large as of the pre-invasion high-skilled job (0.143). Moreover,

[18] By using the post-stratification approach we aim to correct our sampled individuals according to the proportions observed in the target population. Nevertheless, our sampled data cannot be considered as representative for the population of Ukrainian refugees in Italy, and this remains a limitation of our analysis. We further discuss it in the last section.

proficiency in Italian increase the probability of being employed by 3.3 percentage points (p.p.), while the knowledge of English is not significant. There is also a co-called "refugee gap" in employment observed between immigrants and refugees, which is a well-established finding in the existing literature. In other words, being a refugee reduces the probability of being employed by more than 20 percentage points (columns 1-3). However, this effect vanishes when skills in Italian are controlled for.

- Insert Table 2 about here –

Among socio-demographic variables, it should be noted that having minor children is negative and significant, reducing the probability of being employed by about 9 p.p. Since Ukrainian refugees are mostly represented by women, who often have minor children, this finding appears as intuitive. Having tertiary education is also positively related to employment status, increasing its probability by about 20 p.p. Among regional controls, employment rate is insignificant, while the presence of Ukrainian diaspora is positive and statistically significant.

The results for the rest of dependent variables, namely perception of being overqualified (columns 1-2), perceived job-qualification match IT (columns 3-4) and perceived job-qualification match EU (columns 5-6), are shown in Table 3.

- Insert Table 3 about here -

As for the perception of being overqualified for the current position, we find that refugees with tertiary education are more likely to perceive themselves as overqualified. Moreover, there is a positive and significant effect Ukrainian diaspora in the region, which increases refugees' perception of being overqualified by about 0.7 p.p. Refugees' skills and prior working experience are insignificant for this perception.

For the perceived job prospects in Italy, having minor children reduces the probability of the perception to find a job according to one's qualification by about 9 p.p. Finally, for the perceived job-qualification match in another EU country, tertiary education and English skills show a positive effect and increase the probability of holding this perception by more than 18 p.p. and almost 3 p.p. respectively.

6. Conclusions

The aim of this paper is to provide empirical evidence on the employment patterns and skills of Ukrainian refugees in Italy. Our empirical analysis focuses on their current employment status and refugees' perceptions of employment prospects. We find that pre-invasion work experience, language skills and tertiary education are positively associated with labour market participation. By contrast, there is a negative and significant association between being a refugee and being employed in Italy.

Further insights emerge from the analysis of respondents' perceptions. Refugees with tertiary education are more likely to perceive themselves as overqualified for their current positions. Moreover, there is a positive relationship between holding a tertiary education level, self-assessed proficiency in English and the perception of gaining employment according to one's qualification in EU. Finally, regional context also seems to play a role since the presence of Ukrainian diaspora positively contributes to the perceptions of being overqualified among refugees.

Our analysis also reveals some interesting patterns of the geographic presence of Ukrainian immigrants and refugees. In fact, refugees tend to locate in provinces that are different from historical destinations followed by Ukrainian immigrants in Italy. Moreover, Ukrainian refugees differ from immigrants' group according to socio-demographic characteristics since the former tend to represent younger, working-age individuals originating from southern, eastern and northern regions of Ukraine.

The so-called "refugee gap" in employment is well-documented in the literature on forced migration. Its presence is often explained by legal barriers that prevent asylum seekers from being employed until their international protection status is recognized. However, as we show in our analysis, Ukrainian refugees with EU temporary protection benefit from a favourable legal framework providing them with immediate access to the hosting country's labour market. Therefore, the observed employment gap seems to be due to other factors, such as lower country-specific human capital and limited proficiency in Italian. Another possible channel might be related to employers' reluctance to hire individuals whose legal status is temporary and hence uncertain.

Several policy implications emerge from our analysis. Female refugees, especially ones with minor children, are likely to face a "double disadvantage" due to their refugee status and childcare duties. To mitigate this challenge targeted interventions are required. First, establishing a comprehensive network of support services, including childcare provision, is essential for fostering successful economic and social integration. Moreover, expanding the availability of Italian language courses represents one of important pathways to refugees' successful labour market participation. Second, given higher educational attainments of Ukrainian refugees, training and retraining programmes

would further improve their labour market inclusion and help fully leverage their skills.

This study has some limitations that should be acknowledged here. First, our online survey relies on a non-probability sampling approach and the number of responses remains limited. We include post-stratification weights in the regressions to align the proportions observed in the sample with the administrative records on refugees' population. Nevertheless, the findings discussed in our paper should be interpreted with caution. The available data do not allow us to perform the analysis of refugees' skills and employment patterns at a more granular geographical level. We aim to contribute to this research trajectory in the future when more detailed data become available.

Ethical approval

The Ethics Committee of the University of Milano-Bicocca issued a declaration of compliance of this research project with the ethical criteria (protocol no. 0222507).

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Table 1: Descriptive statistics

	N	Mean	SD	Min	Max
Dependent variables					
Employed in Italy	381	0.57	0.50	0	1
Overqualified	343	0.54	0.50	0	1
Job-qualification match IT	358	0.47	0.50	0	1
Job-qualification match EU	355	0.46	0.50	0	1
Socio-demographic controls					
Gender (female=1)	402	0.82	0.38	0	1
Age	402	39.14	12.19	18	70
Number of minor children	402	0.57	0.97	0	10
Education					
Post-secondary	402	0.11	0.32	0	1
Tertiary	402	0.52	0.50	0	1
Refugee	402	0.88	0.32	0	1
Pre-invasion employment	402	0.63	0.48	0	1
Pre-invasion high-skilled job	402	0.32	0.47	0	1
Italian skills	402	5.63	2.49	1	10
English skills	402	5.70	2.86	1	10
Survey 2025	402	0.46	0.50	0	1
Regional controls					
Employment rate	402	60.65	9.32	41.07	68.47
UA diaspora	402	34.04	20.02	1.97	66.14

Note: descriptive statistics presented for the sample without post-stratification weights

Table 2: Multilevel logit model estimates for employment status in Italy of Ukrainian refugees and immigrants

	Y= employed in Italy (yes=1)				
	(1)	(2)	(3)	(4)	(5)
Pre-invasion employment		**0.306*****	**0.293*****	**0.315*****	**0.290*****
		(0.055)	**(0.059)**	**(0.060)**	**(0.052)**
Pre-invasion high-skilled job	**0.143*****		0.039	0.034	0.041
	(0.038)		(0.054)	(0.053)	(0.059)
Italian skills				**0.033****	**0.033****
				(0.012)	**(0.012)**
English skills				-0.020	-0.018
				(0.010)	(0.009)
Number of minor children	-0.095*	-0.094*	-0.092*	-0.097*	-0.095*
	(0.039)	(0.037)	(0.037)	(0.039)	(0.039)
Tertiary	0.213**	0.218***	0.206**	0.212***	0.199***
	(0.065)	(0.057)	(0.063)	(0.060)	(0.058)
Refugee	-0.260**	-0.215**	-0.225**	-0.156	-0.143
	(0.095)	(0.070)	(0.075)	(0.093)	(0.092)
Employment rate					-0.003
					(0.003)
UA diaspora					0.004**
					(0.001)
Socio-demographic controls	Yes	Yes	Yes	Yes	Yes
Survey 2025 control	Yes	Yes	Yes	Yes	Yes
N	381	381	381	381	381
No. of regions	18	18	18	18	18
Regional level variance	0.216	0.254	0.251	0.139	0.016
	(0.151)	(0.195)	(0.199)	(0.180)	(0.174)
ICC	0.061	0.072	0.071	0.041	0.005

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, multilevel logit model estimation with post-stratification weights to account for population proportions by gender and region (NUTS 2). Region-level (NUTS 2) clustered standard errors in parentheses. ICC is the intraclass correlation coefficient. Table shows average marginal effects. Socio-demographic controls include age and gender. Survey 2025 variable controls for responses collected in 2025.

Table 3: Multilevel logit model estimates for perceptions about employment prospects of Ukrainian refugees

	Y= perception of being overqualified		Y= perceived job-qualification match IT		Y= perceived job-qualification match EU	
	(1)	(2)	(3)	(4)	(5)	(6)
Pre-invasion employment	0.113	0.160*	-0.068	-0.072	-0.001	-0.023
	(0.064)	(0.081)	(0.096)	(0.096)	(0.100)	(0.092)
Pre-invasion high-skilled job		-0.150		-0.024		0.006
		(0.095)		(0.085)		(0.062)
Italian skills	-0.017	-0.014	0.016	0.012	0.007	-0.002
	(0.019)	(0.019)	(0.017)	(0.018)	(0.013)	(0.013)
English skills		-0.004		0.017		0.029***
		(0.008)		(0.010)		(0.008)
Number of minor children	-0.022	-0.026	**-0.091****	**-0.088*****	-0.037	-0.028
	(0.052)	(0.055)	**(0.028)**	**(0.027)**	(0.025)	(0.020)
Tertiary	**0.148****	**0.197****	0.135	0.126	**0.203****	**0.175****
	(0.050)	**(0.065)**	(0.078)	(0.072)	**(0.065)**	**(0.063)**
Employment rate	-0.010	-0.010	0.004	0.004	0.004	0.003
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
UA diaspora	0.007**	0.007**	0.001	0.002	-0.001	-0.001
	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Socio-demographic controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey 2025 control	Yes	Yes	Yes	Yes	Yes	Yes
N	300	300	315	315	312	312
No. of regions	17	17	17	17	17	17
Region-level variance	0.763	0.578	1.874	1.706	1.954	1.853
	(0.953)	(0.819)	(1.405)	(1.325)	(1.831)	(1.837)
ICC	0.188	0.149	0.363	0.341	0.373	0.360

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, multilevel logit model estimation with post-stratification weights to account for population proportions by gender and region (NUTS 2). Region-level (NUTS 2) clustered standard errors in parentheses. ICC stands for the intraclass correlation coefficient. Table shows average marginal effects. Socio-demographic controls include age and gender. Survey 2025 variable controls for responses collected in 2025.

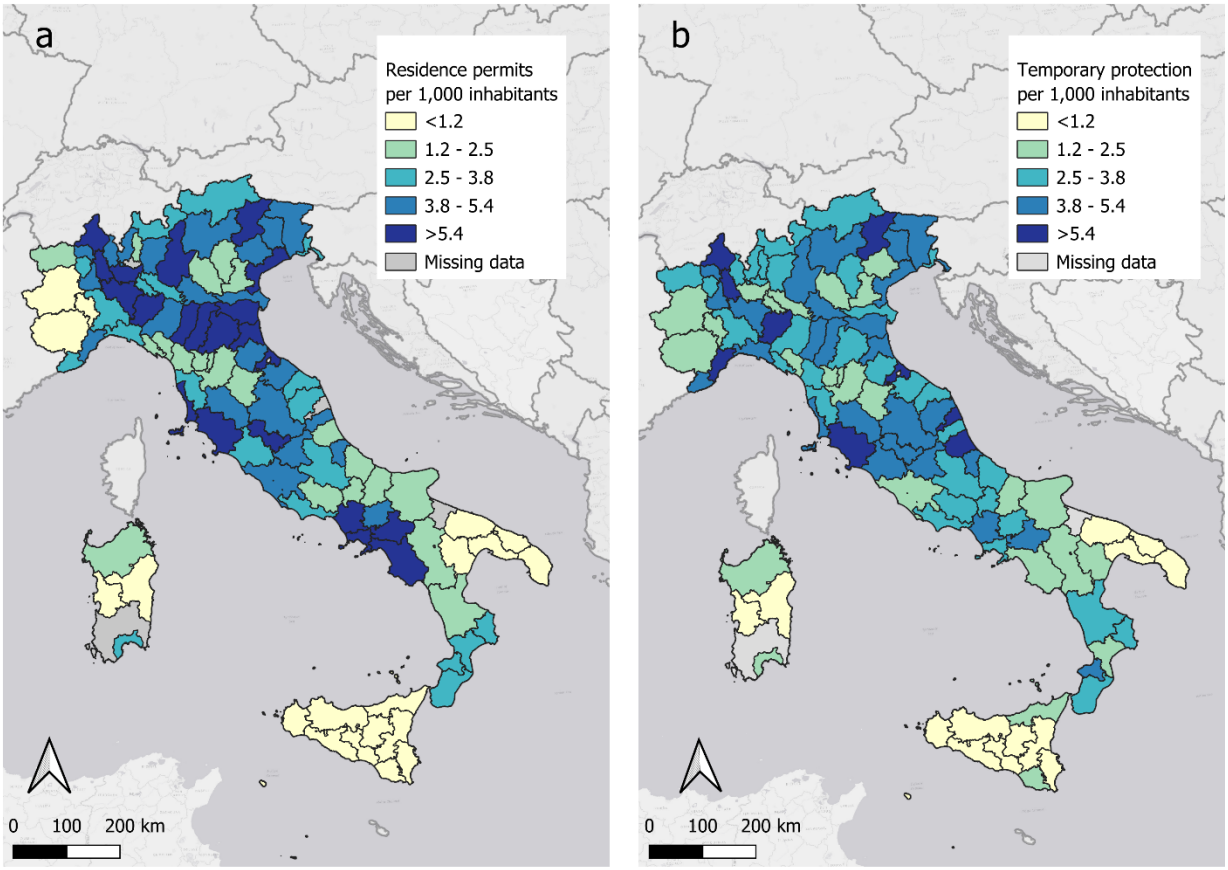

Figure 1: Legally residing citizens of Ukraine (panel *a*), and the number of applications for temporary protection made by Ukrainian citizens (panel *b*) per 1,000 resident population in Italian provinces (secondary data collection)

Note: authors' elaboration based on the data from the ISTAT and the Italian Civil Protection Department. The number of inhabitants in each province is drawn from ISTAT and represents the population in each province as of 1 January 2021 regardless of age, gender, marital status and nationality. The data on residence permits held by Ukrainian nationals refer to 1 January 2021. The data on applicants for temporary protection includes only adult (18 years or more) Ukrainian applicants.

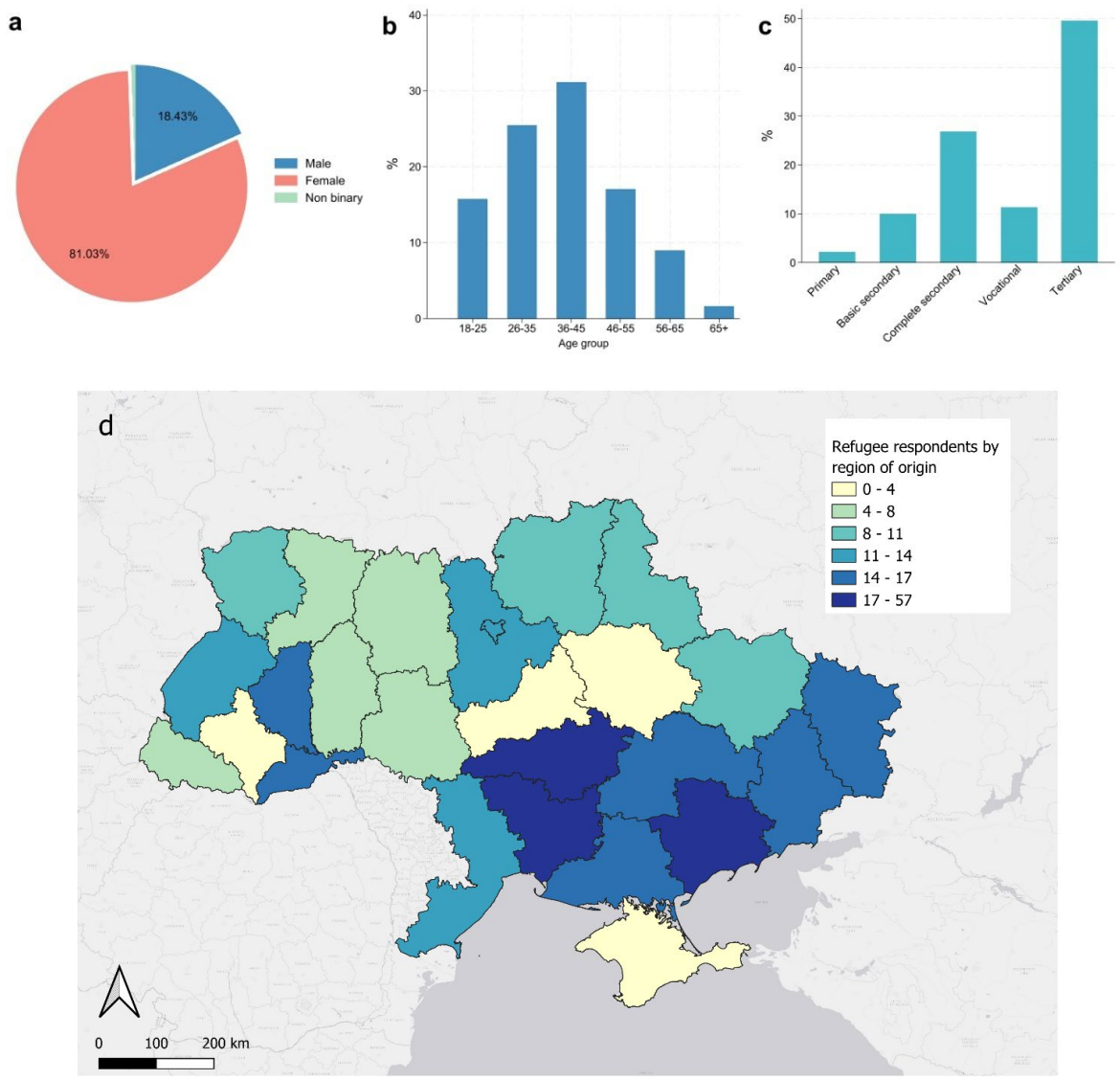

Figure 2: Gender (panel *a*), age groups (panel *b*), educational attainment (panel *c*), and region of origine (panel *d*) of Ukrainian refugees (primary data collection)

Note: authors' elaboration based on the data collected through the online survey

Appendix A: Additional Figures and Tables

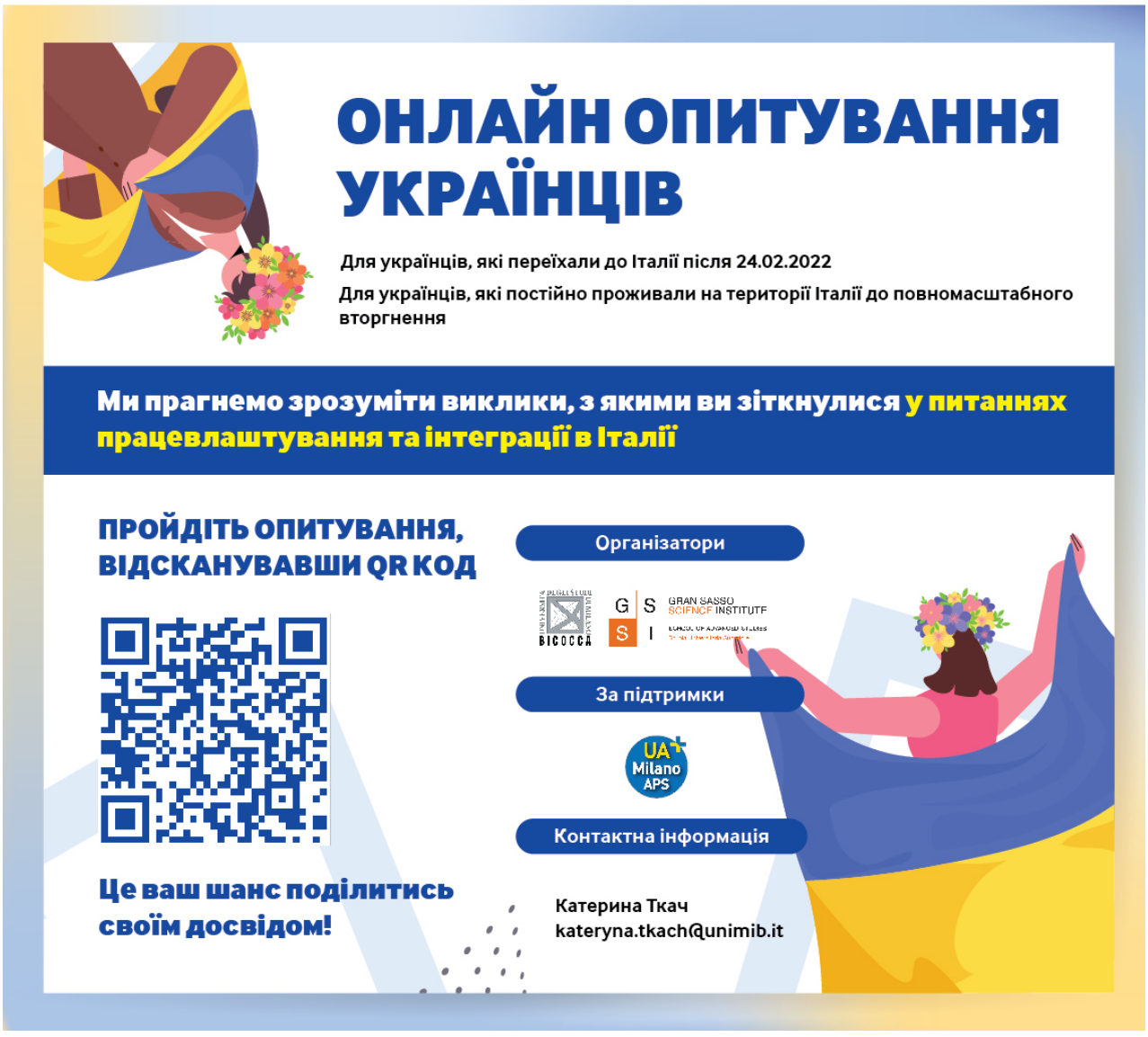

Figure A1: Recruitment flyer (in Ukrainian) used on social media

Table A1: Variables' description

Variable	Description	Source
Dependent variables		
Employment status	=1 if the respondent is employed in Italy; 0 otherwise	Survey
Perception of being overqualified	=1 if the respondent agrees (6 or above on a 10-step agreement scale) with the statement "*I am overqualified for my current job*"; 0 otherwise	Survey
Perceived job-qualification match IT	=1 if the respondent agrees (6 or above on a 10-step agreement scale) with the statement "*I can get a job according to my qualification in Italy*"; 0 otherwise	Survey
Perceived job-qualification match EU	=1 if the respondent agrees (6 or above on a 10-step agreement scale) with the statement "*I can get a job according to my qualification in another EU country*"; 0 otherwise	Survey
Socio-demographic variables		
Gender	=1 if female; 0 otherwise	Survey
Age	Respondent's age in years	Survey
Number of minor children	Number of children younger than 18 years old	Survey
Post-secondary	=1 if completed post-secondary (vocational or technical) education; 0 otherwise	Survey
Tertiary	=1 if completed bachelor's degree or higher; 0 otherwise	Survey
Refugee	=1 if the respondent fled from Ukraine after 24 February 2022; 0 otherwise	Survey
Work experience		
Pre-invasion employment	=1 if the respondent was employed as of 23 February 2022; 0 otherwise	Survey
Pre-invasion high-skilled job	=1 if the respondent was employed in a white-collar occupation, coded 1, 2 or 3 according to the ISCO-08, as of 23 February 2022	Survey
Skills		
Italian skills	respondent's self-defined proficiency level in Italian on the 1-10 scale (1= no knowledge, 10= fluent)	Survey
English skills	respondent's self-defined proficiency level in English on the 1-10 scale (1= no knowledge, 10= fluent)	Survey
Regional controls		
Employment rate	Employment rate (15-64 years old) in NUTS 2 region in 2021	ISTAT
UA diaspora	Number of resident permits as of 1st January 2021 granted to Ukrainians in NUTS 2 region	ISTAT
Post-stratification weights (applied in regression model estimation)		
Refugee population	Number of applicants for temporary protection over Italian provinces, April 2022 - January 2023	Civil Protection

Table A2: Tests on the equality of proportions and distributions

	Test of proportions		Kolmogorov-Smirnov test	
Variable	*Z*	p-value	*D*	p-value
Gender (female=1)	0.75	0.452		
Age			0.034	0.692
NUTS 2 regions				
Abruzzo	2.05	0.041		
Calabria	-3.01	0.003		
Campania	3.64	0.000		
Emilia-Romagna	0.93	0.353		
Friuli-Venezia Giulia	3.10	0.002		
Lazio	0.57	0.567		
Liguria	2.68	0.007		
Lombardy	-8.33	0.000		
Marche	-3.92	0.000		
Piemonte	1.26	0.208		
Puglia	-3.01	0.003		
Sardegna	-4.37	0.000		
Sicilia	-0.48	0.630		
Toscana	4.71	0.000		
Trento	1.02	0.308		
Umbria	2.70	0.007		
Valle d'Aosta	0.15	0.882		
Veneto	4.86	0.000		

Results of tests on the equality of proportions in the sample and population of Ukrainian refugees show significant differences for most of NUTS 2 regions, and non-significant differences for gender. The results of Kolmogorov-Smirnov test for age do not show significant differences between the sample and population of refugees.