

Refugees from Ukraine on the Polish labour market

Authors contribution:

A – Research project
B – Data collection
C – Statistical analysis
D – Data interpretation
E – Manuscript preparation
F – Literature analysis
G – Fundraising

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Introduction: Russia's invasion of Ukraine on February 24, 2022, triggered the largest forced migration in Europe since World War II. By April, net migration at the Polish-Ukrainian border reached 2.1 million, including 2 million Ukrainian citizens.

Objective: In this paper, we evaluate the integration and effects of the refugee inflow in the short term.

Materials and methods: In this paper, we study the spatial distribution of Ukrainian refugees, the determinants of their decision on where to settle, their professional situation after arriving in Poland, and finally, the short-term consequences of the migration wave on the Polish labour market. We focus on the period between February and April 2022, as the available administrative data we use in this study covers it.

Results: First, the Ukrainian refugees in Poland largely followed the pre-war locations of Ukrainian economic migrants. Better economic opportunities, hotel accommodations availability, and public administration funding are other factors associated with higher refugee inflows at the county level. Second, the employment of refugees is relatively high, especially considering challenges related to childcare and language barriers. However, skill mismatch is an issue, as most refugees are relatively well educated, but most work in elementary occupations. Third, our econometric results show that the refugee inflow did not affect the labour market outcomes of the Polish population and other migrants.

Key words: migration, Polish labour market, Russia's invasion of Ukraine, Ukrainian refugee

Uchodźcy z Ukrainy na polskim rynku pracy

Wstęp: Inwazja Rosji na Ukrainę 24 lutego 2022 r. wywołała największą przymusową migrację w Europie od czasów II wojny światowej. Do kwietnia saldo migracji na granicy polsko-ukraińskiej sięgnęło 2,1 mln, w tym 2 mln to obywatele Ukrainy.

Cel: W niniejszym artykule badamy integrację i skutki napływu uchodźców w krótkim okresie.

Materiały i metody: W artykule badamy przestrzenne rozmieszczenie uchodźców ukraińskich, determinanty ich decyzji o miejscu osiedlenia się, ich sytuację zawodową po przybyciu do Polski, wreszcie krótkookresowe konsekwencje fali migracyjnej na polskim rynku pracy. Skupiamy się na okresie od lutego do kwietnia 2022 r., ponieważ obejmują go dostępne dane administracyjne, z których korzystamy.

Wyniki: Po pierwsze ukraińscy uchodźcy w Polsce w dużej mierze podążali za przedwojennymi miejscami pobytu ukraińskich migrantów zarobkowych. Lepsze warunki ekonomiczne, dostępność miejsc noclegowych w hotelach oraz finansowanie administracji publicznej to kolejne czynniki związane z większym napływem uchodźców na poziomie powiatu. Po drugie zatrudnienie uchodźców jest stosunkowo wysokie, zwłaszcza biorąc pod uwagę wyzwania związane z opieką nad dziećmi i z barierami językowymi. Problemem jest jednak niedopasowanie umiejętności, ponieważ większość z tych osób jest stosunkowo dobrze wykształcona, ale większość pracuje przy pracach prostych. Po trzecie nasze wyniki ekonometryczne pokazują, że napływ uchodźców nie wpłynął na sytuację na rynku pracy polskiej populacji i innych migrantów.

Słowa kluczowe: migracja, polski rynek pracy, rosyjska inwazja na Ukrainę, ukraińscy uchodźcy

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Introduction

Russia's invasion of Ukraine on February 24 triggered Europe's largest forced migration since World War II. By April, net migration at the Polish–Ukrainian border had reached 2.1 million, including 2 million Ukrainian citizens.¹ The unprecedented inflow of war refugees required a multifaceted response to provide housing and humanitarian assistance and ensure access to Poland's labour market and welfare state provisions. Important questions refer to the integration of Ukrainian refugees in Poland, particularly on the labour market, and the potential consequences for the indigenous population and other migrants. Throughout the paper, we use the term “refugees” to describe individuals who crossed the Polish border following Russia's invasion of Ukraine. This aligns with the UNHCR's (United Nations High Commissioner for Refugee) definition of refugees as

people who have fled war, violence, conflict or persecution and have crossed an international border to find safety in another country.²

In this paper, we study the spatial distribution of Ukrainian refugees, the determinants of their decision on where to settle, their professional situation after arriving in Poland, and finally, the short-term consequences of the migration wave on the Polish labour market itself. We focus on the period between February and April 2022, as the available administrative data we use in this study covers this period.

Our study has three main contributions. First, we show that social networks most likely matter for the location decision of refugees as their spatial distribution aligns with the distribution of pre-war economic Ukrainian migrants in Poland. Better economic opportunities, hotel accommodation availability, and public administration funding are also associated with higher refugee inflows at the county level. Second, refugee employment is relatively high, especially given the difficulties associated with childcare and language barriers. However, skill mismatch is a problem. Most refugees are relatively well-educated, but most work in low-skilled jobs. Third, using econometric methods, we find that the refugee inflow did not affect the labour market outcomes of the Polish population or other migrants.

Data

We combine various data based on administrative records:

- data on the number of refugees who obtained a Polish ID number (PESEL number) – provided by the Chancellery of the Prime Minister of Poland;

¹ *Dane statystyczne dotyczące sytuacji na granicy z Ukrainą*, <https://dane.gov.pl/pl/dataset/2705,dane-statystyczne-dotyczace-sytuacji-na-granicy-z-Ukraina> (13.10.2022).

² United Nations High Commissioner for Refugee, *What is a refugee?*, <https://www.unhcr.org/en-us/what-is-a-refugee.html> (13.10.2022).

- data on work permits by occupation, sector, gender, citizenship and age – provided by the Ministry of Family and Social Policy;
- data on total employment and average earnings (base values for the calculation of the social security contributions) by gender and citizenship – provided by the Polish Social Insurance Institution (Zakład Ubezpieczeń Społecznych – ZUS).

As well as a range of data on socio-economic factors from Statistics Poland. All data are at a county (*powiat*) level.

Location choices of refugees

In mid-March, Poland introduced a special law³ that allowed refugees from Ukraine to apply for a newly created legal status valid for 18 months after arrival (with the possibility of extension). After obtaining this status, refugees were eligible for Polish social transfers, could legally work in Poland, and gained access to public education and health care systems. Of the 2 million refugees who had arrived by April, 1 million people applied for special status. The other refugees either migrated to other EU countries or decided not to apply for the status as they considered a quick return to Ukraine.

Refugees from Ukraine have been free to choose their destination in Poland.⁴ The distribution of refugees across Polish counties was uneven (Figure 1). The number of refugees per 1,000 residents was generally higher in Western than in Eastern Poland. The largest cities, such as Warsaw, Cracow, Wrocław, and their metropolitan areas, recorded a high refugee inflow per 1,000 residents. The rate in question was also high along the Baltic coast, and Poland's southern and western borders, perhaps due to available accommodation in hotels and other forms of hospitality infrastructure.

Next, we discuss factors that could have affected refugees' decisions on where to settle. These factors include existing social networks – before the war, about 1.35 million Ukrainians lived in Poland as economic migrants⁵ – economic opportunities, availability of accommodation, and the quality of public goods. To this aim, we regress the share of refugees in local population at a county level against the pre-war share of Ukrainian migrants and variables measuring other abovementioned factors. A more extensive discussion of the factors associated with

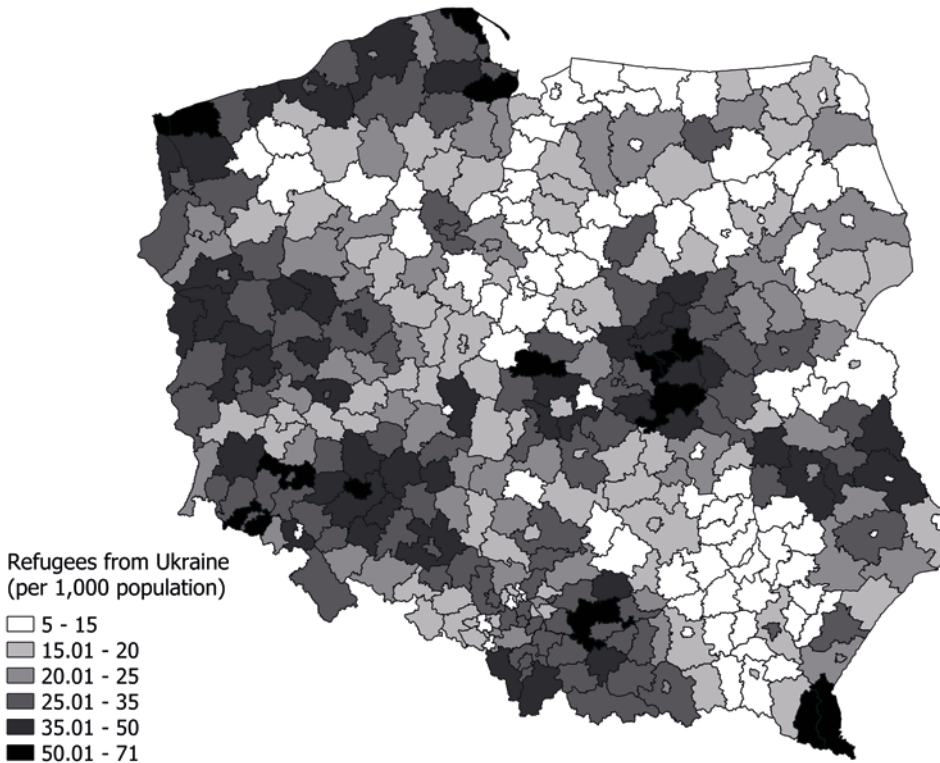
3 For the details of the law, see: the Act of 12 March 2022 on assistance to Ukrainian citizens in connection with the armed conflict on the territory of that state, Journal of Laws of 2022, item 583.

4 This policy contrasts with the approach taken in other recent refugee inflows in Europe. For instance, Germany used a central allocation mechanism to settle Syrian refugees across the country, see: J. Bredtmann, *Immigration and electoral outcomes: Evidence from the 2015 refugee inflow to Germany*, "Regional Science and Urban Economics" 2022, Vol. 96; <https://doi.org/10.1016/j.regsciurbeco.2022.103807>.

5 M. Duszczyc, P. Kaczmarczyk, *The War in Ukraine and Migration to Poland: Outlook and Challenges*, "Intereconomics" 2022, Vol. 57, pp. 164–170; <https://doi.org/10.1007/s10272-022-1053-6>.

refugee location decisions is presented in European Bank for Reconstruction and Development (EBRD)⁶.

Figure 1. Refugees-to-population ratio (April 30, 2022)



Source: own study based on data from the Chancellery of the Prime Minister of Poland

Economic opportunities played a critical role in refugee location decisions. First, the higher the unemployment rate, the lower the refugee-to-population ratio. Second, the higher the *per capita* income (as proxied by Personal Income Tax (PIT) revenue), the higher the refugee-to-population ratio. Jointly, economic opportunities were the essential factor associated with refugee destination choices: they explain 18% of the variance in the refugee-to-population ratio at the county level (Figure 3).⁷

Social networks also played a vital role: the higher the pre-war ratio of Ukrainian workers to the population, the higher the refugees-to-population (Figure 2). We attribute 15% of the differences in the refugee-to-population ratio to networks (Figure 3).

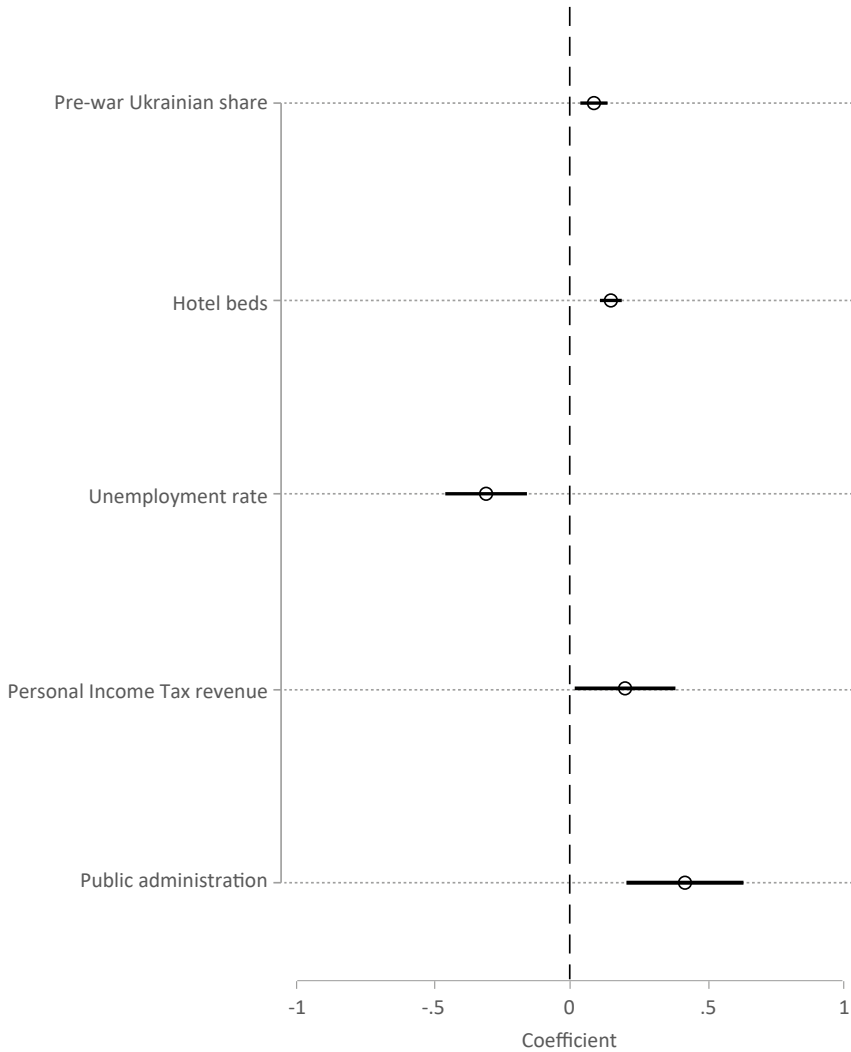
The availability of hotel beds was another determinant of destination choice, as refugees could have stayed in empty hotel rooms. This factor contributed about 11% of

⁶ European Bank for Reconstruction and Development, *Transition Report 2022–23: Business Unusual*. European Bank for Reconstruction and Development, London 2022.

⁷ Overall, our model explains 50% of the refugee-to-population ratio variance at the county level.

the variance (Figure 3). Finally, refugees decided more often to settle in counties with relatively high spending on public administration. Hence, counties with better-funded local administration could have attracted more refugees. However, this factor explains only 5% of the differences in the refugee-to-population rate, much less than economic opportunities and networks.

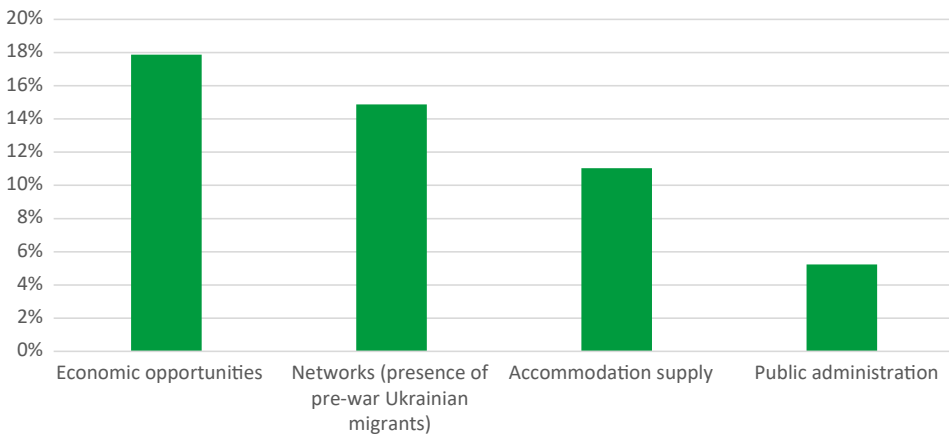
Figure 2. Correlates of the refugees-to-population ratio at the county level



Note: The figure shows the point estimates and 95% confidence intervals from the regression of the refugees-to-population ratio on selected county characteristics. All variables are rescaled by a relevant population and expressed in logs. In addition to the covariates presented in the graph, we control for region fixed effects (*powiaty*). Standard errors are clustered at the county level.

Source: own study based on data from the Chancellery of the Prime Minister of Poland and Statistics Poland

Figure 3. Decomposition of the variance of refugee-to-population ratio at the county level in Poland (April 30, 2022)



Note: Results of the Shapley decomposition (A.F. Shorrocks, *Decomposition procedures for distributional analysis: a unified framework based on the Shapley value*, “The Journal of Economic Inequality” 2013, Vol. 11, pp. 99–126; <https://doi.org/10.1007/s10888-011-9214-zs>) based on the regression presented in Figure 1. Economic opportunities: the contribution of unemployment rate and PIT revenues per person; Networks: the contribution of pre-war Ukrainian population share; Accommodation supply: the contribution of hotel bed availability; Public administration: the contribution of public administration funding.

Source: own study based on data from the Chancellery of the Prime Minister of Poland and Statistics Poland

Structure of refugee employment

Women and children constitute the majority of refugees who arrived in Poland in the first, largest wave of refugee inflow. By the end of April 2022, about 70% of refugees were women. 50% of refugees were under the age of 22, and 47% of refugees were children under the age of 18. Only 13% of refugees were men aged 20–59 because most Ukrainian men aged 18–60 have been prohibited from leaving the country.

Displaced people face multiple challenges, in particular when it comes to earning income. Under the special law described earlier, Ukrainian refugees can enter the Polish labour market without seeking any permits.⁸ As most of them are women with children, their decisions to look for a job are intertwined with any decisions and opportunities relating to organising childcare. Moreover, most of them have no history of migration to Poland⁹, so they face language barriers. At the same time, they are,

⁸ However, employers are obliged to report hiring refugees to a local public employment service. These reports constitute the data we use to measure refugees’ employment.

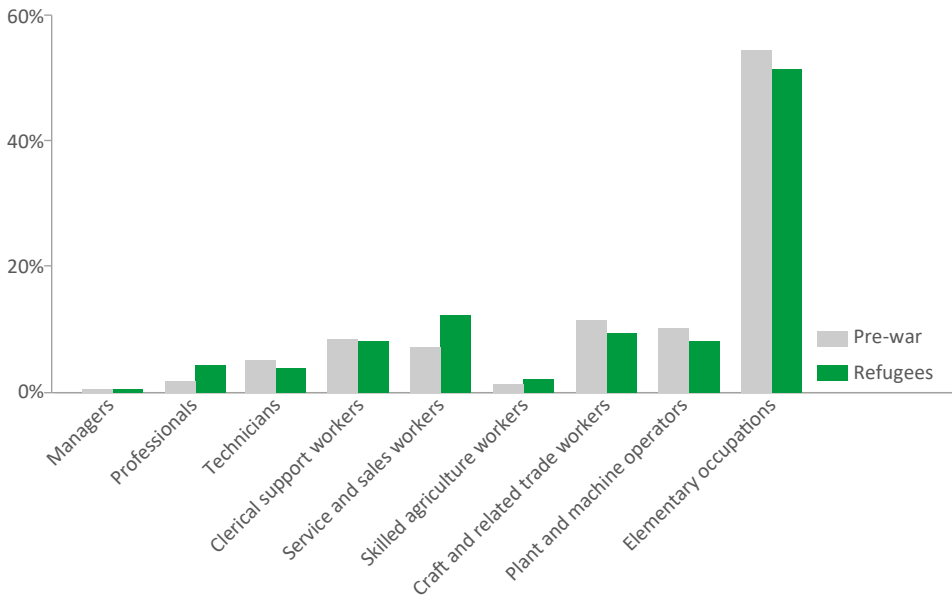
⁹ I. Chmielewska-Kalińska, B. Dudek, P. Strzelecki, *The living and economic situation of Ukrainian refugees in Poland*, Narodowy Bank Polski, Warszawa 2022.

on average, better educated than many other forcibly displaced populations, which improves their labour market prospects. According to the survey conducted by the Polish Central Bank (Narodowy Bank Polski) in April and May 2022, 50% of adult Ukrainian refugees in Poland had tertiary education.¹⁰

By the end of April 2022, nearly 100,000 refugees had started their first job in Poland. By the end of June, this number had reached 235,000. These employment numbers are high, especially considering the challenges mentioned above. In the following analysis, we focus on women, who constitute most of the refugees registered in Poland, especially those of working age.

More than 50% of refugee workers found work in elementary occupations (compared to 7% of the indigenous employed population). This raises concerns about a skill mismatch as a half of Ukrainian refugees have tertiary education, which equips them with skill levels above those required in elementary occupations. The occupational structure of refugee employment was very similar to the pre-war employment structure of Ukrainian workers (see Figure 4). Compared to the pre-war economic migrants, a higher share of refugees worked in service and sales occupations. As with pre-war migrants, about half of the refugees worked in market services (Figure 5). Refugees worked in non-market services more than twice as often as pre-war Ukrainian workers. Fewer workers found work in industry (mainly manufacturing and logistics) compared to the pre-war migrant population.

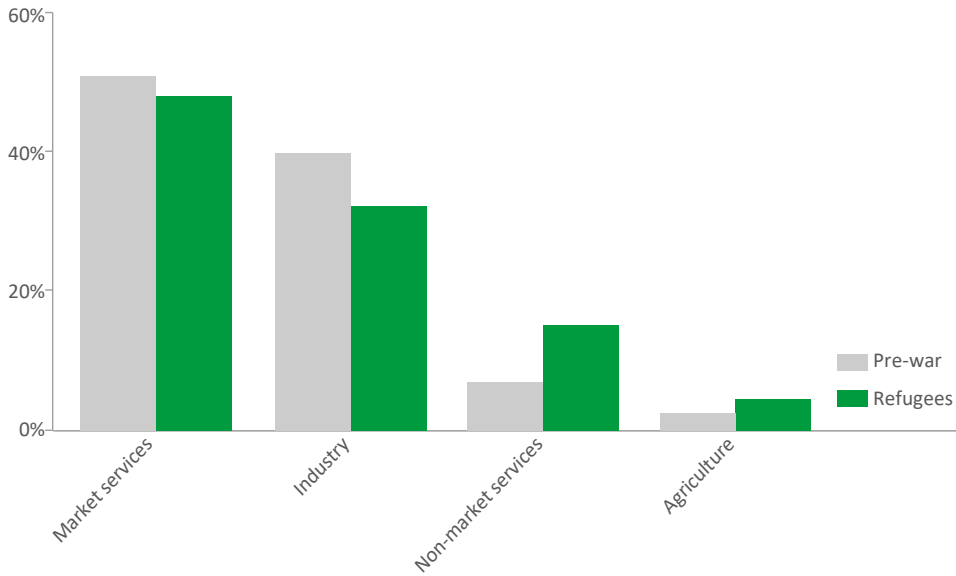
Figure 4. Employment by occupation (% of total employment, women): pre-war Ukrainian workers and refugee workers



Source: own study based on data from the Ministry of Family and Social Policy

¹⁰ Ibid.

Figure 5. Employment by sector (% of total employment, women): pre-war Ukrainian workers and refugee workers



Source: own study based on data from the Ministry of Family and Social Policy

Immediate consequences for the Polish labour market

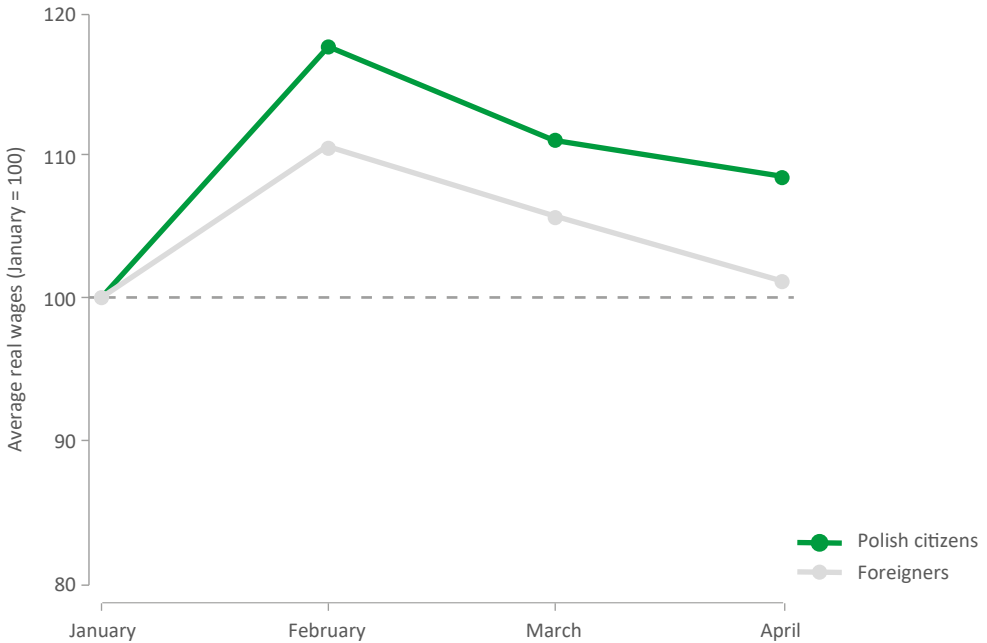
The potential impact on the labour market situation of the indigenous population and other migrants is a crucial aspect of sudden migrant inflows. Past experiences suggest that such inflows have benign effects and mainly translate to higher employment, with no negative consequences on the indigenous population, particularly their earnings¹¹.

We combine data from the Polish Social Insurance Institution and the Ministry of Family and Social Policy to examine the short-term consequences of the refugee influx on the labour market outcomes for indigenous and foreign workers. In the first four months of 2022, the growth in real monthly earnings among foreigners was slower than among indigenous workers (Figure 6). In February, real wages increased substantially among both groups but afterwards declined. In April, indigenous real monthly earnings were 10% higher than in January, while foreigners' earnings returned to January levels. It is unclear to what extent these differences

¹¹ D. Card, *The Impact of the Mariel Boatlift on the Miami Labor Market*, "ILR Review" 1990, Vol. 43, pp. 245–257; <https://doi.org/10.1177/001979399004300205>.

in earnings trajectories result from the forced migration inflow. However, Figure 6 suggests that the divergence in earnings growth was primarily due to smaller raises in February – before refugees entered the Polish labour market.

Figure 6. Average real monthly earnings (January 2022 = 100): Polish citizens and foreigners



Source: own study based on data from the Polish Social Insurance Institution

To investigate the consequences of the refugee wave, we estimate the following model:

$$\Delta y_c = \beta_0 + \theta R_c + \beta_1 y_c^{January} + \beta_2 X_c + \eta_c + \epsilon_c$$

where:

Δy_c is the difference in a given outcome between January and April of 2022 in county c ,

$y_c^{January}$ is the initial level of the outcome of interest,

R_c is the refugee-to-population ratio in county c , and

X_c is a set of control variables (urbanization rate and unemployment rate in county c in January 2022).

We additionally control for county fixed effects (η_c).

The regression results suggest that the refugee inflow did not affect the labour market outcomes of the Polish population or other migrants. We find no strong association between the refugee-to-population ratio and labour market outcomes (Table 1). We estimate zero effects on foreigners' earnings, employment, and the unemployment rate. If anything, the refugee inflow was associated with a tiny increase in the monthly wages of Polish women.

Table 1. Refugee inflow and labour market outcomes in Poland (women only)

	Earnings Polish citizens	Earnings Foreigners	Employment rate	Unemployment rate
Refugee-to-population rate (log)	0.014*	0.002	-0.000	0.000
	(0.007)	(0.022)	(0.001)	(0.000)
Initial unemployment rate	yes	yes	yes	yes
Urbanization rate	yes	yes	yes	yes
Region FE	yes	yes	yes	yes
Adj. R-squared	0.30	0.10	0.36	0.37
Observations	340	340	340	340

* $p < 0.1$,

** $p < 0.05$,

*** $p < 0.01$.

Note: The table presents the regression results of four outcomes on the log refugee-to-population rate. All outcomes are measured for women. Column 1 shows the results for the log monthly earnings of Polish citizens. Column 2 shows the results for the log monthly earnings of foreign citizens. Column 3 shows the results for the employment rate. Column 4 shows the results for the registered unemployment rate. All outcome variables are expressed as difference between the January and April levels. In all regressions, we control for the initial levels of outcome variables, initial unemployment rate, urbanization rate and region fixed effects. Standard errors are clustered at the county level.

Source: own study based on data from the Polish Social Insurance Institution, Ministry of Family and Policy, and Statistics Poland

Conclusions and implications

The unprovoked and illegal Russian invasion of Ukraine triggered the largest forced displacement in Europe since World War II. Between late February and April 2022, more than 2 million people migrated to Poland. Unlike the previous waves of forced migration to the European Union, Ukrainian refugees were almost immediately allowed to enter the Polish labour market.

This paper established three facts about Ukrainian refugees' short-term labour market integration in Poland. First, the pre-war locations of Ukrainian economic migrants were largely followed by Ukrainian refugees in Poland. Other factors associated with higher refugee inflows at the county level include increased economic opportunities, hotel room availability, and public administration funding. Second, despite the challenges of childcare and language barriers, the employment of refugees is relatively high. However, skill mismatch is an issue because most refugees are relatively well educated, but the

majority of them work in low-skilled jobs. Third, our econometric findings show that the inflow of refugees did not affect the labour market outcomes of the Polish population or other migrants.

Despite this positive outlook, concerns remain. First, Poland's strong economic growth facilitated the labour market integration of refugees, but the inevitable economic slow-down will reduce labour demand. Refugees' employment outcomes may worsen, especially as market services sectors are often particularly hit by recessions. Second, most refugees work in low-skilled jobs while many have tertiary education. This over-skilling has several consequences. It may discourage people from working in Poland and lead to mental health problems. It also contributes to a skill mismatch. Poland has labour shortages in many occupations requiring higher skills, but few migrants work in such jobs. Finally, it has a high opportunity cost – the refugees are most likely not learning the new skills they could use in Ukraine after the war. During the 1990s, Germany offered temporary protection to 700,000 Yugoslavian refugees fleeing war. In the 2000s, returning refugees boosted economic ties between their countries and Germany, with economic benefits for both sides. Refugees who in Germany worked in occupations more apt to transfer knowledge, technologies and best practices drove this positive change¹². Unfortunately, the prevailing pattern of refugee employment in Poland will probably not create such positive long-term effects. Public policy should address skill mismatches, support refugees in their learning of Polish, and assist them in searching for jobs that match their education.

12 D. Bahar, A. Hauptmann et al., *Migration and Knowledge Diffusion: The Effect of Returning Refugees on Export Performance in the Former Yugoslavia*, "The Review of Economics and Statistics" 2022; https://doi.org/10.1162/rest_a_01165.

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