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Refugees from Ukraine in Lithuania and the Lithuanian labour market: A preliminary assessment

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Introduction

Europe has not seen a larger forced migration flow since World War Two than the one prompted by the full-scale war started by the Russian Federation against Ukraine in February 2022. An unprecedentedly large wave of refugees from Ukraine has predominantly fallen on the countries that border Ukraine. According to the Office of the United Nations High Commissioner for Refugees (UNHCR), 7,890,037 people were forced to leave Ukraine as of November 2022, often fleeing to the neighbouring countries of Poland, the Republic of Moldova, Slovakia, Romania and Hungary (UNHCR, n.d.). However, with the exception of Poland and the Republic of Moldova, none of these neighbouring countries have received a sizable influx of refugees in absolute or relative terms.

Lithuania is one of the countries that received the largest number of refugees from Ukraine relative to its population size. The war in Ukraine has caused an unparalleled migration flow to Lithuania with more than 2 per cent of the Lithuanian population consisting of refugees from Ukraine as of August 2022 (Statistics Lithuania, n.d.a). As of that date, a large majority of these refugees are highly qualified working-age (20–65 year old) women; women represent almost 90 per cent of all highly qualified refugees from Ukraine (ibid.).¹ In this study, we take a closer look at the potential impacts of refugees from Ukraine on the labour market in Lithuania, a topic that is currently underexplored, relying on the previous literature and examining the official statistics and digital trace data.

There is a growing literature on the labour market impact of large refugee flows, most recently examining the cases of Syrian refugees and displaced Venezuelans. Studies show that while the impact of refugee flows on the overall employment rates of locals is negligible or insignificant (Akgündüz et al., 2015; Fallah et al., 2019), breakdown by skill level and gender may change this situation. Evidence shows that the effect of refugee flows can be significantly negative for lower-educated individuals, individuals working in the informal sector, and women (Ceritoglu et al., 2017; Del Carpio and Wagner, 2015; Lebow, 2022; Ryu and Paudel, 2022). Studies also show that refugees find it difficult to integrate into the local labour market due to the lack of local language skills, networks and understanding of the functioning of labour markets, in addition to the difficulties of having their qualifications recognized in countries of destination (Dumont and Lauren, 2022; Bonfanti and Xenogiani, 2014).

Bearing in mind the peculiarities of each context and situation, this paper focuses on the impact of the arrival of refugees from Ukraine on the labour market in Lithuania. We draw a picture of the refugee inflow into Lithuania, analyse the early implications on the Lithuanian labour market using the official data on refugees from Ukraine in Lithuania, and explore what the future may bring to the Lithuanian labour market, using different data sources. First, we map the distribution of refugees from Ukraine in the counties of Lithuania. Second, we analyse unemployment in Lithuania across counties and by gender using maps. Third, we explore the Lithuanian job market and how it is accommodating refugees from Ukraine by looking at online job advertisements in Lithuania, specifically in the three major urban counties. We compare the outlook in job advertisements and the characteristics of job advertisements that encourage refugees from Ukraine to apply. Last, we look at Google Trends to observe patterns of online job search by language in Lithuania for future implications on Ukrainian refugees and the Lithuanian job market. The findings of this paper will contribute to policymaking efforts that would accommodate both local and refugee populations to avoid the negative outcomes observed in previous refugee situations.

¹ Highly qualified refugees are denoted as refugees whose reported occupation requires higher education from a college or university.

Onset of the war in Ukraine and the refugee crisis

The Russian military actions in the Donetsk and Luhansk regions of Ukraine and the subsequent annexation of the Crimean peninsula in 2014 led more than 1.5 million people to leave their homes from 2014 to 2020, resettling to other areas of Ukraine to avoid violence in their home regions (IOM, 2020). The full-scale invasion of Ukraine began on 24 February 2022, leading to a refugee crisis unseen in Europe for more than 75 years. The Russian Federation's war against Ukraine has escalated that previously existing humanitarian emergency in both size and geography. Not only have the residents of Ukraine fled their homes in war-affected areas for other parts of the country, but they have also fled the country towards neighbouring and other countries.

In addition to the early wave of cross-border movements from Ukraine between 2014 and 2020, 7,890,037 more people were forced to leave Ukraine following the start of the war in February 2022 (UNHCR, n.d.; Denisenko et al., 2020). As of November 2022, 4,774,666 refugees from Ukraine have registered for Temporary Protection or similar national protection schemes in Europe (UNHCR, n.d.). In absolute terms, Poland, Germany, Czechia, Italy and Spain make the top 5 countries in Europe in terms of recorded refugees from Ukraine, as of November 2022. However, Lithuania is among the top countries in terms of the number of refugees relative to the non-refugee population size (ibid.). At the end of the time period of our empirical analysis, in August 2022,² the number of total refugees from Ukraine was 6,657,918; 3,840,568 refugees from Ukraine were registered under the Temporary Protection or similar national protection schemes in Europe (ibid.).

It has long been assumed that while international migration is not a random but a selective decision process depending on characteristics such as age, gender, economic conditions and educational attainment, forced migration is not selective based on such characteristics because the war and conflict conditions affect all the population in the same way. Migration literature has recently challenged this earlier assumption, with new studies showing evidence that refugees and asylum-seekers consist of higher-educated individuals than their origin country averages. This indicates a positive self-selection based on educational attainment, which means higher-educated individuals have a higher tendency to leave the country under conditions of war and conflict (Guichard, 2020; Aksoy and Poutvaara, 2021).

In addition to the educational characteristics of refugees and asylum-seekers, their choice of destination is an important topic of interest. Established communities (diaspora) or social ties (family, kin, friends) are a common assumption to explain the destination choice both for migrants (Massey et al., 1993; Haug, 2008; Beine et al., 2011; Dekker et al., 2016) and refugees (Lamba and Krahn, 2003). Before the war, more than a million Ukrainians lived in Italy, Czechia, Poland, Germany and Spain (Denisenko et al., 2020). Also, before the war, Ukrainian residents had a majority of their (international) online friendship connections with residents of Slavic and post-Soviet countries (Meta, n.d.).³ Cultural proximity is proven to be another factor for destination choice. Fleeing to a country in which a similar language is spoken (Barthel and Neumayer, 2015) may be preferred because of the lower barriers to settling in the country. Many of the countries to which refugees from Ukraine fled share a history of being part of the Eastern Block as well as widely spoken Slavic languages (Denisenko et al., 2020). While economic conditions and refugee-related policies may be further considerations, recent refugee studies also suggest that rather than any single one of the above-mentioned reasons being a dominant factor, it is a combination of these factors that influences displacement trajectories and destination of refugees (Day and White, 2002; Crawley and Hagen-Zanker, 2019).

² We finished compiling our data in mid-August 2022. The dates refer to the last update of the data and figures indicated by the data source, at the time of data collection for our study. Accuracy of the figures can be confirmed on Internet Archive, using the link to the webpage that can be found in the references.

³ Measured by Social Connectedness Index made available by Data for Good at Meta showing the “strength of connectedness between two geographic areas as represented by Facebook friendship ties” (Meta, n.d.).

Refugees from Ukraine in Lithuania

As Lithuania does not border Ukraine, refugees needed to cross more than one international border to arrive in the country. There may be several reasons to choose Lithuania as a destination to flee from the war in Ukraine. First, according to the Lithuanian population census of 2021, 14,000 Ukrainians already resided in the country (Statistics Lithuania, 2021). As this number has now almost quintupled, the pre-existing Ukrainian diaspora in Lithuania may have attracted refugees to come to the country. Second, Russian is widely spoken in Lithuania, which allows those refugees from Ukraine who are proficient in Russian to navigate necessary services and processes and get employed with relative ease. Finally, Lithuania's gross domestic product (GDP) is close to being five times higher than Ukraine's was before the war (World Bank, n.d.) while the Human Development Index (HDI) ranks Lithuania in 35th place with a score of 0.875, while Ukraine occupies 77th place with a score of 0.773 (UNDP, 2021). These two indicators provide a brief comparison between the two countries in terms of economic development and a combination of health, education and economic dimensions of human development, respectively. The combination of these factors has likely contributed to refugees from Ukraine coming to Lithuania.

Once refugees from Ukraine and their family members arrive at the border of Lithuania, they have to register with the Lithuanian Migration Department. This enables refugees to obtain either a short-term temporary residence permit in Lithuania or a national visa; both expire after one year (Migration Department, n.d.). The short-term temporary residence status and national visa allow refugees from Ukraine to participate in the labour market without acquiring work permits (State Labour Inspectorate, 2022). Similarly, the European Union's Temporary Protection Directive ensures access to the Lithuanian labour market, provided national labour market policies are respected. This applies not only to refugees from Ukraine who registered in Lithuania as their first point of arrival but also to those who decided to move to Lithuania after having received temporary protection in another European Union country (European Commission, n.d.).

Data and methodology

For the purpose of this paper, we used detailed data from official statistics and registries; obtained data from Google Trends, to observe the trends of job searches by language; and examined online job advertisements, as potential opportunities for refugees from Ukraine. First, Statistics Lithuania serves as the main source of official and administrative data on refugees from Ukraine in Lithuania. The data come from the Migration Department that collects data on refugees from Ukraine at its branches and registration centres. The data are then transferred to Statistics Lithuania, which makes daily data on refugee flows, age, gender and professions as well as several derivative indicators available for public use (Statistics Lithuania, n.d.a). We also use Statistics Lithuania data for unemployment measures by county and gender.

Second, in order to capture the current job openings and the integration of refugees from Ukraine into the Lithuanian labour market, we analyse the job advertisements on CV bankas, one of the most visited online job search websites in Lithuania. We consider CV bankas as a good online source, as each job advertisement indicates whether applications by refugees from Ukraine are encouraged. We aggregated a total of 9,146 job advertisements; after eliminating those for abroad, we examined 8,873 job advertisements.⁴

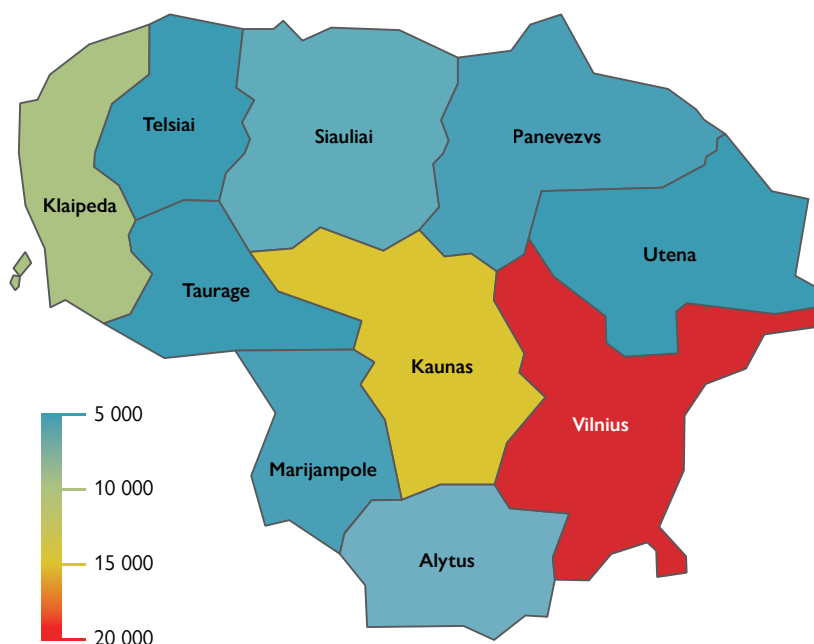
⁴ We collected our data on 19 August 2022. The job advertisements are only available as long as the deadline for applications has not passed. It should be noted that the number of job advertisements on CV bankas changes frequently due to expired and newly added advertisements.

Last, we use Google Trends, a publicly available tool from Google, to measure the popularity of queries made on Google search engine for a given location and time. Google Trends provides a score within the range of 0 to 100, normalized for the specified timeline and location. This score is calculated as a proportion of total searches in the specified location and timeline to allow for the comparison of relative popularity, which is then normalized (Google, n.d.). If the location or queries are too specific, Google Trends reports zero popularity. Google Trends provides popularity scores individually for single or a set of keywords or in a comparative way. For comparisons, the selected keywords (or sets of keywords) are not only normalized for the same location and timeline, but also between themselves. For our study, we put together a set of keywords that could be used in online job searches to obtain a proxy for the active job searches. Our set of keywords includes nine job-related words, and is translated into Lithuanian, Ukrainian, Russian and also English for controls. We obtained the Google Trends scores by using the gtrendsR package on R. In selecting the set of keywords, we followed the example of previous literature (Böhme et al., 2020), and narrowed potential keywords down to those that would be most used in a job search online.⁵

Findings and analysis

As of mid-August 2022, 62,444 refugees from Ukraine resided in Lithuania (Statistics Lithuania, n.d.a), representing more than 2 per cent of Lithuania’s total population of 2.7 million inhabitants. The percentage is higher in the three most sizable urban areas of Vilnius, Kaunas and Klaipėda, reaching 4, 4 and 6 per cent, respectively (Figure 1). Additionally, Figure 2 depicts the distribution of refugees from Ukraine in Lithuania by age and gender. As Figure 2 demonstrates, while the gender distribution of children and teenagers is more or less even across male and female, above the age of 20 the number of females is at least double the number of males, given Ukraine’s mandatory circumscription of men in the war effort (ibid.).

Figure 1. Distribution of refugees from Ukraine across counties in Lithuania

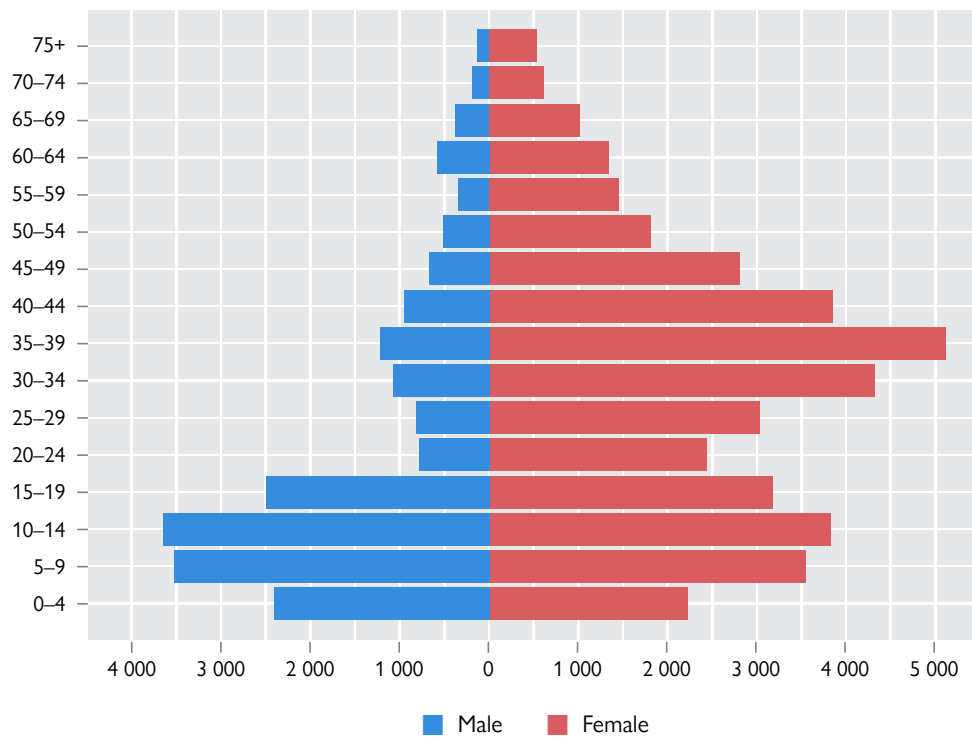


Source: Statistics Lithuania, n.d.a.

Note: This map is for illustration purposes only. The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the International Organization for Migration.

⁵ We omitted some relevant keywords due to their double meaning, especially with regards to the war, such as occupation and recruitment.

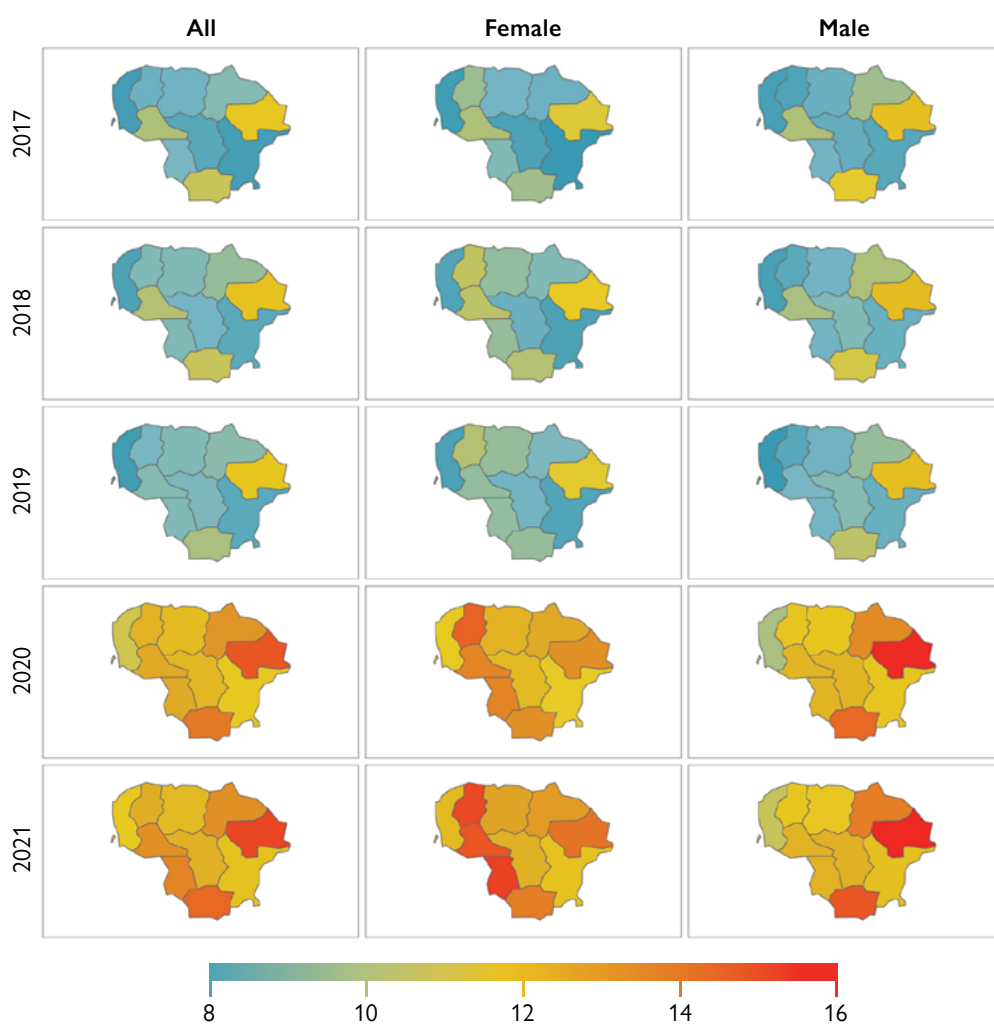
Figure 2. Distribution of refugees from Ukraine in Lithuania by age and gender



Source: Statistics Lithuania, n.d.a.

Figure 3 (please see next page) demonstrates the ratio of the number of registered unemployed individuals to the working-age population across counties in Lithuania, for each year between 2017 to 2021, by gender. Figure 5 (in the Appendix) further visualizes the absolute number of registered unemployed across counties and by gender for the same time period.

Figure 3. Ratio of registered unemployed individuals to the working-age population in Lithuania (% at county level)



Source: Statistics Lithuania, n.d.b.

Source: This map is for illustration purposes only. The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the International Organization for Migration.

Figure 3 above and Figure 5 in the Appendix show that the rise in unemployment follows different geographical patterns in the period from 2017 to 2021, prior to the beginning of the war in Ukraine. The differential is also visible in terms of gender. Male unemployment appears to have a sharper increase in Utena and Panevėžys counties in the northeast as well as Alytus County in the south of Lithuania, in comparison to female unemployment. In contrast, female unemployment appears to have increased more in the west of Lithuania, in the counties of Telšiai, Tauragė and Marijampolė, in comparison to male unemployment. The reasons why geographical patterns of unemployment vary by gender in Lithuania are not exhaustively analysed; however, existing evidence suggests an intersection between structural factors as a result of the less developed economy in regions located further from the three major urban areas of Vilnius, Kaunas and Klaipėda, as well as gendered factors that are linked to women having a higher chance of losing a job and staying unemployed longer; relatively more limited access to childcare in less urbanized areas also contributes to regional disparities (Employment Service, 2022; Markevičiūtė et al., 2022; Brazienė and Daukantienė, 2010).

The country-level figures show that even though the COVID-19 pandemic brought higher unemployment for both men and women, women seem more likely to suffer long-term

unemployment than men. Official statistics show that before 2020, both the absolute number of registered unemployed and the ratio of the unemployed to the working-age population were lower for females than males. This situation was reversed with the COVID-19 pandemic, and by 2021 both figures were higher for females than males (Statistics Lithuania, n.d.b).

We focus more specifically on the three counties that were the destination for the highest number of refugees from Ukraine (Vilnius, Kaunas and Klaipėda). The figures in both Vilnius and Klaipėda are below the national average for overall unemployment (13%), male unemployment (12.7%) and female unemployment (13.3%), as of 2021 data, measured as the ratio of the number of registered unemployed individuals to the working-age population (ibid.). Right before the arrival of refugees from Ukraine in 2022, Vilnius stood out as the county with lowest unemployment (12%) and lowest female unemployment (11.9%), while Klaipėda had the lowest male unemployment (10.4%), measured, again, as the ratio of the number of registered unemployed individuals to the working-age population (ibid.). In contrast, Kaunas appears above the national unemployment average, with 13.5 per cent, using the same measure (ibid.). However, it should be noted that Vilnius, Kaunas and Klaipėda respectively have the highest number of registered unemployed individuals in Lithuania, as of 2021 (see Figure 5 in the Appendix).

Next, we present our findings from the analysis of the job search website CV bankas in Table 1. We consider the data from CV bankas as a proxy for the job opportunities for refugees from Ukraine in the Lithuanian labour market. Findings from the job search website data show a general picture of the supply side of jobs with regards to refugees from Ukraine, though we acknowledge that their job opportunities are not restricted to job announcements through a single medium.

Table 1. Job advertisements in Lithuania by job category and encouragement for refugees from Ukraine to apply

Refugees from Ukraine encouraged to apply

Job category	No	Yes	%
Administration and work safety	254	14	5.22
Agriculture	38	13	25.49
Buying and supply	97	8	7.62
Catering	145	87	37.50
Construction	289	39	11.89
Customer services	913	145	13.71
Design and architecture	32	5	13.51
Energetics and electronics	153	32	17.30
Engineering and mechanics	516	59	10.26
Export	12	0	0.00
Finance	563	81	12.58
Human resources	154	7	4.35
Insurance	72	2	2.70
Information technology	371	82	18.10
Law	63	10	13.70
Management	154	11	6.67
Manufacturing	978	170	14.81

Job category	No	Yes	%
Marketing and ads	154	7	4.35
Media and communications	14	0	0.00
Medicine and pharma	95	6	5.94
Real estate	30	0	0.00
Sales	553	20	3.49
Security services	68	7	9.33
Trade and retail	962	122	11.25
Training and education	84	8	8.70
Transport and driving	216	56	20.59
Transport and logistics	312	36	10.34
Warehousing	497	57	10.29
TOTAL	7 789	1 084	12.22

Source: Authors' own elaboration based on CV bankas data, 2022. The Lithuanian job search website CV bankas allows job advertisers to indicate whether the position is open to applications by refugees from Ukraine, with a Ukrainian flag and "Ukrainians welcome" note beside the job announcement. The columns Yes and No show, respectively, how many job announcements include the said sign and how many do not, by job category. The final row (Total) shows the overall number of job advertisements on CV bankas website, in all job categories listed above. The percentage column gives the number of job announcements in each category that declare they accept applications from refugees from Ukraine, as a percentage of total job announcements in that category.

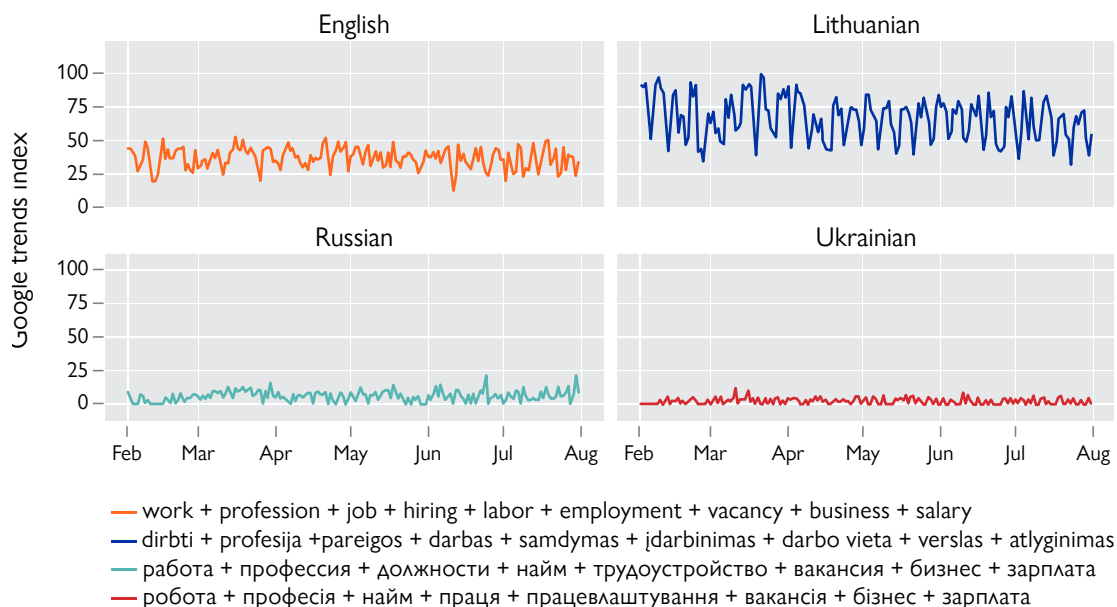
Table 1 summarizes the job advertisements by categories and shows the number and overall share of job advertisements that explicitly indicate that refugees from Ukraine are encouraged to apply by using a special "Ukrainians welcome" sign the website made available. Catering, agriculture, transport and driving emerge as the categories with the highest share of job advertisements open for refugees. Although relatively lower in shares, this is also the case for manufacturing, customer services and trade and retail. Overall, 12.2 per cent of job advertisements on CV bankas website are explicitly open for applicants from Ukraine; we consider this an important step towards integrating refugees from Ukraine into the formal labour market. However, the nature of the jobs for which refugees from Ukraine are encouraged to apply in this example also requires attention, especially in light of the previous evidence indicating that highly educated people have a higher tendency to migrate in a forced migration context, which increases the risks of downward mobility. A closer evaluation of the job advertisements shows that the jobs available for refugees from Ukraine are relatively low-skilled jobs, primarily looking for salespeople, restaurant workers, drivers and the like, which can be an issue for highly skilled refugees from Ukraine.

A closer look at the top three counties of destination of Vilnius, Kaunas and Klaipėda in Table 2 (see Appendix) shows that, while the share of job advertisements which encourage refugees from Ukraine to apply is similar to the country average for all open positions (12.22%) in Klaipėda (12.56%) and Kaunas (11.79%), Vilnius appears above the average, with 15.20 per cent. Vilnius also stands out with a higher share of potential jobs for high-skilled workers, such as in finance, information technology and management; an important feature, as Vilnius county is the destination of the highest number of refugees. Since economics and accounting are the top two professions that refugees from Ukraine have, and finance is among the top ten (Statistics Lithuania, n.d.a), Vilnius offers opportunities for highly skilled refugees from Ukraine.

Last, we look at Google Trends data to gain more insight to the demand side of jobs and job searches. Figure 4 depicts a comparison of a set of job-related keywords by four languages; Lithuanian, English, Ukrainian and Russian. As expected, Lithuanian is the language that has the

highest relative popularity score for the queries. The keywords in Ukrainian have the lowest relative popularity score, with Russian only slightly higher. The highest relative popularity scores for queries in Ukrainian are observed in March 2022, at which time queries in Russian also show an increased relative popularity score, as anticipated following the arrival of refugees from Ukraine.

Figure 4. Job-related searches compared



Note: The figure shows the relative Google Trends popularity scores for our set of job-related keywords in four languages. The popularity scores are calculated as a comparison, normalized also between themselves, to allow for understanding the relative popularity of languages being used in Google searches. The location of the searches is Lithuania and the time period is set as 1 February 2022–31 July 2022.

Source: Google Trends.

The compared (relative) popularity scores of selected queries also show differences and similarities across 10 counties in Lithuania.⁶ Relative popularity scores for the queries in all four languages by subregion are available only in three counties, Vilnius, Kaunas and Klaipėda, which also are the destination for the largest number of refugees from Ukraine. For other regions, Google is unable to calculate popularity scores in Ukrainian, and to some extent in Russian. Among the three counties in Lithuania with the greatest number of Ukrainian refugees, the relative popularity of the keywords in Ukrainian is highest in Klaipėda, followed by Vilnius and Kaunas. For queries in Russian, Utena, Klaipėda and Vilnius counties appear to have the top popularity scores, while no popularity score could be measured for Telšiai, Tauragė and Marijampolė.

Working with very short-term and almost real-time data limits the possibilities for advanced statistical analyses, due to the low number of observations. To understand the association between daily job-related online searches in different languages and the number of refugees, we used Pearson's correlation coefficient analysis. The results of Pearson correlation coefficients, reported in Table 3 in Appendix, should be considered only as associations and hints for future policymaking and research efforts.

For the calculation of correlation coefficients, we use both the daily number of refugees (new arrivals) and the cumulative number of refugees obtained from Statistics Lithuania, together with the daily Google Trends Index (GTI) data explained above. The period of our analysis is February 2022 to July 2022 (six months). We calculated the correlation coefficients between (a) daily number of new arrivals with daily GTI data, (b) daily number of new arrivals with GTI data of one week later (one-week gap) and (c) cumulative number of refugees with daily GTI data. In the

⁶ Popularity scores for 10 counties in Lithuania are available upon request.

results of all three analyses, we observe a small but statistically significant association between the number of refugees and search popularity score for job-related queries in Russian. Job-related searches in Ukrainian appear insignificant in all analyses, probably due to the relatively low use of Ukrainian also observed in the descriptive analysis above. We conclude that monitoring the use of Russian as a common language in job searches could be a useful insight for policymakers.

Discussion and conclusion

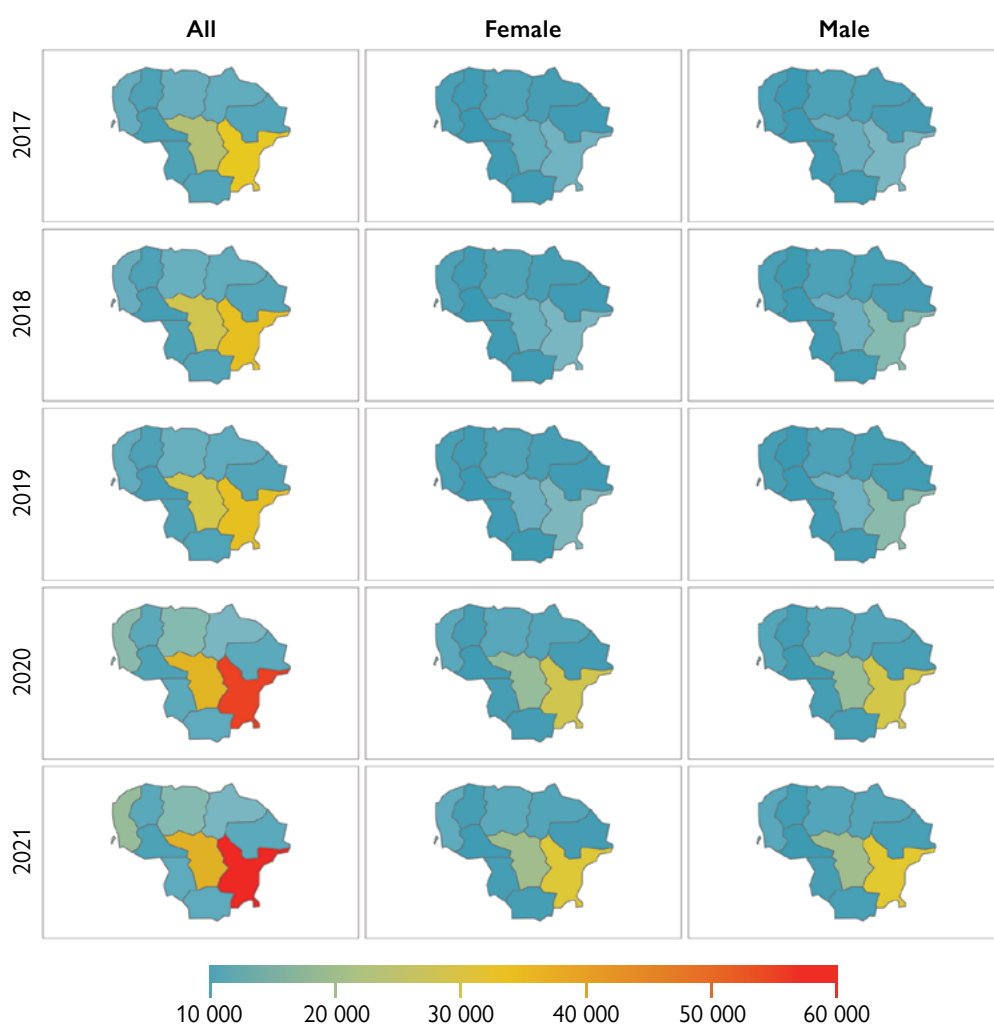
The labour market in Lithuania has faced a great challenge with the COVID-19 pandemic in 2020, and it has yet to return to prior unemployment levels. The top three counties in terms of population size – Vilnius, Kaunas and Klaipėda – have the highest number of registered unemployed individuals as of 2021 (Statistics Lithuania, n.d.b). Although Vilnius and Klaipėda have the lowest unemployment relative to the population size, this was already the case before 2020, and both are far above the figures for 2019. Furthermore, as of August 2022, Vilnius, Kaunas and Klaipėda were the counties of destination for the highest number of refugees from Ukraine. After 2020, female unemployment rose above male unemployment in Lithuania, both in terms of absolute numbers and relative to the working-age population, in contrast to the situation before 2020. Considering that approximately two thirds of the refugees from Ukraine in Lithuania are female and entering the labour market, female unemployment may continue to rise unless policies are developed to address female employment.

According to data from Statistics Lithuania (n.d.a), the top ten professions of refugees from Ukraine include many that require a higher education: refugees are likely to be economists, accountants, lawyers, financiers, nurses and teachers as well as craft professionals such as tailors, cooks and hairdressers. The latter group faces lower risk of downward mobility and may continue pursuing their own profession in the Lithuanian labour market, especially if supported by language courses, as is indicated by previous studies that show that refugees benefit from having local language skills, networks and understanding of the labour market in order to integrate into the local labour market (Dumont and Lauren, 2022; Bonfanti and Xenogiani, 2014). Among the high-education professions, nursing along with economics and finance would also benefit from language support and may fulfil jobs that match their skill set. Using Russian as a common language, also implied by the Google Trends analysis, would also work to the benefit of these groups. However, professionals such as lawyers and teachers face arguably the highest risk of downward mobility in the job market for refugees from Ukraine due to language. Language barriers, difficulties in the recognition of qualifications and different education and law systems in Lithuania pose great challenges to this group. The current unemployment issues in Lithuania may also affect this group more than groups employed in jobs with lower qualification requirements. If diminishing the effects of downward mobility in the labour market for refugees from Ukraine is a goal, policies should primarily target groups of people with less transferable skills.

The inflow of refugees from Ukraine is expected to have an estimated impact on the size of the labour force in Lithuania varying from +1 to 1.5 per cent; in terms of employment rates, as well, Lithuania is expected to experience a positive change (Dumont and Lauren, 2022). Previous studies have shown that refugee flows may create negative labour market effects for women in the receiving population. Considering that female unemployment is already on the rise in Lithuania and working-age women constitute the majority of refugees from Ukraine as of August 2022, policymakers should adopt a gendered approach to labour policymaking. To avoid downward mobility and to facilitate the integration of refugees from Ukraine into the Lithuanian labour market necessitates a holistic mechanism, able to match job opportunities with the refugees possessing a suitable skill set, while being careful about the negative trends of female unemployment for the locals.

Appendix

Figure 5. Number of registered unemployed individuals (age 20–65) in Lithuania (county level)



Source: Statistics Lithuania, 2022.

Note: This map is for illustration purposes only. The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the International Organization for Migration.

Table 2. Breakdown of job advertisements by category and encouragement for refugees from Ukraine to apply in three major counties

Job category	VILNIUS		KAUNAS		KLAIPĖDA	
	REFUGEES FROM UKRAINE ENCOURAGED TO APPLY					
	No	Yes	No	Yes	No	Yes
Administration and work safety	149	14	44	3	25	0
Agriculture	1	13	8	1	0	0
Buying and supply	54	8	25	0	5	0
Catering	55	87	43	10	9	7
Construction	124	39	55	7	21	4
Customer services	441	145	180	20	74	14
Design and architecture	21	5	5	2	3	0
Energetics and electronics	53	32	33	4	6	3
Engineering and mechanics	176	59	82	14	44	6
Export	1	0	6	0	0	0
Finance	359	81	96	11	30	4
Human resources	72	7	29	0	23	1
Insurance	33	2	7	0	5	0
Information technology	278	82	59	15	3	1
Law	41	10	9	3	4	0
Management	89	11	27	0	11	0
Manufacturing	237	170	231	31	84	13
Marketing and ads	97	7	33	1	10	0
Media and communications	9	0	2	0	0	0
Medicine and pharma	39	6	18	1	9	0
Real estate	19	0	4	0	2	0
Sales	257	20	104	3	50	1
Security services	29	7	13	1	4	0
Trade and retail	363	122	242	32	92	7
Training and education	59	8	10	2	6	1
Transport and driving	74	56	39	11	13	8
Transport and logistics	151	36	63	11	27	1
Warehousing	185	57	162	9	37	4
TOTAL	3 466	527	1 629	192	597	75

Table 3. Results of Pearson's correlation coefficients

Daily number of refugees					
	Number of refugees	GTI Lithuanian	GTI English	GTI Ukrainian	GTI Russian
Number of refugees	1				
GTI - Lithuanian	0.33 ****	1			
GTI - English	0.22 **	0.53 ****	1		
GTI - Ukrainian	0.08	0.06	0.03	1	
GTI - Russian	0.25 ***	0.00	0.16 *	0.17 *	1

Daily number of refugees and GTI with one-week gap					
	Number of refugees	GTI Lithuanian	GTI English	GTI Ukrainian	GTI Russian
Number of refugees	1				
GTI - Lithuanian	0.37 ****	1			
GTI - English	0.16 *	0.53 ****	1		
GTI - Ukrainian	0.14	0.09	0.02	1	
GTI - Russian	0.22 **	0.01	0.16 *	0.15 *	1

Cumulative number of refugees					
	Number of refugees	GTI Lithuanian	GTI English	GTI Ukrainian	GTI Russian
Number of refugees	1				
GTI - Lithuanian	-0.17 *	1			
GTI - English	-0.09	0.53 ****	1		
GTI - Ukrainian	0.10	0.06	0.03	1	
GTI - Russian	0.16 *	0.00	0.16 *	0.17 *	1

Note: GTI stands for Google Trends Index.

Significance indicators: ****p < .0001, *** p < .001, **p < .01, *p < .05

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