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Labour market situation of Ukrainian migrants in Wielkopolskie Voivodeship: The skills mismatch perspective

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ABSTRACT

Objective: The main purpose of the present article is to analyse the situation of Ukrainian migrants in the Greater Poland (Wielkopolskie Voivodeship) labour market with a particular focus on the skills (mis)match and to identify factors contributing to it.

Research Design & Methods: The study focused on the Ukrainian immigrants employed in the Voivodeship of Greater Poland at the time of the survey. The research sample included 429 individuals. I used logistic regression to estimate the impact of selected factors on the occurrence of a skills mismatch.

Findings: The analysis revealed that different factors may contribute to the occurrence of various types of skills mismatch (related to education, occupation, and industry). This means that the skills mismatch is a complex phenomenon and further research is needed to explore its nature and determinants.

Implications & Recommendations: Addressing a skills mismatch among migrant workers requires a multifaceted and tailored approach that takes into account specific factors contributing to different types of skills mismatch and unique needs and profiles of different migrant groups.

Contribution & Value Added: The study adopts a broader approach and distinguishes between three different types of skills mismatch, highlighting the importance of analysing the determinants that contribute to each of these, and proposing some practical implications for local policies and organisations.

Article type: research article

Keywords: skills mismatch; immigrant workers; war refugees; labour market; Greater Poland

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INTRODUCTION

In the last two decades, labour migration has become a significant issue in Europe and worldwide, with millions of people moving to other countries in search of better job opportunities and/or living conditions. Even before the war in Ukraine started, Poland had already become a popular destination for temporary workers and the most attractive destination for labour migrants from Ukraine. Russia's invasion of Ukraine has forced millions of refugees from Ukraine to move into neighbouring countries. As of 1 March 2023, four million people who escaped the war benefit from the temporary protection mechanism (European Council, 2023).

Poland has received the vast majority of people fleeing the war in Ukraine. With the influx of refugees, the issue of their integration has become a high priority. Although pre-war migration was possible due to very favourable conditions in the Polish labour market and was driven by well-developed migrant networks, as well as the active participation of formal and informal recruiters (Duszczyk & Kaczmarczyk, 2022), the first period of Ukrainian refugees' adaptation was accompanied by information chaos. As a result, many of the refugees experienced a high level of insecurity

accompanied by a strong feeling of being lost, the feeling which was magnified by the unpredictable situation in their hometowns (Shelest-Szumilas, 2022).

This article addresses the labour market situation of Ukrainian migrants in Poland from the perspective of the skills mismatch problem. Several previous studies documented that Ukrainian migrants faced many challenges in recognising[1] and utilising their skills in the host countries, which resulted in performing jobs below their education level and qualifications (Churski *et al*., 2021; Leontiyeva, 2014; Maruszewski & Kaczmarczyk, 2020; Salaris & Tedesco, 2020). With regard to highly skilled migrants, this issue is often referred to in the literature as deskilling or occupational downward mobility (Cuban, 2013; Kubiciel-Lodzińska & Maj, 2021; Mollard & Umar, 2012; Siar, 2013). However, in a broader context, the above-mentioned problem is usually addressed by researchers as a skills mismatch. Throughout this article, the term 'skills mismatch' will refer to a situation where the skills and qualifications of migrant workers do not align with the requirements of the jobs they can secure in the host country.

The related literature also identifies several challenges associated with the procedural requirements for employing foreigners in Poland (Szaban, 2022). Recent studies that have addressed the situation of war refugees suggest that the problem of skills mismatch may intensify significantly and requires immediate actions (Gromadzki & Lewandowski, 2023). As pointed out by Duszczyk *et al.* (2023), in the face of extended war in Ukraine, significant efforts would be needed to ensure the successful integration of war refugees into Polish society, which would entail creating suitable legal and institutional frameworks from the outset.

Despite the growing number of Ukrainian migrants in Poland, the research addressing the scope and nature of skills mismatch among this group remains scarce. The understanding of the skills mismatch situation of Ukrainian migrants is crucial for policymakers, employers, and civil society to effectively support their integration into the labour market and maximise their potential contributions to the economy. Therefore, the article focuses on the identified research gap which relates to migrant employment in the Polish labour market and addresses the following question:

To what extent and in what manner do the selected predictors explain the migrants' skills mismatch occurrence?

While the problem of a skills mismatch is a well-discussed topic in the literature, the proposed article narrows it to a specific region, thereby allowing for a more in-depth analysis of the issue in a local context. The novelty of the topic also lies in the fact that the skills mismatch is analysed with regard to three dimensions: education, occupation, and industry. This analytical approach allows for a nuanced examination of how incompatibilities in the fields of education, occupational roles, and industry requirements coexist to create distinct challenges in achieving effective migrant integration into the labour market.

To carry out the empirical analysis I rely on the data on Ukrainian migrant workers employed in the Voivodeship of Greater Poland. The data for empirical analysis were collected in May and June 2022. The database is unique as it consists of two different groups of migrant workers: Ukrainian nationals who had come to Poland before the war broke out and those who crossed the Polish border after February 24, 2022.

The article begins by reviewing the relevant literature on the skills mismatch of migrant employees. Consequently, it presents the methodology used for the study and describes the data analysis procedure. The next section presents the results of the study, followed by a discussion of the factors contributing to the skills mismatch and how the situation may be relevant for policymakers and employers in the context of improving the labour market situation of Ukrainian migrants in Poland.

[1] Recognition of qualifications is an essential process that aims to evaluate and validate the educational and professional credentials of individuals who have migrated to a new country. This process plays a crucial role in ensuring that migrants can effectively contribute to the workforce of their host country.

LITERATURE REVIEW

A skills mismatch refers to a situation when there is a difference between the skills and qualifications of employees and the expectations of employers. In practice, this can result in individuals having difficulty finding suitable employment due to a misalignment between their skills and the requirements of certain job roles. A vertical mismatch occurs when an employee's educational level is not appropriate for their job, either exceeding or falling short of the required educational level. A horizontal mismatch, on the other hand, arises when an employee's field of education differs from the one required for their job.

Migrant workers often face challenges in finding suitable employment in destination countries, which can lead to lower wages and a more vulnerable position in the labour market (Banerjee *et al.*, 2019; Falcke *et al.*, 2020; Irastorza & Bevelander, 2021). A skills mismatch has also been identified as a significant factor distinguishing migrants' decisions to return to their home countries or move to another country (Leitner & Landesmann, 2020; Wanner *et al.*, 2021). Several studies have shown that highly skilled immigrants may experience discrimination that impedes their ability to utilise their skills effectively (Abdalhamed, 2021).

Several theories can help explain the skills mismatch among migrant employees. For example, human capital theory suggests that a skills mismatch occurs because skills and knowledge acquired in other countries through education and work experience are not fully transferable. As a result, migrants' human capital (*e.g.* qualifications) may not be recognised or valued in a destination country, leading to limited chances of finding adequate jobs (Chiswick & Miller, 2009; Lancee & Bol, 2017; Piracha & Vadean, 2013). In that sense, the skills mismatch in the initial phase of a career may be a way to compensate for the absence of essential skills, such as experience or job-specific training, thereby indicating that it serves as an adaptation mechanism (Visintin *et al.*, 2015), which is relevant to migrant workers who have recently entered the host country.

Network theory holds that social networks and connections can influence the chances of migrants being (mis)matched to the local labour market. Relying on social networks lowers the cost of finding employment in a host country, making it easier for immigrants to secure jobs and for companies to recruit employees. These networks can also assist new immigrants in settling in the new country. At the same time, resorting to networks to find employment can limit their access to higher-skilled jobs (Wei, 2020). Alaverdyan and Zaharieva (2022) found that social networks are the most common way of obtaining employment through referrals. Moreover, immigrant employees tend to use this approach more frequently than native workers. As was confirmed by Chort (2017), migrants who secured their employment through their migrant network had a reduced chance of experiencing negative vertical mismatch. However, it was observed (Chort, 2017) that using the network did not have a significant impact on horizontal mismatch. Van Wolleghem *et al.* (2023) showed that the use of informal networks increased overeducation (vertical mismatch) among first-generation migrants, while it tended to decrease it for second-generation migrants. The study by Herault (2020) demonstrates that referrals help immigrants obtain higher-quality employment and reduce the likelihood of being overeducated. However, their impact varies depending on the origin of the immigrants' qualifications. Herault explains the latter by the structures of social networks. In contrast, Kracke and Klug (2021) reported that migrants were more likely to be overqualified for a job if they relied solely on informal connections such as friends, neighbours, or former colleagues for their job search. Furthermore, having a network of primarily migrant peers (homophilous migrant networks) also raises the risk of overqualification.

According to segmented labour market theory, labour markets are divided into segments based on skill levels, with some segments having higher wages and better working conditions than others. At the same time, a common feature among contemporary developed economies is the existence of a secondary labour market division, which is marked by lower working conditions and the lack of skilled employees. This sector is not appealing to native workers but is usually occupied by temporary migrant workers who have lower minimum wage requirements due to their distinct backgrounds and experiences (Cruz Gómez *et al.*, 2019; Felbo-Kolding *et al.*, 2019; Leschke & Weiss, 2020). Migrant workers may be limited to performing jobs in the lower-skilled segments of the labour market due to factors

such as discrimination, language barriers, lack of social networks, and skill recognition barriers. Migrants may also possess limited negotiation abilities, which leads to unfavourable working agreements that do not align with their skill level and previous working experience (Cruz Gómez *et al.*, 2019). The recent study by Eurofound based on samples collected in France, Germany, and Spain reveals that there is strong statistical evidence that individuals who were born abroad are less likely to have an opportunity to follow traditional career paths compared to those who are nationals (Cruz Gómez *et al.*, 2019). Based on the study of migrants from Central Eastern to Western European countries, Leschke and Weiss (2020) suggest that the connection between using social networks for job searching and being overqualified is particularly evident in economic sectors that exhibit features of secondary labour markets and have a high proportion of migrant workers.

Institutional theory suggests that the institutions and policies of a host country can affect the skills mismatch among migrant workers (Aerne & Trampusch, 2023; Braňka, 2016; García-Serrano & Hernanz, 2023; Guzi *et al.*, 2021). For example, a lack of recognition for foreign qualifications or restrictive immigration policies can limit the ability of migrant workers to fully utilise their skills and education. Based on the data collected in three Nordic capitals, Friberg *et al.* (2014) performed the comparative study and provided evidence on how different institutional configurations may shape labour market outcomes of migrant workers. By drawing on a broader approach, Guzi *et al.* (2021) presented results indicating that the social and governmental frameworks may significantly impact the process of immigrant integration by improving the quality of employment and increasing participation in the labour market.

The level of a skills mismatch among migrants and war refugees can vary for several reasons. Migrants may have much more time to integrate into the host society and to gain work experience, whereas war refugees may have limited opportunities to have access to the labour market or may be forced to work in low- or unskilled jobs. Because of different motives for coming, migrants may have better language skills in the language spoken in their host country, while refugees may struggle with language barriers and psychological problems. Moreover, migrants may have a better understanding of the cultural norms and expectations in their destination country, while refugees may have to adjust to a new cultural environment in a short time, which can impact their ability to find suitable employment. Finally, war refugees may experience trauma and stress, which can affect their ability to learn new skills and adapt to a new work environment.

The problem of migrant workers' skills (mis)match has been also discussed with regard to their employment situation in Poland. The previous research clearly indicates a low level of alignment between the migrants' skills and the needs of the Polish labour market. For instance, several surveys among foreign workers, conducted between 2015 and 2018, revealed that 59.9% of Ukrainian migrants from Warsaw, 55.3% from Wrocław, 50.3% from Lublin, and 48.3% from Bydgoszcz worked below their qualifications (Górny *et al.*, 2019; Górny *et al.*, 2020). The survey conducted by the National Bank of Poland demonstrated that among pre-war Ukrainian migrants, 33% worked below their qualifications, while for refugees the percentage was much higher – 46% (Chmielewska-Kalińska *et al.*, 2023).

The research to date has tended to focus on the issue of deskilling faced by migrant workers in Poland (Górny *et al.*, 2019; Dolińska, 2019; Kubiciel-Lodzińska & Maj, 2021; Kubiciel-Lodzińska *et al.*, 2023) rather than on the application of a broader approach to the problem of skills mismatching. This issue is particularly noticeable in the group of highly skilled migrants. For example, as documented by Górny *et al.* (2019), among foreigners residing in Wrocław, nearly one-third of migrants with higher education were employed in low-skilled jobs, while another 28% from the same group worked as skilled labourers. Moreover, Maruszewski and Kaczmarczyk (2020) empirically demonstrated the lack of a wage premium for Ukrainian migrants with higher education and work experience, which resulted from them being employed below human capital. On the other hand, Kubiciel-Lodzińska *et al.* (2023) showed that such factors as the length of work experience in the country of origin, as well as highly skilled migrants' perceptions of the usability of their qualifications were correlated with the probability of having matched employment.

Thus far, there has been limited focus on other dimensions of migrants' skills mismatch, even though the literature evidences them. For example, according to the study concerning Ukrainian em-

ployees conducted by the Work Service agency in 2019, over 70% of the surveyed migrants were employed in jobs unrelated to their educational background (Work Service, 2019). Also, Chmielewska-Kalińska *et al.* (2023) documented that 38% of Ukrainian prewar migrants and 33% of war refugees performed jobs different from those they had in Ukraine. This suggests that they have very limited opportunities to use previously gained professional experience.

Based on the literature review, I developed the following research question:

RQ: To what extent and in what manner do the selected predictors explain the migrants' skills mismatch occurrence?

The next sections provide information on the adopted research method and the data used, present the main results, and propose some policy implications.

RESEARCH METHODOLOGY

The research conducted was focused on immigrants from Ukraine who were legally employed in the Voivodeship of Greater Poland[2] at the time of the survey, which was carried out in May and June 2022. The data was collected using various techniques such as PAPI, CAPI, and CAWI. The questionnaire was available in Ukrainian and Russian languages. The selection of participants was purposeful and based on specific socio-demographic characteristics such as age, industry, and the employment subregion (county, in Polish: *powiat*). An external company collected the information and the Greater Poland Voivodeship Labour Office supervised the research within the project 'Situation of Ukrainian citizens in the labour market in the Voivodeship of Greater Poland in 2022.'

Prior to the data collection, a promotional campaign was carried out in social media, targeting people of Ukrainian origin residing in Greater Poland. The information was broadcast on Facebook and Instagram. Finally, at the field research stage a total of 429 complete questionnaires were obtained, out of which 123 were completed online. The final sample consisted of 285 female and 144 male Ukrainian nationals. Of all the participants, 25.2% (108 people) arrived in Poland after the invasion of Ukraine had started. In terms of age distribution, 21.7% were between 18 and 25 years old, 39.2% were between 26 and 35 years old, 31% were between 36 and 50 years old, and 8.1% were over 50. As for the education level, the majority of Ukrainian nationals (56.6%) had vocational education, 27% had secondary education, and 15.9% had a higher education degree.

Out of the total 429 respondents in the study, 130 individuals (30.3%) worked in the manufacturing sector, while the remaining participants were employed in other sectors. Specifically, 33 respondents (7.7%) worked in transport and storage, 32 (7.5%) in the construction industry, and 25 individuals (5.8%) worked in each of the following sectors: generation and supply of electricity, gas, steam, hot water and air; wholesale or retail trade; repair of motor vehicles; hospitality, and gastronomy. The other 24 participants (5.6%) were employed in agriculture, hunting, and forestry and the remaining 85 (19.9%) worked in other sectors, predominantly in services.

The skills mismatch was captured in the questionnaire by three different questions: 'Is your current employment consistent with your education?,' 'Is your current employment consistent with your occupation?,' and 'Is your current employment consistent with the industry in which you worked in your home country?' The respondents answered on a scale to indicate the level of matches or mismatches in all three dimensions, including education, occupation, and their previous employment in Ukraine. The scale ranged from 'completely compatible' to 'partially compatible' to 'completely incompatible.' I used these types of skills mismatches as dependent variables in three separate regression models. This approach allowed for a more comprehensive analysis of the relationship between the skills mismatch and the independent variables of interest. For empirical analysis, I converted the ordinal dependent variable into a binary variable, as it was found that the definitions 'completely incompatible' and 'partially com-

[2] The region selection was not arbitrary. Over the last years, the Voivodeship of Greater Poland has been one of the most popular destinations among migrant workers. In 2021, it secured the third position in terms of the number of registered declarations on entrusting work to a foreigner (Ministry of Family and Social Policy RP, 2023). The regional labour market offers significant advantages, such as an exceptionally low unemployment rate and high demand for both high- and low-skilled workers.

patible' are not very precise and respondents might have difficulties recognising the differences. Thus, I decided to treat them as a single option. The new variable had the value of 1, only when the respondent declared having full compatibility with the current employment, and it took the value of 0 otherwise.

I chose independent variables based on the literature review (see previous section) and then grouped them into four categories. The first group of determinants included individual demographic statistics and human capital variables: gender, age, education level, place of residence in the country of origin (city/rural area), and language proficiency. To consider the impact of Polish language proficiency, I included two ordinal variables ranging from 'not at all' to 'very good' based on the respondents' self-assessment of their speaking and writing skills.

The second group of determinants covered employment-related variables, such as industry, and current job position. Moreover, in my model, I included job-specific characteristics, such as a wage discrimination variable and a place of work. The wage discrimination variable captured the subjective respondent's opinion on the adequacy of remuneration for the work performed. The place of work refers to the location of current employment (the city of Poznań or the surrounding subregions).

Table 1. The list of variables and their description

Variables	Description	Type of the variable
Outcome variables		
misedu3	(Mis)match regarding education	Binary
misprof3	(Mis)match regarding profession	Binary
misbra3	(Mis)match regarding the industry in which one was employed in Ukraine	Binary
Independent variables		
Individual demographic statistics and human capital		
gender1	Gender (female)	Binary
age1	Age	Categorical (four age groups)
edlevel	Education level	Ordinal
city	Place of residence in Ukraine (urban/rural area)	Binary
writepl1	Language proficiency in terms of writing skills	Ordinal
speakpl1	Language proficiency in terms of speaking skills	Ordinal
Employment-related variables		
ind1, ind2, … ind10	Industry of current employment (ISIC classification)	Binary (ten industries)
jpos1, jpos2, … jpos11	Current job position	Binary (eleven job positions)
misexp	The disparity between the job position held in Ukraine and the current job position	Binary
wagejob1	Adequacy of remuneration to work performed	Binary
jlocation	Location of employment (the city of Poznań or surrounding subregions)	Binary
Institutional settings variables		
awar	The moment of coming to Poland (after the war breakout or before)	Binary
disrace1	Racial discrimination	Binary
jobprobl	Number of problems[3] faced while looking for current employment	Numerical
percdif1	Perceived difficulty related to finding current employment	Ordinal
Social capital variables		
netwoem	Using informal job search strategies to find current job	Binary
famsit	Having family members who live in Poland	Binary
prevstay1	Previous stays in Poland for work purposes	Binary

Source: own study.

[3] The respondent could choose several options for this question. For each selected variant the score 1 was assigned. The final variable was computed as the sum of the scores corresponding to the number of options selected by the respondent.

The third group of independent variables referred to institutional settings. These included the level of difficulty related to finding employment, the number of problems[4] faced while looking for a job, and racial discrimination. The moment of coming to Poland (before or after February 24, 2022) was also included in the empirical analysis to control differences in established social networks and gain knowledge related to labour market issues (*e.g.* legalisation matters, access to the labour market, etc.).

The fourth group of determinants included social capital/network variables: whether the respondents used informal strategy (network contacts) to find their current employment, family situation, and individual previous migration experience in Poland. I captured the individual family situation by the presence of the family members in Poland.

I used logistic regression to estimate the impact of selected factors on the occurrence of a skills mismatch. I estimated a separate model for each type of skills mismatch. I performed all calculations using STATA/SE 13. Table 1 provides a brief presentation of all the variables used in the empirical analysis.

RESULTS AND DISCUSSION

I observed the highest degree of skills mismatches in the education dimension, with only 10.49% of Ukrainian nationals performing jobs that were well-matched with their education. In the examined research sample, 15.38% of the participants had jobs in the same industry they worked in Ukraine. In terms of occupation, almost every fifth respondent reported having a job that was completely compatible with their profession. The chart presenting the distribution of the initial variable is presented in Figure 1.

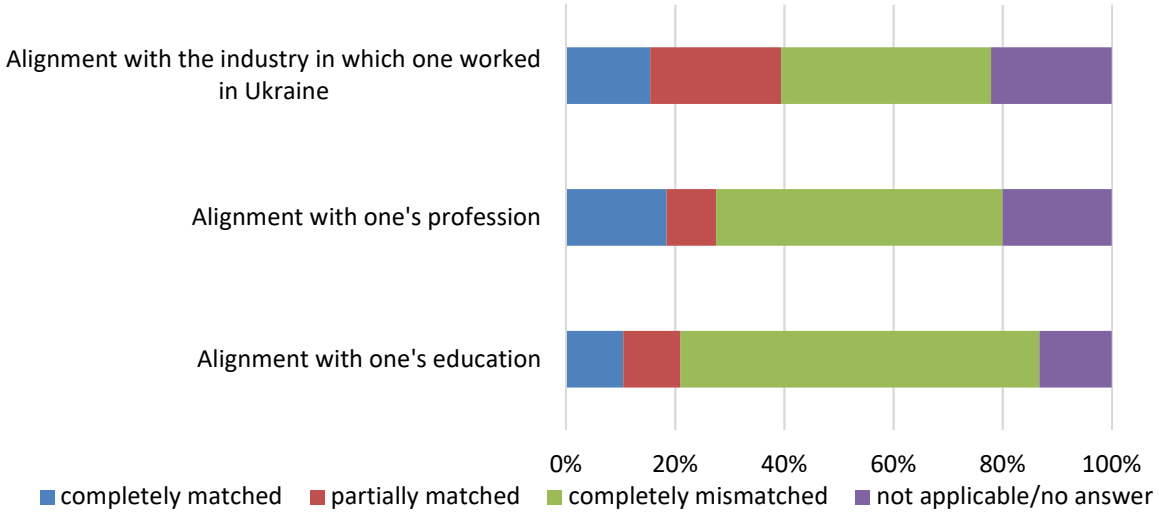

Figure 1. Distribution of education, occupation and industry mismatch
Source: own elaboration.

For the empirical analysis, I recorded variables related to all three skills mismatch dimensions into binary variables. Table 2 presents the descriptive statistics for the final set of dependent and independent variables.

In Model I, the dependent variable refers to the occupation mismatch. In Model II, the outcome variable describes the education mismatch and in Model III, the dependent variable refers to the industry mismatch. As the results of the logistic regression are difficult to interpret, Table 3 summarizes the main outcomes. Odds ratios calculated from variable coefficients and their level of statistical significance were reported. Odds ratios greater than 1 correspond to positive effects (they increase the probability of reporting a matched employment), while those between 0 and 1 correspond to negative effects (they decrease the probability of reporting a matched employment). Odds ratios of exactly 1 mean that no association has been found. Moreover, I marked statistically significant results with colours.

[4] The respondent could choose several options for this question. For each selected variant score 1 was assigned. The final variable was computed as the sum of the scores corresponding to the number of options selected by the respondent.

Table 2. Basic descriptive statistics of the variables used in the regression analysis

Variables	Categories with frequencies	Percentage of missing values
Dependent variables		
(Mis)match regarding education (misedu3)	1 – completely compatible (10.49%) 0 – partially or completely incompatible (76.22%)	13.29%
(Mis)match regarding profession (misprof3)	1 – completely compatible (18.41%) 0 – partially or completely incompatible (61.54%)	20.05%
(Mis)match regarding the industry in which one was employed in Ukraine (misbra3)	1 – completely compatible (15.38%) 0 – partially or completely incompatible (62.47%)	22.14%
Independent variables		
Gender (gender1)	1 – female (66.43%) 0 – male (33.57%)	0%
Age (age1)	1 – 18-25 (21.68%) 2 – 26-35 (39.16%) 3 – 36-50 (31%) 4 – above 50 (8.16%)	0%
Education level (edlevel)	2 – lower secondary or below (9.32%) 3 – higher secondary (18.18%) 4 – vocational (56.64%) 5 – higher (15.85%)	0%
Place of residence in Ukraine (city)	1 – urban area (53.15%) 0 – rural area (46.85%)	0%
Language writing proficiency (writepl1)	1 – none (6.06%) 2 – poor (58.74%) 3 – fluent/very good (35.2%)	0%
Language speaking proficiency (speakpl1)	1 – none (10.49%) 2 – poor (83.68%) 3 – fluent/very good (5.83%)	0%
Industry of current employment (ind1-ind10)	– Agriculture, forestry, hunting, fishing (5.59%) – Industry, industrial processing (30.3%) – Generation and supply of electricity, gas, steam, hot water and air for air conditioning systems (5.83%) – Construction (7.46%) – Wholesale or retail trade (5.83%) – Repair of motor vehicles, including motorcycles (5.83%) – Transport, logistics, warehouse management (7.69%) – Hospitality (5.83%) – Gastronomy (5.83%) – Other (19.58%)	0.23%
Current job position (jpos1-jpos11)	– Elementary (manual) worker (39.16%) – Production worker (29.84%) – Trade worker (5.13%) – Service worker (5.13%) – Catering worker (3.73%) – Driver (1.4%) – Craftsman/skilled worker (6.53%) – Mid-level employee (e.g. office worker, technician) (1.63%) – Education sector employee (1.4%) – A healthcare sector employee (1.4%) – Other (4.66%)	0%

Variables	Categories with frequencies	Percentage of missing values
The disparity between job position held in Ukraine and current job position (misexp)	1 – yes (91.84%) 0 – no (8.16%)	0%
Adequacy of remuneration to work performed (wagejob1)	1 – yes (80.89%) 0 – no (14.92%)	4.2%
Location of employment (jlocation)	1 – city of Poznań (33.57%) 0 – surrounding counties (66.43%)	0%
Coming to Poland after February 24, 2022 (awar)	0 – no (74.83%) 1 – yes (25.17%)	0%
Racial discrimination (disrace1)	0 – no (50.12%) 1 – yes (23.54%)	26.34%
Number of problems faced while looking for current employment (jobprobl)	Min = 0 Max = 9 Mean = 1.95 Std. Dev. 2.39	0%
Perceived difficulty related to finding current employment (percdif1)	1 – very easy (3.96%) 2 – easy (29.6%) 3 – neither difficult nor easy (44.06%) 4 – difficult (17.02%) 5 – very difficult (5.36%)	0%
Using informal job search strategies to find a current job (netwoem)	1 – yes (14.92%) 0 – no (85.08%)	0%
Having family members who live in Poland (famsit)	1 – yes (32.4%) 0 – no (67.6%)	0%
Previous stays in Poland for work purposes (prevstay1)	1 – one or several previous stays (83.68%) 0 – no previous stays (16.32%)	0%

Source: own study.

In Model I, the dependent variable indicates whether a migrant's job (mis)matched the occupation. The logistic regression results show that being male is associated with a higher probability of having incompatible occupations compared to being female, holding other variables constant. Noteworthy, the effect size was relatively small. Interestingly, the regression results suggest that older migrant workers were less likely to report an occupation mismatch. This is so, because older migrants may have been for longer in Poland and longer overall work experience. However, there was no such information available in the database. This outcome may reflect a greater resistance of older workers to accept jobs in occupations for which they feel overqualified or underqualified. However, this does not support the previous results suggesting that the duration of work experience gained in the home country does not necessarily lead to 'success' in the host country, as was demonstrated by Kubiciel-Lodzińska *et al.* (2023). We may attribute the discussed finding to the fact that older migrant workers were found to have lower skills than younger workers (Markus *et al.*, 2019), for example, in the area of digital competencies, and just do not seek employment in more demanding occupations. Moreover, several job positions (elementary worker, production worker, and catering worker) appear to be significant predictors of occupation mismatches, with odds ratios below 1 indicating that holding those positions is associated with a lower probability of ending in employment that is relevant to the learned profession. The same applies to being employed in the industry of 'repair of motor vehicles, including motorcycles.' Possibly, some job positions require specific skills that are not adequately recognised or valued in the Polish labour market. The p-value associated with the Hosmer-Lemeshow test was 0.4005, which indicates that there was no evidence of a lack of fit in the model. Therefore, Model I ensured a good fit with the data.

Table 3. Odds ratios based on logit regression coefficients

Variables	Model I Occupation (mis)match	Model II Education (mis)match	Model III Industry (mis)match
Gender	3.987**	1.456	1.611
Age	2.063**	1.009	1.326
Education level	0.709	0.87	0.937
Place of residence	2.193	1.345	2.194
Language writing proficiency	0.609	1.001	0.85
Language speaking proficiency	0.785	1.562	1.588
Industry of current employment			
Agriculture, forestry, hunting, fishing	1	0.55	0.612
Industry, industrial processing	0.886	1.983	0.769
Generation and supply of electricity, gas, steam, hot water and air for air conditioning systems	1	1	1.294
Construction	2.517	2.094	2.159
Wholesale or retail trade	4.615	2.183	1.196
Repair of motor vehicles, including motorcycles	13.009**	2.591	10.556**
Transport, logistics, warehouse management	1.689	2.003	1.312
Hospitality	0.876	3.128	0.979
Gastronomy	1.276	0.149	1.667
Other	1	1	1
Current job position			
Elementary (manual) worker	0.024***	0.027***	0.177*
Production worker	0.018***	0.029***	0.184*
Trade worker	0.271	0.337	1.034
Service worker	0.322	0.348	0.901
Catering worker	0.039**	0.091*	0.481
Driver	0.19	0.846	2.823
Craftsman/skilled worker	0.765	0.447	6.235*
Mid-level employee (e.g. office worker, technician)	1	1	2.14
Education sector employee	1	3.24	14.261*
A healthcare sector employee	1	1	1
Other	1	1	1

Variables	Model I Occupation (mis)match	Model II Education (mis)match	Model III Industry (mis)match
The disparity between the job position held in Ukraine and the current job position	0.296	0.09***	0.251*
Adequacy of remuneration for the work performed	0.433	0.85	0.407
Location of employment in the city of Poznan	2.012	1.053	1.828
Coming to Poland after February 24, 2022	2.03	1.048	1.012
Racial discrimination	1.477	0.481	0.886
Number of problems faced while looking for current employment	0.988	1.035	0.857
Perceived difficulty related to finding current employment	0.819	1.257	0.602**
Using informal job search strategies to find current job	1.943	0.769	0.218**
Having family members who live in Poland	0.775	0.775	0.742
Previous stays in Poland for work purposes	2.13	1.919	1.476
Constant	8.323	1.161	2.164
Pseudo R2	0.365	0.330	0.292
Prob > chi2	0.000	0.001	0.000
LR chi2	85.974	62.734	68.590
Hosmer-Lemeshow chi2(8)	8.35 (Prob > chi2 = 0.4005)	4.6 (Prob > chi2 = 0.7997)	2.59 (Prob > chi2 = 0.9576)
Number of observations	211	246	234

Note: *** p<0.01, ** p<0.05, * p<0.1.
Source: own study.

In Model II, the dependent variable refers to whether a migrant's job (mis)matched the education level. The logistic regression results show that, similarly to Model I, some job positions (elementary worker, production worker, and catering worker) are significant predictors of reporting the education mismatch. Moreover, those migrants who hold job positions that are different to the ones they held in Ukraine, have a lower probability of ending in employment that is relevant to their education profiles. This is in line with the results presented by Leontiyeva (2014), who observed that the type of job performed by migrant workers had a weaker influence on a mismatch compared to the last type of employment in the home country. The possible explanation may be related to the fact that the education of migrants was not correlated with their last job before migration and was transferred to the destination country. The p-value for the Hosmer-Lemeshow test was 0.7997, which indicated that there was no significant lack of fit for the model at a conventional alpha level of 0.05. The model appears to fit the data well.

In Model III, the outcome variable indicates whether a migrant's current employment was (mis)matched in terms of the industry of the previous employment. The results indicate that those migrants who hold job positions different from the ones they held in Ukraine, have a lower likelihood to report a matched employment. This seems to confirm the limited transferability of the previous work experience gained in the country of origin (Kubiciel-Lodzińska *et al.*, 2023). Being employed in the industry 'repair of motor vehicles, including motorcycles' increases the chances of reporting an industry-matched job. Holding a position of craftsman/skilled worker or working in the education sector is also associated with a higher likelihood of employment aligned with a previous industry, while being employed as an elementary worker or production worker decreases the chances of reporting matched employment. Besides, the individual's perception of having difficulties regarding the job search appears to be a significant predictor of the industry mismatch. The more difficult job search process is associated with a higher probability of having mismatched employment in terms of industry. This may reflect the existing entry barriers to certain industries due to the lack or complexity of qualification validation and recognition procedures. This outcome also suggests the existence of skill-discounting, which occurs when a potential employer evaluates migrants' skills as being less valuable than those of native-born candidates, which forces migrants to look for work in another occupation (Treuren *et al.*, 2021). The fact that informal strategies are used in job searches also increases the probability of obtaining mismatched employment. These findings are consistent with the fact that migrant workers tend to be concentrated in certain sectors and they also partly confirm some previous results presented in several studies (Kracke & Klug, 2021; Van Wolleghem *et al.*, 2023) suggesting that using contacts for securing employment may increase the possibility of the skills mismatch. The p-value of the Hosmer-Lemeshow test was 0.9576, which suggests no evidence of lack of fit and indicates that the model fit the observed data well.

Surprisingly, I did not find language skills (both in terms of writing and speaking) to have a significant impact on the probability of reporting mismatched employment in all three regression models. The same applied to the variable that referred to education level. This is probably so, because migrant workers may suffer from prejudices and discrimination when applying for demanding positions, as was documented by Brzozowska (2023). Her investigation revealed that Ukrainian migrants were dealing not only with bureaucratic barriers and obstacles, but also faced discrimination from employers at the recruitment stage.

In contrast to previous findings (Rafferty, 2020), my study did not confirm the role of discrimination in the occurrence of any type of skills mismatch. This may be partially explained by the fact that a certain percentage of the respondents have stayed in Poland for a short period.

Having family members who live in Poland decreases the chances of reporting a complete match between respondents' skills and their current employment. However, the relationship was statistically insignificant (in all three dimensions). In turn, having previous stays in Poland for work purposes was found to increase the odds of reporting matched employment even though the relationship in all three models was statistically insignificant.

The reader should bear in mind several limitations to this research. The presented study did not account for the duration of stay, which was previously found to be an important factor in migrants'

economic integration. For example, empirical findings suggest that a longer stay in Poland may enhance migrants' prospects of finding employment that is more adequate to the possessed human capital (Górny *et al.*, 2019). However, over time, the reluctance to accept employment below one's qualifications becomes less important for refugees (*Tacy sami czy jednak inni?…*, 2023). Some individuals may have no choice but to accept employment that does not match their work experience, educational background, or qualifications. This means that the duration of stay should be taken into account as an explanatory variable. Another potential limitation relates to the regional labour market specificity, which should be taken into consideration when interpreting the findings. Some jobs and occupations may be just more accessible for migrant employees depending on the regional labour market needs. Furthermore, I based the analysis of the skills mismatch presented here solely on the self-reported data, so it may be subject to biases and may not accurately capture the full extent of the (mis)match level, and the types of mismatch experienced by migrant workers. Finally, investigating pre-war economic migrants and war refugees separately was not possible in this study due to the insufficient research sample. However, this was beyond the scope of this study.

CONCLUSIONS

The presented article focused on investigating the determinants of education, occupation, and industry mismatches among migrants and war refugees from Ukraine. While using a unique regional dataset, the study applied three logistic regression models to analyse the situation of Ukrainian nationals working in the labour market of the Voivodeship of Greater Poland. I put particular emphasis on the probability of employment that does not align with the possessed skills (skills mismatch). The study addresses three types of skills mismatch: occupation, education mismatch, and industry. These three types of skills mismatch are distinct from each other and they appear to have different determinants.

An occupation mismatch occurs when a migrant's job does not match their learned profession. The study has found that being male and holding certain job positions are important factors that affect the probability of occupation mismatch. However, the effect size of gender was relatively small. An education mismatch occurs when a migrant's job does not match their educational profile and/or level. The study found that job positions and holding a job position different from the one held in Ukraine were significant predictors of the education mismatch. This suggests that the work experience acquired in the country of origin may not be recognised or valued in the host country's labour market. It highlights the importance of recognising and validating the skills and qualifications of migrants to facilitate their integration into the Polish labour market. An industry mismatch occurs when a migrant's current job is in a different industry from their previous job. The study found that job search difficulties and using informal job search strategies increase the probability of industry mismatch. This suggests that there are entry barriers to certain industries, such as the complexity of qualification validation and recognition procedures, which contribute to the industry mismatch. Moreover, migrant workers in Poland tend to be concentrated in certain sectors, which could be also conducive to the mismatch in question. I did not find discrimination and language skills to significantly impact skills mismatching.

Policymakers and employers need to recognise that addressing the skills mismatch among migrant workers requires a multifaceted and tailored approach that takes into account the specific needs and challenges of different migrant groups. The presented results provide evidence that migrant workers employed in the Voivodeship of Greater Poland are exposed to different mismatch dimensions, and it seems that selected factors may contribute differently to some of them. As some studies show, the reluctance to accept employment below one's qualifications may be conducive to the professional inactivity of migrant employees (both pre-war migrants and war refugees) (*Tacy sami czy jednak inni?…*, 2023). This implies that policies facilitating labour market integration and better utilisation of migrants' skills have to be implemented as early as possible after newcomers' arrival to Poland. On the regional level, there is a need for courses tailored to the professional aspirations and educational profiles of migrant employees. In this regard, special attention has to be paid to language courses that should be developed and organised according to migrants' career needs, motivations, readiness to participate, and their future plans (Beacco, 2008). Considering the

structure of newly arrived migrants, it seems desirable to develop training programmes for migrant mothers while creating accessible childcare opportunities.

It seems also reasonable to monitor the skills (mis)match indicators which can serve as predictors for possible migrants' transition to self-employment (Albiol-Sánchez *et al.*, 2021). Recent initiatives undertaken in the Voivodeship of Greater Poland to compare professions and qualifications in Poland and Ukraine (IOM, 2023) seem very reasonable and timely. However, it is important to enable the participation of local employers and labour market institutions in this process.

The research findings also have implications for organisational management, revealing that within the Ukrainian migrant workers, there are many individuals whose potential remains underutilised. Firstly, there is a need to identify any skill-discounting practices in organisations and monitor their impact on migrants' labour market activity. Secondly, implementing ways of verification of education credentials and qualifications could facilitate the process of matching migrants' human capital with the local employers' expectations. Establishing collaboration with institutions capable of verifying qualifications may be also helpful. Thirdly, promoting awareness about discrimination can encourage a more inclusive and fair work environment, reducing barriers that prevent migrants from showcasing their skills effectively. Implementing measures to combat discrimination, such as diversity training and anti-bias policies, can enable migrants to fully use their skills and significantly contribute to the development of the host community.

To develop a full picture of the scale and determinants of different types of skills mismatch among migrant workers, additional studies will be needed. They should rely not only on more objective information about skills utilisation in the new country, but also on data prior to migration. Future studies can draw on the presented findings and use a nationwide research sample to explore the scale of the skills mismatch among various migrant groups (pre-war economic migrants vs war refugees, different age groups, migrants with prior experience abroad, etc.). More careful examination is clearly needed on the contribution of explanatory factors to different dimensions of skills (mis)match. There is also little information on their coexistence, interrelation, and impact on future labour market integration. Another area requiring research relates to the individual strategies applied by Ukrainian migrant workers to secure matched employment. This seems to be an especially important issue, since having employment that aligns with one's education was recently found to be one of the main aspirations for this particular group of working migrants in Poland (Brzozowska, 2023).

REFERENCES

Abdalhamed, S. (2021). Experiences and Perceptions of Discrimination among Highly Educated Immigrants in the Swedish Labour Market: A Qualitative Study. Retrieved from https://www.diva-portal.org/smash/get/diva2:1591525/FULLTEXT01.pdf on August 30, 2023.

Aerne, A., & Trampusch, C. (2023). Including migrant skills in a knowledge economy: The politics of recognition of foreign qualifications, work experience and industry courses. *Social Policy & Administration*, *57*(1), 16-33. https://doi.org/10.1111/spol.12862

Alaverdyan, S., & Zaharieva, A. (2022). Immigration, social networks and occupational mismatch. *Economic Modelling*, *114*, 105936. https://doi.org/10.1016/j.econmod.2022.105936

Albiol-Sánchez, J., Diaz-Serrano, L., & Teruel, M. (2021). The Transition to Self-Employment and Perceived Skill-Mismatches: Panel Data Evidence from Eleven EU Countries. *Social Indicators Research*, *153*, 957-977. https://doi.org/10.1007/s11205-020-02520-7

Banerjee, R., Verma, A., & Zhang, T. (2019). Brain gain or brain waste? Horizontal, vertical, and full job-education mismatch and wage progression among skilled immigrant men in Canada. *International Migration Review*, *53*(3), 646-670. https://doi.org/10.1177/0197918318774501

Beacco, J.C. (2008). The role of languages in policies for the integration of adult migrants. Concept Paper prepared for the Seminar «The Linguistic integration of adult migrants». Retrieved from https://rm.coe.int/16802fc0b0 on September 14, 2023.

Braňka, J. (2016). Understanding the potential impact of skills recognition systems on labour markets. *International Labour Organization (ILO)*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_532417.pdf on April 4, 2023.

Brzozowska, A. (2023). 'All is not yet lost here.' The role of aspirations and capabilities in migration projects of Ukrainian migrants in Poland. *Journal of Ethnic and Migration Studies*, *49*(9), 2373-2390. https://doi.org/10.1080/1369183X.2022.2157804

Chiswick, B.R., & Miller, P.W. (2009). The international transferability of immigrants' human capital. *Economics of Education Review*, *28*(2), 162-169. https://doi.org/10.1016/j.econedurev.2008.07.002

Chmielewska-Kalińska, I., Dudek, B., & Strzelecki, P. (2023). *Sytuacja życiowa i ekonomiczna migrantów z Ukrainy w Polsce – wpływ pandemii i wojny na charakter migracji w Polsce. Raport z badania ankietowego*. Retrived from https://nbp.pl/wp-content/uploads/2023/04/Sytuacja-zyciowa-i-ekonomiczna-migrantow-z-Ukrainy-w-Polsce_raport-z-badania-2022-r.pdf on September 4, 2023.

Chort, I. (2017). Migrant network and immigrants' occupational mismatch. *The Journal of Development Studies*, *53*(11), 1806-1821. https://doi.org/10.1080/00220388.2016.1219344

Churski, P., Kroczak, H., Łuczak, M., Shelest-Szumilas, O., & Woźniak, M. (2021). Adaptation strategies of migrant workers from Ukraine during the COVID-19 pandemic. *Sustainability*, *13*(15), 8337. https://doi.org/10.3390/su13158337

Cruz Gómez, I., Molina Romo, Ó., Verd Pericàs, J.M., Palauskaite, E., Dumčius, R., Venckutė, M., ... & Vacas-Soriano, C. (2019). *Labour market segmentation: Piloting new empirical and policy analyses*. Eurofound. https://doi.org/10.2806/751649

Cuban, S. (2013). *Deskilling migrant women in the global care industry*. Springer.

Dolińska, A. (2019). Ścieżki zawodowe wysoko wykwalifikowanych migrantek z Ukrainy i Białorusi w Polsce. *Studia BAS*, *4*, 179-197. https://doi.org/10.31268/StudiaBAS.2019.36

Duszczyk, M., Górny, A., Kaczmarczyk, P., & Kubisiak, A. (2023). War refugees from Ukraine in Poland-one year after the Russian aggression. Socioeconomic consequences and challenges. *Regional Science Policy & Practice*, *15*(1), 181-199. https://doi.org/10.1111/rsp3.12642

Duszczyk, M., & Kaczmarczyk, P. (2022). The war in Ukraine and migration to Poland: outlook and challenges. *Intereconomics*, *57*(3), 164-170. https://doi.org/10.1007/s10272-022-1053-6

European Council. (2023). *Infographic – Refugees from Ukraine in the EU*. Retrieved from https://www.consilium.europa.eu/en/infographics/ukraine-refugees-eu/ on March 31, 2023.

Falcke, S., Meng, C., & Nollen, R. (2020). Educational mismatches for second generation migrants. An analysis of applied science graduates in the Netherlands. *Journal of Ethnic and Migration Studies*, *46*(15), 3235-3251. https://doi.org/10.1080/1369183X.2020.1738211

Felbo-Kolding, J., Leschke, J., & Spreckelsen, T.F. (2019). A division of labour? Labour market segmentation by region of origin: the case of intra-EU migrants in the UK, Germany and Denmark. *Journal of Ethnic and Migration Studies*, *45*(15), 2820-2843. https://doi.org/10.1080/1369183X.2018.1518709

Friberg, J.H., Arnholtz, J., Eldring, L., Hansen, N.W., & Thorarins, F. (2014). Nordic labour market institutions and new migrant workers: Polish migrants in Oslo, Copenhagen and Reykjavik. *European Journal of Industrial Relations*, *20*(1), 37-53. https://doi.org/10.1177/0959680113516847

García-Serrano, C., & Hernanz, V. (2023). US and them: Job quality differences between natives and immigrants in Europe. *International Migration, 61*(2), 154-178. https://doi.org/10.1111/imig.12998

Gromadzki, J., & Lewandowski, P. (2023). Refugees from Ukraine on the Polish labour market. *Social Insurance. Theory and Practice*, *155*(4), 29-40. https://doi.org/10.5604/01.3001.0016.2353

Górny, A., Kołodziejczyk, K., Madej, K., & Kaczmarczyk, P. (2019). *Nowe obszary docelowe w migracji z Ukrainy do Polski. Przypadek Bydgoszczy i Wrocławia na tle innych miast. CMR Working Papers 118/176*. Retrieved from http://www.migracje.uw.edu.pl/wp-content/uploads/2019/11/WP118176.pdf on March 31, 2023.

Górny, A., Madej, K., & Porwit, K. (2020). *Ewolucja czy rewolucja? Imigracja z Ukrainy do aglomeracji warszawskiej z perspektywy lat 2015-2019. CMR Working Papers 123/181*. Retrieved from http://www.migracje.uw.edu.pl/wp-content/uploads/2020/10/WP123181_end2.pdf on March 12, 2023.

Guzi, M., Kahanec, M., & Kureková, L.M. (2021). What explains immigrant–native gaps in European labor markets: The role of institutions. *Migration Studies*, *9*(4), 1823-1856. https://doi.org/10.1093/migration/mnab044

Herault, A. (2020). *Intégration et ségrégation des immigrés sur le marché du travail* (Doctoral dissertation, Angers). Retrieved from https://www.theses.fr/2020ANGE0004.pdf on April 6, 2023.

IOM. (2023). *Technical support to facilitate the social and labour market inclusion of third country nationals in Poland, including those fleeing Ukraine*. Retrieved from https://poland.iom.int/pl/technical-support-facilitate-social-and-labour-market-inclusion-third-country-nationals-poland-including-those-fleeing-ukraine on September 12, 2023.

Irastorza, N., & Bevelander, P. (2021). Skilled Migrants in the Swedish labour market: an analysis of employment, income and Occupational Status. *Sustainability*, *13*(6), 3428. https://doi.org/10.3390/su13063428

Jestl, S., Landesmann, M., Leitner, S., & Wanek-Zajic, B. (2022). Trajectories of Employment Gaps of Refugees and Other Migrants: Evidence from Austria. *Population Research and Policy Review*, *41*(2), 609-669. https://doi.org/10.1007/s11113-021-09666-3

Kracke, N., & Klug, C. (2021). Social capital and its effect on labour market (mis) match: migrants' overqualification in Germany. *Journal of International Migration and Integration*, *22*, 1573-1598. https://doi.org/10.1007/s12134-021-00817-1

Kubiciel-Lodzińska, S., & Maj, J. (2021). High-skilled vs. low-skilled migrant women: The use of competencies and knowledge—Theoretical and political implications: An example of the elderly care sector in Poland. *Journal of International Migration and Integration*, *22*(4), 1551-1571. https://doi.org/10.1007/s12134-021-00813-5

Kubiciel-Lodzińska, S., Maj, J., Widera, K., Bębenek, P., Ruszczak, B., & Sokołowska, M. (2023). Escaping brain waste. Work experience and qualifications of highly skilled Ukrainians in Poland. *Scientific Papers of Silesian University of Technology. Organization & Management/Zeszyty Naukowe Politechniki Slaskiej. Seria Organizacji i Zarzadzanie*, *170*. https://doi.org/10.29119/1641-3466.2023.170.16

Lancee, B., & Bol, T. (2017). The transferability of skills and degrees: Why the place of education affects immigrant earnings. *Social Forces*, *96*(2), 691-716. https://doi.org/10.1093/sf/sox058

Leitner, Sandra, M., & Landesmann, M. (2020). Refugees' integration into the Austrian labour market: Dynamics of occupational mobility and job-skills mismatch, wiiw Working Paper, No. 188, The Vienna Institute for International Economic Studies (wiiw), Vienna. Retrieved from https://www.econstor.eu/bitstream/10419/240631/1/1735448540.pdf on August 30, 2023.

Leontiyeva, Y. (2014). The education–employment mismatch among Ukrainian migrants in the Czech Republic. *Central and Eastern European Migration Review*, *3*(1), 63-84. Retrieved from http://ceemr.uw.edu.pl/sites/default/files/CEEMR_Vol_3_No_1_Leontiyeva_The_Education-Employment_Mismatch%20among_Ukrainian_Migrants_in_the_Czech_Republic.pdf on March 31, 2023.

Leschke, J., & Weiss, S. (2020). With a little help from my friends: Social-network job search and overqualification among recent intra-EU migrants moving from east to west. *Work, Employment and Society*, *34*(5), 769-788. https://doi.org/10.1177/0950017020926433

Markus, B., Jakob, P., & Eduard, S. (2019). Skills mismatch, earnings and job satisfaction among older workers. *Sozialer Fortschritt*, *68*(4), 339-369. https://doi.org/10.3790/SFO.68.4.339

Maruszewski, W., & Kaczmarczyk, P. (2020). Economic integration and migrant networks: the case of Ukrainian migrants in the Warsaw Agglomeration. *Central European Economic Journal*, *7*(54), 258-278. https://doi.org/10.2478/ceej-2020-0030

Ministerstwo Rodziny i Polityki Społecznej (2023). *Oświadczenia o powierzeniu wykonywania pracy cudzoziemcowi, wpisane do ewidencji oświadczeń* (*obowiązujące od 2018 r.*). Retrieved from https://psz.praca.gov.pl/web/urzad-pracy/-/8180211-oswiadczenia-o-powierzeniu-wykonywania-pracy-cudzoziemcowi-wpisane-do-ewidencji-oswiadczen-obowiazujace-od-2018-r- on August 24, 2023.

Mollard, B., & Umar, S. (2012). *Crushed hopes: Underemployment and deskilling among skilled migrant women. International Organization for Migration*. Retrieved from https://publications.iom.int/system/files/pdf/crushed_hopes_3jan2013.pdf on August 29, 2023.

Piracha, M., & Vadean, F. (2013). Migrant educational mismatch and the labour market. In A. Constant & K.F. Zimmermann (Eds.), *International handbook on the economics of migration* (pp. 176-192). Edward Elgar Publishing. https://doi.org/10.4337/9781782546078.00017

Rafferty, A. (2020). Skill underutilization and under-skilling in Europe: the role of workplace discrimination. Work, *Employment and Society*, *34*(2), 317-335. https://doi.org/10.1177/0950017019865692

Salaris, L., & Tedesco, N. (2020). Migration and the labour market: Ukrainian women in the Italian care sector. *Journal of International Migration and Integration*, *21*, 1-20. https://doi.org/10.1007/s12134-019-00656-1

Siar, S.V. (2013). *From highly skilled to low skilled: revisiting the deskilling of migrant labor. PIDS Discussion Paper Series, No. 2013-30, Philippine Institute for Development Studies (PIDS), Makati City*. Retrieved from https://www.econstor.eu/bitstream/10419/126949/1/pidsdps1330.pdf on August 29, 2023.

Shelest-Szumilas, O. (2022). *Disinformation and migrants integration: the case of Poland. Report*. Retrieved from https://www.weasa.org/wp-content/uploads/2022/04/Disinformation-and-migrants-integration-the-case-of-Poland.pdf on April 21, 2023.

Szaban, D. (2022). Ukrainian Migrants in the Polish Labour Market: HRM Selected Issues. *Journal of Eastern Europe Research in Business and Economics, 2022*. https://doi.org/10.5171/2022.813170

Tacy sami czy jednak inni? "Przedwojenni" imigranci z Ukrainy vs. uchodźcy z Ukrainy – porównanie. Raport z badań (2022). Openfield. Retrieved from https://openfield.pl/pdf/raport_ua_2023.pdf on September 4, 2023.

Treuren, G.J., Manoharan, A., & Vishnu, V. (2021). The gendered consequences of skill-discounting for migrants. *Journal of Industrial Relations, 63*(1), 73-97. https://doi.org/10.1177/0022185620951830

Van Wolleghem, P.G., De Angelis, M., & Scicchitano, S. (2023). Do informal Networks Increase Migrants' Over-Education? Comparing Over-Education for Natives, Migrants and Second Generations in Italy and Assessing the Role of Networks in Generating It. *Italian Economic Journal*, *9*, 175-197. https://doi.org/10.1007/s40797-022-00184-5

Visintin, S., Tijdens, K., & van Klaveren, M. (2015). Skill mismatch among migrant workers: evidence from a large multi-country dataset. *IZA Journal of Migration*, *4*, 1-34. https://doi.org/10.1186/s40176-015-0040-0

Wanner, P., Pecoraro, M., & Tani, M. (2021). Does educational mismatch affect emigration behaviour?. *European Journal of Population*, *37*, 959-995. https://doi.org/10.1007/s10680-021-09595-z

Wei, K. (2020). *Exploring Chinese immigration network and labor market integration of young Chinese immigrants in Portugal* (Master dissertation). Retrieved from https://repositorio.iscte-iul.pt/bitstream/10071/22298/4/master_kaihang_wei.pdf on April 6, 2023.

Work Service (2019). *Migracje zarobkowe cudzoziemców z Ukrainy i Azji do Polski*. Retrieved from https://www.workservice.com/pl/Centrum-prasowe/Raporty/Raport-Migracyjny/Migracje-zarobkowe-cudzoziemcow-z-Ukrainy-i-Azji-do-Polski on August 24, 2023.

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