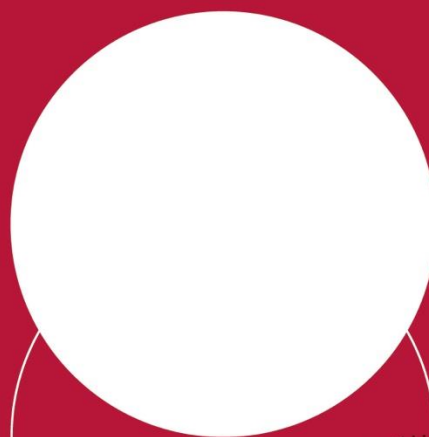


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Refugees and Entrepreneurship: Evidence from Ukrainians in Poland

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Refugees and Entrepreneurship: Evidence from Ukrainians in Poland•

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Abstract

We study the impact of the large inflow of Ukrainian refugees into Poland following Russia's 2022 invasion on business creation. Ukrainians registered 38,833 firms in Poland in 2022–23, accounting for 7% of all new registrations. We first document the role of refugees behind this wave of businesses and then show that new Ukrainian businesses stimulate Polish entrepreneurship. Using an identification strategy based on refugee shocks across counties and Ukrainians' comparative advantage across sectors, we find that 10 extra Ukrainian registrations lead to 3.4 to 5.3 more Polish firms.

Keywords: migration, firms, entrepreneurship, multiplier

JEL: F22, L26, O15

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1 Introduction

A growing body of research shows that migrants play a disproportionate role in entrepreneurship, a key driver of job creation and productivity growth (Decker et al., 2014). Immigrants start businesses at higher rates than the native-born (Pekkala Kerr and Kerr, 2020; Chodavadia et al., 2024; Fairlie and Lofstrom, 2015; Gu, 2023). Their firms create more jobs (Azoulay et al., 2022; Jin et al., 2025) and are more innovative and productive (Lee et al., 2023). Yet there is doubt about whether these patterns are specific to the US (Green et al., 2023), and whether they extend to refugees (Desai et al., 2021; Bahar et al., 2022; Newman et al., 2024). What's more, an open question is whether migrant entrepreneurship crowds out native entrepreneurship (Fairlie and Meyer, 2003; Ghimire, 2021) or potentially encourages it through exposure (Wallskog, 2025; Giannetti and Simonov, 2009; Guiso et al., 2021; Galambos and Amatori, 2016). As Fairlie and Lofstrom (2015) noted, the contributions of migrant entrepreneurs need to be viewed “through the lens of crowd out”.

We study these questions in the context of Ukrainian refugees in Poland. Russia's full-scale invasion of Ukraine in 2022 displaced around six million Ukrainians, with Poland hosting around one million refugees (UNHCR, 2023a). Our analysis focuses on the business creation consequences of this large inflow.

Using business registry data, we first show that in 2022 alone, Ukrainian owners established 4,458 private limited companies and 10,954 sole proprietorships, accounting for 5% of all firm registrations in Poland. To link this wave of firm creation to refugees, we show based on the registry data that 80% of the Ukrainian owners of new private limited companies are resident in Poland, and, based on social security data, that 52% of the net inflow of self-employed Ukrainians during 2022–2024 are refugees. We also show based on a large survey of refugees in Poland by the UN High Commissioner for Refugees (UNHCR) that 6.7% of adult refugees are self-employed, which is in line with around 65% of the new Ukrainian firms in 2022–23 being owned by refugees. We also survey Ukrainian firms in Poland and find that 58% of the post-invasion Ukrainian owners registered as refugees. Our survey also reveals that a large share of Ukrainian entrepreneurs transferred their businesses from Ukraine, a

finding confirmed by looking up entrepreneurs' names in the Ukrainian business register. We also show that new Ukrainian firms and refugees are correlated across counties: 100 extra adult refugees are associated with 0.7 private limited companies, above what would have been predicted by prior economic trends and historical migration patterns. Taken together, these patterns suggest that refugees account for a large share of new Ukrainian firms ($\approx 60-65\%$), while other Ukrainian owners are either pre-war migrants ($\approx 15-20\%$) or based abroad ($\approx 20\%$).

We then examine whether refugee entrepreneurship crowds out or stimulates Polish entrepreneurship. We exploit variation in business creation across counties and sectors. This allows for two-way fixed effects that control for location– (e.g. local demand generated by refugees) and sector–specific factors (e.g. Poland's powerhouse sectors) that may affect both Ukrainian and Polish entrepreneurship. To identify a causal effect, we use instrumental variables that interact the geographically uneven refugee shocks and measures of Ukrainian refugees' comparative advantage across sectors. We use three sector shares to capture the latter: (i) the sectoral distribution of self-employed refugees in pre-war Ukraine; (ii) the sectoral distribution of Ukrainian firms that relocated to Poland after the invasion; and (iii) the sectoral distribution of Ukrainian businesses operating in Poland before the invasion. This approach exploits the variation in business entry driven by the pre-determined comparative advantage of Ukrainian refugees across industries. Importantly, we are able to isolate the effect of refugees as entrepreneurs from that of refugees as employees (labor-supply effect) and that of refugees as consumers using control variables based on employment data and consumption share data.¹

The estimates reveal a positive multiplier. Rather than displacing Polish entrepreneurs, the inflow of Ukrainian businesses stimulated additional firm creation by the native-born. When we focus on private limited companies, we find that 10 extra Ukrainian-owned businesses generates between 3.2 and 5.3 additional Polish firms in 2022. This multiplier effect indicates that refugee entrepreneurs encouraged host-county entrepreneurs to start busi-

¹We show that the pre-invasion sectoral composition of Ukrainian entrepreneurs is very different to that of Ukrainian employees in 2022 and to that of consumption shares. This confirms our identifying assumption that conditional on county and sector fixed effects, the interaction of refugee shocks with Ukrainian entrepreneurs' comparative advantage affects local entrepreneurship only through refugee entrepreneurship.

nesses, instead of simply competing with them. These results hold for both 2022 and 2023, and only for private limited companies. When we look at all firms registered, including sole proprietorships, we find no significant multiplier nor crowd-out effect.

We then look into the potential mechanisms of the multiplier effect. One possibility is a creative emulation effect, whereby Polish entrepreneurs are inspired by Ukrainian new firms. This is in line with our survey responses, which reveal that 59% of Ukrainian owners saw Polish entrepreneurs start firms similar to theirs. Another possibility is that Polish entrepreneurs start businesses that complement new Ukrainians firms in upstream and downstream sectors at the local level. We look into the presence of a multiplier effect in upstream or downstream sectors using Poland's input-output matrix but find no evidence suggestive of new Polish firms having emerged to connect with new Ukrainian firms either in upstream and downstream sectors. Business linkages within the same sector may still explain part of the multiplier effect. Our survey suggests that this channel may be at play. Among Ukrainian business owners, 88% say their firms supply goods or services to other firms locally, and 62% of firms buy goods or services from other firms locally.

By focusing on the multiplier effect of refugee entrepreneurship, our paper adds to the literature on the effects of migrants on entrepreneurship, where the effect of immigration on business creation may come from various other channels such as the supply of labor or demand for products. Olney (2013), Mahajan (2024), Duleep et al. (2021), Zavodny (2023) and Tareque et al. (2024) for example find that immigration has a positive impact on business creation across US metro areas (or States), while Unel (2024) suggests it reduces self-employment among white Americans. Jahn and Steinhardt (2023) showed that ethnic German migrants into Germany in the 1990s increased business creation, while Bosch (2025) finds that immigrants increased native-born entrepreneurship across Spain. When it comes to refugees, Altındağ et al. (2020) and Akgündüz et al. (2018) find that Syrian refugee arrivals led to foreign-owned firms entry across provinces in Turkey. Hessami et al. (2024) look at the effect of asylum seeker intakes across German districts from 2007 to 2021, and find that 10 extra asylum seekers per 1,000 inhabitants leads to 0.7 new businesses per 1,000 inhabitants, yet these businesses are mainly registered by Germans and not asylum seekers, possibly capturing labor-supply effects. We contribute to this literature by identifying a

multiplier effect that may arise from refugee entrepreneurship.

By documenting Ukrainian refugee entrepreneurship in Poland, we also contribute to the literature on refugee entrepreneurship, which includes recent studies such as Bahar et al. (2022) and Newman et al. (2024). Several historical episodes also illustrate how refugees bring businesses to host economies. A well-known one is that of the Huguenots, who left France after the 1685 Revocation of the Edict of Nantes and relocated entrepreneurial knowledge to cities such as London and Berlin, with long-run effects on productivity (Scoville, 1952a,b; Hornung, 2014; Diebolt and Huesler, 2025). This is well captured by a quote by French envoys in London in 1714 who lamented that the Huguenots “carried there our manufactories of silk, hats, hardware, paper, linen, and several other commodities,” (quoted in Scoville, 1952a). Other examples include Sephardic merchants expelled from Spain and Portugal after 1492 who restarted their trading firms in places like Ottoman Salonica (Mazower, 2004) and Livorno (Trivellato, 2009), Armenian merchants who rebuilt their commercial operations in Aleppo and Beirut after the 1915 genocide (Migliorino, 2008), Greeks who relocated from Asia Minor to Greece after the 1923 population exchange and triggered the carpet-making industry (Pentzopoulos, 2002; Murard and Sakalli, 2018), and Indian-Ugandan businesses who moved from Kampala to the UK after the 1972 expulsions (Robinson, 1993).

Our paper also contributes to the literature on the economic effects of large refugee waves, which most often focuses on labor-market effects. For example, Card (1990), as well as Clemens and Hunt (2019) and Peri and Yasenov (2019) more recently, showed that the large inflow of Cubans from the Mariel Boatlift in Miami in 1980 had no effect on wages or jobs. Friedberg (2001) similarly showed that the mass migration of Russians to Israel around the fall of the Soviet Union had no impact on the labor market outcomes of the native-born. Hunt (1992) and Edo (2020) on the other hand found that around 600,000 repatriates from Algeria to France in 1962 caused the wages of the native-born to drop.² While the evidence points towards large refugee waves having little effects on labor markets in general, focusing solely on jobs and wages might not allow us to fully understand the economic effects of refugees, as refugees’ economic contribution might also come from their business activities.

²Recent studies have also examined the labor-market effects of the 2022 Ukrainian refugee inflows. We discuss these in Section 2.

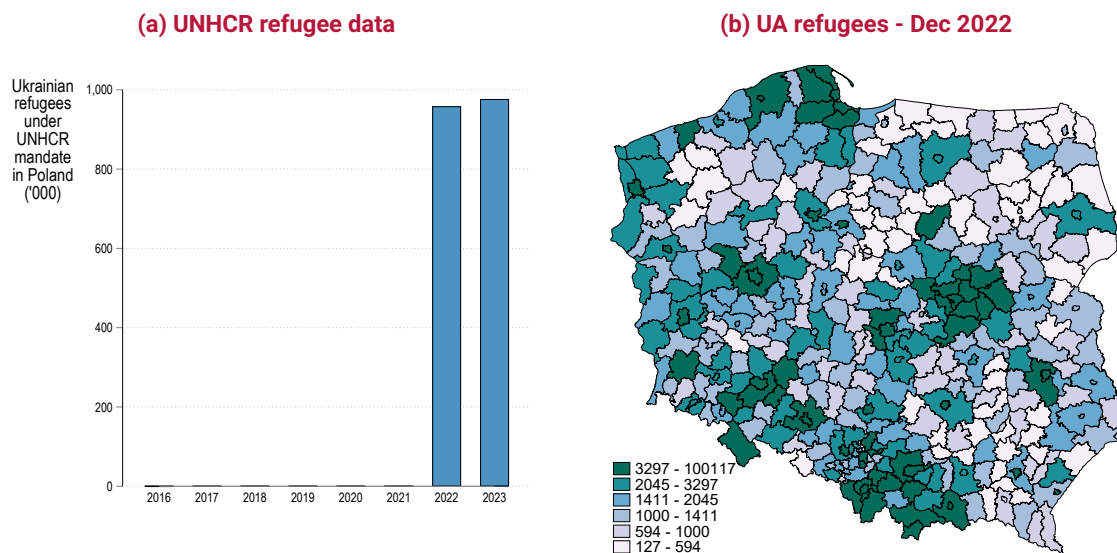
Our paper contributes to this literature by documenting the business creation effect of a large refugee wave.

The remainder of the paper is organized as follows. Section 2 covers the background; Section 3, the data; Section 4, the empirical strategy; and Section 5, the results. Section 6 concludes.

2 Background

The full-scale Russian invasion of Ukraine on 24 February 2022 led to a large sudden outflow of Ukrainian refugees. According to the UNHCR, out of an estimated 5.7 million Ukrainian refugees globally, 5.1 million went in Europe, and around 1 million to Poland (Figure 1 (a)). These numbers remained stable from 2022 through 2025. According to UN population projections, this inflow substantially increased Poland's population of 38 million.

Figure 1. The large inflow of Ukrainian (UA) refugees in Poland



Sources: UNHCR Operational Data Portal (<https://data.unhcr.org/en/situations/ukraine>) and Universal Electronic System for Registration of the Population (PESEL).

This refugee wave is unique in at least two ways. First, it prompted an extensive grass-roots effort to welcome refugees. A report from the Polish Economic Institute indicates that 77% of adult Polish citizens contributed to the relief efforts in some capacity, providing hous-

ing, food, clothing, and financial assistance (Baszczak et al., 2022). Thousands of private vehicles transported refugees from the border, and Polish families hosted 1.6 million refugees, many of whom later moved to Germany (McMahon, 2023).³ This widespread support led to a distribution of refugees across Poland's 380 counties (Figure 1 (b)), roughly proportional to population (we explore the locational determinants of refugees in Appendix B).

Second, unlike Syrians in Turkey or Venezuelans in Colombia, Ukrainians in Poland were granted access to almost all social benefits and public services on a par with Polish citizens upon arrival. On 12 March 2022 - only 16 days after the Russian invasion - Poland enacted a special law allowing refugees from Ukraine to apply for a newly established legal status.⁴ It was initially valid for 18 months after their arrival, but successive law amendments have extended it, and it remains valid at the time of writing in 2026. This status granted refugees access to Polish social benefits, the right to work legally, access to public education and healthcare systems, and set up businesses under the same conditions as the native-born.

Importantly, Poland applies a work-first approach, prioritizing immediate employment and does not provide support measures such as language courses or job-placement services dedicated to refugees. Its welfare system is also less generous than that of Western European countries hosting a large number of Ukrainians, such as Germany, Austria, or the Netherlands. This contributes to the employment rate of Ukrainian refugees in Poland being noticeably higher than in those countries (Kosyakova et al., 2024), and creates fertile ground for entrepreneurship that we study in this paper.

The inflow of Ukrainian refugees has had notable economic impacts on Poland. Pogarska et al. (2023) observed that the refugee inflow temporarily increased retail trade and private consumption. A quantitative model by UNHCR and Deloitte (2024) suggest that Ukrainian refugees contributed between 0.7% and 1.1% to Poland's GDP in 2023 through their roles as workers, entrepreneurs, consumers, and taxpayers. Similarly, Caliendo et al. (2023) present a model showing that the labor supply shock caused by Ukrainian refugees may have contributed to an increase in real GDP across Europe. Gromadzki and Lewandowski (2023)

³Private hosting of Ukrainian refugees was also common in Germany, and Herpell et al. (2025) suggest it led to better psychological integration but had no effects on linguistic, economic or political integration.

⁴*Ustawa z dnia 12 marca 2022 r. o pomocy obywatelom Ukrainy w związku z konfliktem zbrojnym na terytorium tego państwa.*

provide suggestive evidence that the refugee inflow did not affect labor market outcomes of natives or other migrants. This could be due to Poland's record-low unemployment rate of 3.4% in 2021. Indeed, the strong Polish labor market contributed to a high employment rate among refugees, reaching 55-65% in 2022-2023 (Górny and Kaczmarczyk, 2023; Dudek et al., 2023), above rates recorded in Germany or Austria (Brücker et al., 2023; Kosyakova et al., 2024).⁵ A report by Poland's National Development Bank (Departament Badań i Analiz, 2025) suggests refugees' net fiscal contribution in 2024 was positive, paying \$4 billion in taxes and social security, far exceeding the public assistance they received.

Anecdotal evidence suggests that Ukrainian refugees may also have impacted the Polish economy through business creation. Bloomberg (2023) documents the rapid relocation of Ukrainian businesses to Poland following the invasion, while The Economist (2023) writes that Ukrainian refugee entrepreneurs are transforming Poland's business landscape.⁶ A report by Dębkowska et al. (2022) corroborates this trend, noting an increase in Ukrainian business registrations in Poland after the Russian invasion. Last but not least, Obminski (2025), using data from Foursquare, finds more retail stores opening in locations where more refugees settled, possibly partly capturing refugee entrepreneurship. In the rest of the paper we describe the data we use to investigate this wave of business creation, link it to refugees, and estimate its multiplier effects on Polish entrepreneurship.

3 Data and descriptive evidence

⁵Postepska and Voloshyna (2025) found no effect of Ukrainian refugees on natives' employment, unemployment, or inactivity rates in Czechia, and this across gender, education, and industry groups. Hainmueller et al. (2025) show that a fast-track employment program for Ukrainian refugees in Germany greatly improved labor-market outcomes.

⁶The Economist (2023) gives a few examples of Ukrainian businesses: A co-working space for beauticians and hairdressers in Warsaw, Kapsula, a marketplace for fashion designers, Ukraine's biggest private postal service, NOVA, with branches in 21 Polish cities, and Warsaw's first Crimean Tatar restaurant. Other examples include Lviv Croissants, a bakery chain which at the time of writing in 2026 has 11 locations across Poland, and Chornomorka, a Ukrainian restaurant chain specializing in fish and seafood.

3.1 Refugees

To measure refugee inflows and understand their links with Ukrainian entrepreneurship, we use data on refugees from the Universal Electronic System for Registration of the Population (PESEL). Upon arrival, refugees from Ukraine could obtain legal status simply by registering in PESEL, which was free and could be arranged in any municipal office. Moreover, Poland created a dedicated sub-registry (PESEL UKR) which provides highly accurate information on the location of Ukrainian refugees' across the country.

The refugee numbers are consistent with UNHCR data, and the PESEL records allow us to measure refugee stocks across Polish counties (see Figure 1 b)). Refugees settled across all counties, as local engagement and support attracted them to every corner of the country.⁷ The refugee population consisted mostly of women and children, as most men were required to remain in Ukraine to support the defense effort.⁸ Ukrainian refugees also appear to have been positively selected in terms of education, a pattern commonly observed among refugee populations (Aksoy and Poutvaara, 2021). According to UNHCR and Deloitte (2024), 56% of refugees held higher education degrees, compared with 30% among Poles (Eurostat UFS 2002) and 34% among Ukrainians living in Ukraine before the war (Ukrstat UFS 2020).

The registration of non-refugee Ukrainian migrants in Poland effectively ceased in February 2022, coinciding with the onset of the conflict. According to data from the Ministry of Labor and Social Policy, the number of work permits and declarations (the main pre-war channels for Ukrainian migration) issued between April and December 2022 was only 10% of the number issued over the same period in 2021. We use data from the Ministry of Labor and Social Policy to estimate the distribution of around 1.6 million Ukrainians across Poland in 2021, before the refugee influx.⁹

⁷We examine the locational determinants of refugee settlement in Appendix B.

⁸Exceptions were made for certain groups, including students, fathers of more than two children, and selected professionals such as scientists and teachers. A detailed list of these exemptions is provided by the ES&Partners law firm (<https://www.es.partners/en/who-is-exempt-from-mobilization-in-wartime-in-2025>).

⁹This estimate is based on Ukrainians holding *Zezwolenia* (work permits), *Praca Sezonowa* (seasonal work permits), and *Oświadczenia* (Declarations), which are statements of intent to employ available to citizens of Armenia, Belarus, Georgia, Moldova, and Ukraine. Ukrainian economic migration to Poland expanded rapidly in the late 2010s, driven by strong labor demand and successive rounds of labor-market liberalization by Polish governments. This migration was predominantly circular, involved mostly men, and featured high employment rates. Because many migrants were temporary or seasonal, the exact number of Ukrainians residing in Poland

We also use data on Ukrainian refugees in Poland from The Poland - Multi-Sector Needs Assessment (MSNA) survey by the UNHCR, which was fielded in Jul-Aug 2023 across 5,645 households comprising 13,421 individuals. We do so primarily to estimate self-employment levels among refugees in Poland and to capture the comparative advantage of refugee entrepreneurs by looking at self-employment across sectors in Ukraine, before moving to Poland. The survey indicates that 14.4% of adult men were self-employed back in Ukraine, and 8.3% of adult women.

3.2 Businesses

Our main sources of data on business creation are the National Court Register (Krajowy Rejestr Sądowy, KRS), which was compiled and provided by rejestr.io, and the Central Register and Information on Business Activity (Centralna Ewidencja i Informacja o Działalności Gospodarczej, CEIDG), which is publicly available. Together, these registries cover the universe of business creation in Poland.¹⁰

The KRS registry covers what we refer to as Inc. firms, i.e. private limited companies, as well as joint-stock companies, registered partnerships, and limited partnerships. To get a complete picture of business creation, we also use data on sole proprietorships from CEIDG.¹¹ Crucially, the registries include information on the citizenship of firm owners, allow-

before the 2022 invasion is uncertain. The 2021 Polish census recorded 916,000 temporary Ukrainian migrants, a Polish government COVID-19 report estimated 1.35 million Ukrainians in 2019, and Strzelecki et al. (2022) suggest up to 2 million in 2018. While estimates vary across sources, they point to the Ukrainian population in Poland roughly doubling with the refugee inflow after 2022.

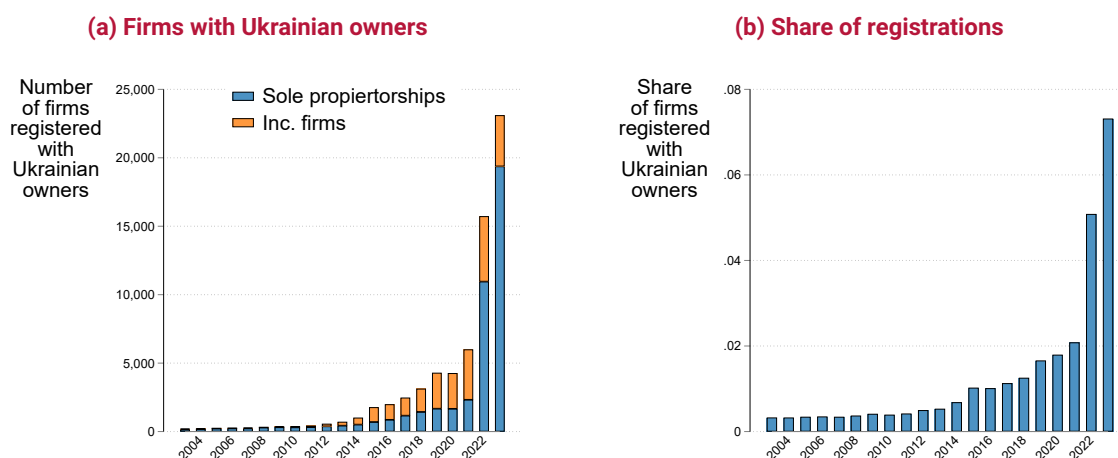
¹⁰Registering a business in Poland is a straightforward and low-cost process, with most steps available online. Both Polish citizens and foreign nationals, including Ukrainians, can register a sole proprietorship or a limited liability company through government online portals. A sole proprietorship can be registered free of charge via biznes.gov.pl, and the process only requires a PESEL identification number and a Trusted Profile, both of which can be obtained during a single visit to a municipal office. A Trusted Profile is a free method of confirming a citizen's identity in public administration systems that also allows users to create an electronic signature that is as effective as a handwritten signature. A limited liability company can be created through the S24 system, with a low capital requirement (5,000 PLN, $\approx$ 1,360 USD) and minimal fees (350 PLN plus a tax of 0.5% of the starting capital). Processing times are short—typically 1-7 days when documents are complete. While Poland's e-government infrastructure makes setting up a business highly accessible, all official documents and online systems are in Polish. In 2022, a dedicated website (biznes.gov.pl/Ukraina) and an accompanying hotline were launched to provide Ukrainian entrepreneurs with all the necessary information and support.

¹¹Sole proprietorships may also represent outsourced workers rather than entrepreneurship, as sole proprietors in Poland enjoy preferential taxation. Since 2004, business owners in Poland face a flat rate income tax rather than progressive income tax applied to employees. Individuals who establish new firms are also temporarily exempted from social security contributions. Klejdysz and Zawisza (2026) show that preferential taxation in-

ing us to identify firms created by Ukrainian nationals. Specifically, we classify as Ukrainian any firm with at least one Ukrainian owner, and as Polish any firm with at least one Polish owner.¹²

Figure 2 illustrates the trend in firm registrations by Ukrainian owners from 2003 onward. Following the Russian annexation of Crimea in 2014, registrations started increasing, possibly reflecting the decline in small and medium firm activity in Ukraine (Audretsch et al., 2023). Although the number of registrations fell below trend in 2020 due to the COVID-19 pandemic, a sharp rise occurred in 2022, likely driven by the Russian invasion and the subsequent refugee inflow.

Figure 2. Firm registrations with Ukrainian owners in Poland



Source: National Court Register (KRS) and Central Register and Information on Business Activity (CEIDG).

In 2022, Ukrainian owners registered 4,458 private limited companies (Inc. firms) and 10,954 sole proprietorships, collectively accounting for over 5% of all firm registrations in 2022. In 2023, Ukrainian firms accounted for more than 7% of all registrations. Table A.1 presents the distribution of all firms in 2022-23 across 88 industries (NACE Rev. 2). Firms with Ukrainian owners represent 13% of all registrations in the computer programming sector, 12% in food and beverage service activities, and 11% in the construction sector.

created transitions to long-term self-employment without dependent workers, especially in high-skilled service industries.

¹²Inc. firms jointly owned by Polish and Ukrainian nationals represent 1.06% of all Inc. firms and 0.003% of all firms. We classify these as both Ukrainian- and Polish-owned, and only as the latter in robustness checks.

To gauge the share of Ukrainian businesses that has been started by refugees, we cross-check numbers from various sources. First, the firm register indicates that 80% of owners of the new Inc. firms are resident in Poland.¹³ Second, according to social security data (ZUS, cited in Deloitte (2025)), refugees account for 14.8K of the 28.8K net increase in Ukrainian self-employed during 2022-2024, or 52%. Third, the UNHCR MSNA survey of refugees in Poland reveals that 6.7% of adult refugees are self-employed, implying that around 65% of all Ukrainian business created in 2022–23 are owned by refugees. Fourth, we designed and fielded our own survey of Ukrainian firms and find that among 110 respondents who had registered their business after January 2022, 64 had registered as refugees via the PESEL system, or 58% of them (see Appendix H for details on our survey). Our survey also reveals that a large share of Ukrainian entrepreneurs transferred their businesses from Ukraine (50%), a finding in line with historical episodes (see intro) and confirmed by a survey by Dębkowska et al. (2022), as well as by looking up the names of entrepreneurs in the Ukrainian business register. According to a fuzzy matching exercise, around 31% of Ukrainian new business owners in Poland in 2022 also had businesses registered in Ukraine (before Feb 2022).¹⁴ Fifth, we show that across Poland's 380 counties those that received more refugees as a share of population also saw disproportionately more Ukrainian firm registrations in 2022 and 2023, relative to what pre-war trends would predict. A percentage point increase in the (adult) refugee share of the county population is associated with a 0.92 to percentage point increase in the Ukrainian share of registrations of Inc. with owners residing in Poland in 2022, above what would have been predicted based on previous and pre-war Ukrainian migrants and firms. This analysis is included in Appendix C.¹⁵

We also estimate this cross-county relationship by sector and find a stronger association between refugees and Ukrainian firm creation in sectors such as other services (computer and household repair, laundry and dry-cleaning, hairdressing and beauty treatments),

¹³The business register does not include information on whether the Ukrainian owners are refugees or when they arrived in Poland. Ukrainian owners of newly business may have been living in Poland before the invasion, or may live abroad while owning a business in Poland.

¹⁴The Ukrainian business register data is available here: https://www.opensanctions.org/datasets/ua_edr/. We also analyzed the names of Ukrainian owners in the Polish register with the namsor.app and found that among the 5,000 owners of new Inc. firms in 2022, 65% are men, and 35% are ethnic Ukrainian, almost twice as many as those identified as ethnic Russian (it is unclear for 46% of names.)

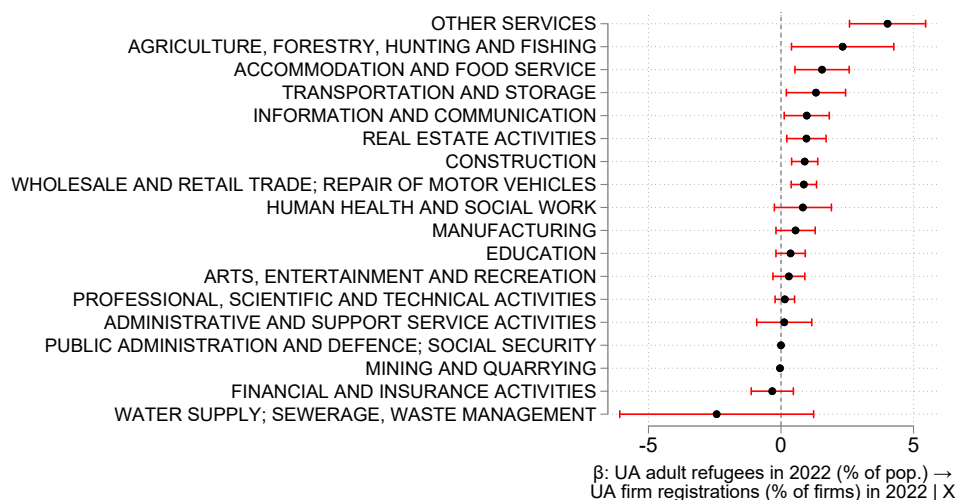
¹⁵In levels, 100 extra adult refugees are associated with 1.1 Ukrainian firms, 0.7 Ukrainian Inc. firms and ($\approx$ \$36,800 in capital expenditure).

agriculture, and information and communication, (panel (a) of Figure 3). in line with refugees' sectors of self-employment back in Ukraine (Figure 4), a pattern we exploit to estimate the impact of Ukrainian entrepreneurship on Polish entrepreneurship. In panel (b) of Figure 3 we estimate this cross-county relationship by year, focusing on Other Services. The results show that refugees are correlated with Ukrainian firm creation only in 2022 and 2023, when they were indeed present, and not in previous years, which act as placebos. This confirms that the relationship between refugees and firms across counties is not driven by omitted factors capturing pre-existing Ukrainian affinity, and that refugees are behind a large chunk of Ukrainian business creation in 2022 and 2023.

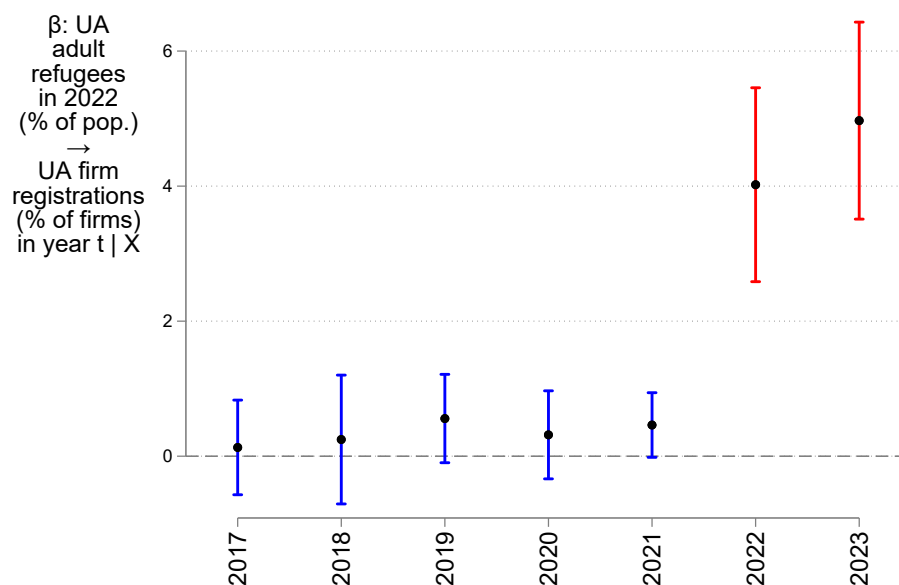
In the next section, we turn to estimating the potential crowding-out effects of Ukrainian entrepreneurship, where the interaction of the refugee shocks across counties with the comparative advantage of Ukrainians across sectors helps us identify the causal effect.

Figure 3. The relationship between refugees and Ukrainian firms across counties

(a) In which sectors are refugees most associated with Ukrainian firm creation?



(b) In which year are refugees associated with Ukrainian firm creation in Other Services?



Notes: Coefficients on Ukrainian refugee share of county population in 2022, where the dependent variable is Ukrainian (UA) firm registrations in Other Services 2022. The estimated equation is that in col. 2 of Table C.2, and includes pre-war Ukrainian migrants (% of pop) and pre-war (2015-2021) UA firms (% firms) as control variables.

4 Empirical strategy

Having established that Ukrainian refugees in Poland are associated with a large wave of new Ukrainian-owned businesses, our aim now is to assess whether the wave of Ukrainian businesses crowded out, or encouraged, entrepreneurship among the native-born in 2022 and in 2023.¹⁶

Our empirical strategy exploits variation in business creation across counties (i) and sectors (k). This allows for two-way fixed effects that control for location– (e.g. local demand generated by refugees) and sector–specific factors (e.g. Poland’s powerhouse sectors).

To identify the causal effect, we instrument the number of Ukrainian (UA) firms in 2022 (or 2023) with the interaction between the inflow of adult refugees into county i in 2022 and the sector k share of either: (IV1) self-employment in pre-war Ukraine among refugees, (IV2) Ukrainian firms that moved from Ukraine and registered in Poland, or (IV3) Ukrainian firms registered in Poland during 2015–2021.

The intuition behind IV1 is that county-level refugee shocks generated more Ukrainian businesses in sectors in which Ukrainian refugees were entrepreneurs back in Ukraine, capturing the pre-war comparative advantage of Ukrainian refugees. This interaction also indirectly captures the variation across sectors in the inflow of businesses brought from Ukraine by refugees. The drawback of this IV is that self-employment shares back in Ukraine are available only across 20 major sectors from the UNHCR survey, whereas our data on businesses in Poland varies across 88 sectors.

IV2 uses the sector shares of the Ukrainian firms that moved from Ukraine and registered in Poland, identified by a fuzzy matching of owners’ names in the Polish and Ukrainian registers. These shares vary across 88 sectors and, similarly to IV1, capture the comparative advantage of pre-war Ukrainian businesses that moved to Poland.

¹⁶Survey data from the Global Entrepreneurship Monitor suggests that in 2023 and 2022, adult Poles rated the prospects for establishing a business in their immediate environment as high as in 2021 (Global Entrepreneurship Monitor Poland, 2024).

IV3 uses the sector shares of Ukrainian firms registered in Poland during 2015–2021. The intuition here is that county-level refugee shocks generated more Ukrainian businesses in sectors in which previous Ukrainian owners have had a higher propensity to operate before the invasion, reflecting the comparative advantage of Ukrainians in Poland.

Put differently, our three IVs capture the pattern that counties that received more refugees may have experienced larger increases in Ukrainian-owned firms in sectors where Ukrainians have had a higher tendency to start businesses, either back in Ukraine before moving, or in Poland before the war.

Our two-stage least-squares model with IV1 takes the following specification:

First stage:

$$\begin{aligned} (\text{UA firm registered in 2022 or 2023})_{ik} = & \alpha_i + \gamma_k + \beta_1(\text{Controls})_{ik} \\ & + \beta_2(\text{UA 18+ refugees in 2022})_i \times (\% \text{ self-employed refugees back in UA}_k) + \varepsilon_{ik} \end{aligned} \quad (1)$$

Second stage:

$$\begin{aligned} (\text{Net PL firm registrations in 2022 or 2023})_{ik} = & \alpha_i + \gamma_k \\ & + \beta_1(\widehat{\text{UA firm registered in 2022 or 2023}})_{ik} + \beta_2(\text{Controls})_{ik} + \varepsilon_{ik} \end{aligned} \quad (2)$$

where α_i and γ_k are county and sector fixed effects. We focus on net firm registrations by Polish (PL) owners, i.e. new firms net of firms that ceased activity, to take into account that new Ukrainian firms may both create and destroy firms locally (when firms cease to exit, the date of cessation is included in the register).

We include two control variables that vary across counties and sectors. We control for local business dynamics using the yearly average of business registrations over 2015–2021 to capture deviations from what would have been expected based on previous years of Polish business creation in county i and sector k . Our other control variable is based on our identifying assumption, i.e. that conditional on county and sector fixed effects, the interaction of refugees with sectoral comparative advantage affects local entrepreneurship only through refugee entrepreneurship. One concern is that refugee employees might also work more

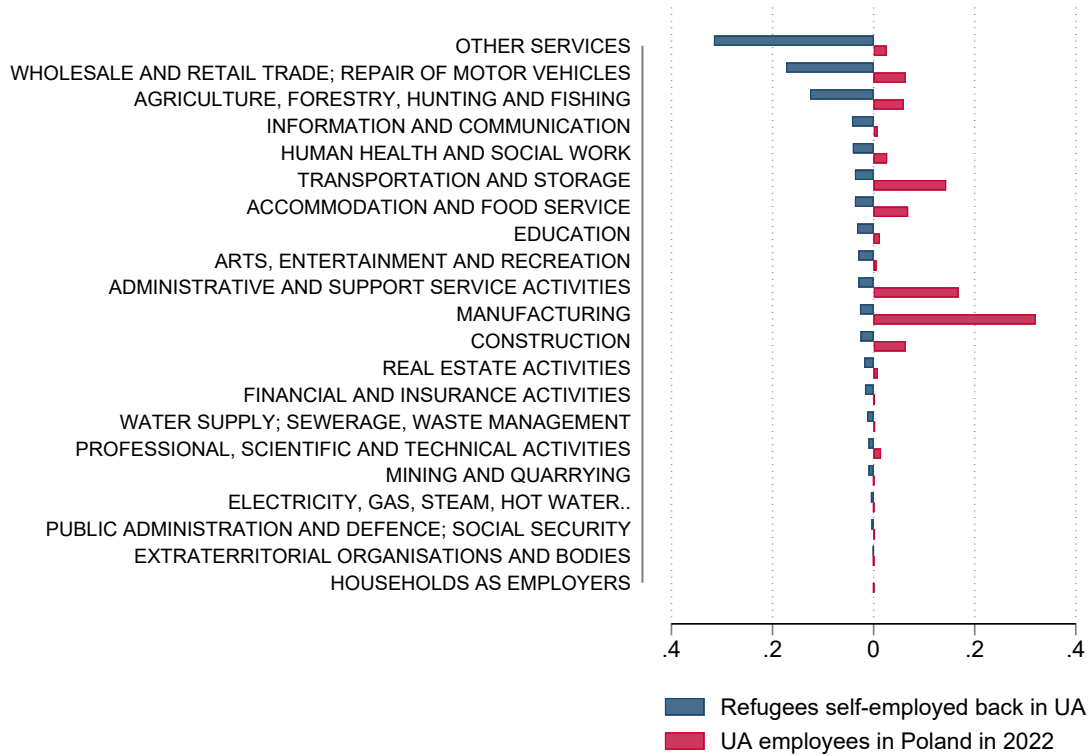
intensely in the sectors where refugees have an entrepreneurial comparative advantage. Our IVs could thus capture a refugee labor supply effect on Polish entrepreneurship (as identified for migrants in Spain by Bosch (2025)) if Ukrainian employees are distributed similarly as entrepreneurs across sectors.

To address this concern, we control for Ukrainian employees across sectors and counties in 2022, using data from required employer notifications to the Ministry of Family, Labor and Social Policy. We also show that the sectoral distribution of Ukrainian entrepreneurs across sectors is very different from that of Ukrainian employment (Figure 4). This confirms that IV1 is unlikely to capture labor supply effects.¹⁷ In robustness checks in Appendix C, we address the possibility that our instruments might capture the effect of refugees as consumers on Polish firm creation. To do so we show second stage results where we control for the interaction of refugees and household consumption shares across sectors, and we also conduct a placebo test using this interaction as an IV.

We discuss the results in the next section.

¹⁷In Appendix D we show that the sector shares of our two other IVs are similarly uncorrelated with Ukrainian employees in 2022 across 88 sectors.

Figure 4. Ukrainian employees in Poland vs. Refugees self-employed back in Ukraine



Sources: The Poland - Multi-Sector Needs Assessment (MSNA) survey by UNHCR in Jul-Aug 2023 of 5,645 households comprising 13,421 individuals and required employer notifications to the Ministry of Family, Labor and Social Policy.

5 Results

Did refugee entrepreneurship crowd out, or encourage, entrepreneurship by the native-born? The results in Table 1 show both OLS and 2SLS estimates as specified in Equation 2, focusing on private limited companies (Inc. firms). Columns (1-4) show results for 2022, columns (5-8) for 2023. Columns (1) and (5) are OLS estimates while other columns show 2SLS results using our different IVs, indicated in the table's last row. The first stage results (eq. 1) are included in Appendix E.¹⁸

¹⁸In Appendix E, to further verify that the sector shares in our IVs are uniquely adequate to capture the comparative advantage of Ukrainian refugees, we show that shuffling randomly sector shares, while keeping true

We find a positive multiplier effect, statistically significant across specifications. In the specification of columns (3) and (7), where our IV is based on the sector shares of firms that moved from Ukraine to Poland, the coefficient suggests that 10 extra Ukrainian registrations led to 3.4 more Polish firm registrations in 2022 and 4.8 in 2023. The OLS and IV2 estimates suggest effects of similar magnitude, while IV3 estimates are slightly larger.¹⁹ Overall, the effects for 2023 are larger than those for 2022, and this may reflect compound and lagged effects.

Table 1. Net registrations of Inc. firms with Polish owners

	2022					2023		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UA Inc. firms	0.318* (0.172)	0.337*** (0.111)	0.341* (0.189)	0.530*** (0.138)	0.561** (0.276)	0.755*** (0.233)	0.483* (0.287)	1.009*** (0.372)
UA employees	0.001** (0.001)	0.001** (0.000)	0.001** (0.001)	0.001* (0.000)	0.001* (0.001)	0.001 (0.001)	0.001** (0.001)	0.001 (0.001)
N	33440	33440	33440	33440	33440	33440	33440	33440
R-sq	0.92				0.89			
KP LM p-val		0.05	0.01	0.00		0.08	0.01	0.00
KP F stat		4.19	71.48	39.43		3.22	63.60	36.77
IV		IV1	IV2	IV3		IV1	IV2	IV3

Note: Regressions include sector and county fixed effects and control for avg PL firm registrations 2015-2021 and UA employees. Columns 1 and 5 are OLS. IV1 is (18+ refugees in county $\times$ share of self-employed refugees in sector back in UA). IV2 is (18+ refugees in county $\times$ share of post-war firms in UA register in sector.) IV3 is (18+ refugees in county $\times$ share of UA firms in sector in PL in 2015-2021). The F stat is the first stage's Kleibergen-Paap rk Wald F statistic. First stage results are included in Appendix E. Standard errors clustered by county-sector (major sector in the case of regressions with IV2).

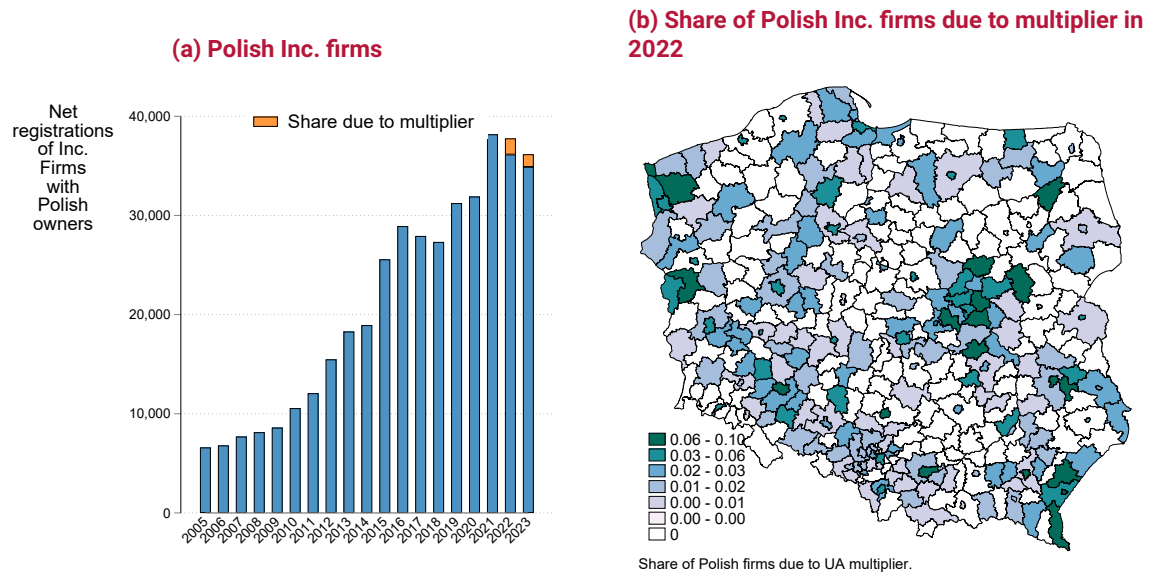
In Figure 5 we illustrate the magnitude of our multiplier estimate for Inc. firms (that col. (3) in Table 1). By multiplying Ukrainian Inc. firms by our multiplier estimate, we find that the multiplier accounts for 4.3% of the 35,000+ Polish Inc. firms registered in 2022, and 3.5% in 2023. In panel (b) we show that in some counties, the size of our multiplier implies that as much as 10% Polish firms are due to Ukrainian refugee entrepreneurship.²⁰

refugee inflows across counties, to construct placebo IVs lead to first stage coefficients around zero.

¹⁹The OLS and 2SLS estimates are not statistically different. In Appendix F, we show that omitted variables are unlikely to be driving our estimates, using sensitivity tests based on Diegert et al. (2022a) and Cinelli and Hazlett (2020).

²⁰The high rate of entrepreneurship among refugees and its multiplier effect might affect the labor-market effect of refugee waves, as refugees might be as much job creators as job takers. While we do not focus on the labor-market effects of Ukrainian refugees in Poland in this paper, we consider briefly the relationship between Ukrainian refugees and unemployment in Appendix G.

Figure 5. Magnitude of the multiplier effect of new Ukrainian firms in Poland



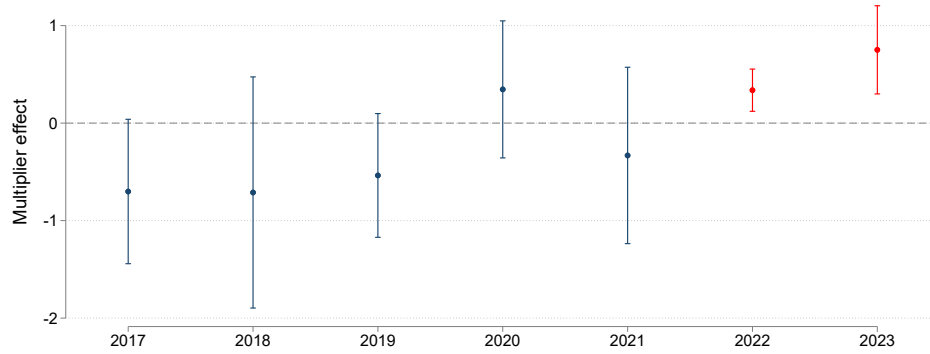
Notes: The share due to the multiplier are obtained by multiplying UA Inc. firms by our multiplier estimate (that of col. (3) in Table 1).

In Figure 6 we show IV estimates of the effect of Ukrainian firms in 2022 on Polish firm registrations in each year from 2017 to 2023. The red dots and bars represent the multiplier estimates and confidence intervals for 2022 and 2023, as in columns (3-4) and (6-8) of Table 1, while the blue ones can be thought of as placebos for the years before the refugee wave. We find no statistically significant effect in pre-war years. This confirms that our multiplier estimates and IVs do not capture factors at the county or sector levels that were present before the refugee wave and that could explain entrepreneurship by the native-born. In Appendix F, we also show that our multiplier estimates are robust to estimating panel regressions with county–sector fixed effects, to removing firms with both Polish and Ukrainian owners from our independent variable, and to including the interaction of refugees with consumption shares of output across sectors as a control variable. The latter, combined with our control for Ukrainian employees, allows us to isolate the effect of refugees as entrepreneurs from their potential effects as workers and as consumers.

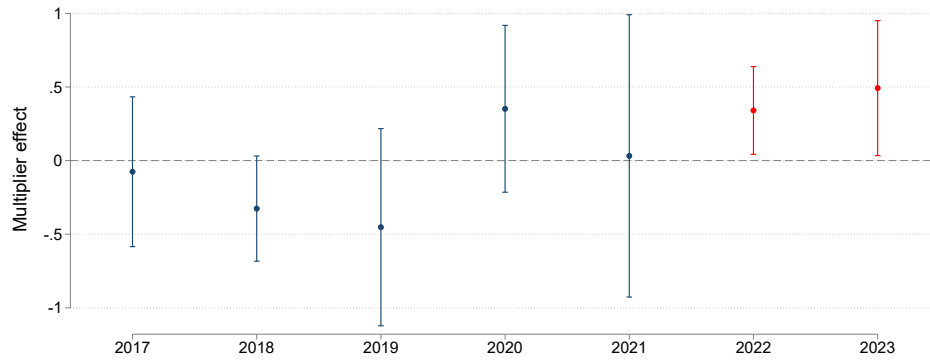
In Table 2, we show multiplier estimates for all firms, including sole proprietorships. In this case, while our OLS estimates suggest similar positive multiplier effect, our 2SLS

estimates suggest no statistically significant effects in 5 out of 6 specifications, despite robust first stage estimates. These results suggest that the multiplier is specific to Inc. firms, consistent with these being larger, real businesses with employees and local supply linkages. Overall, there is no indication that firms started by Ukrainian refugee discourage entrepreneurship among the native-born.

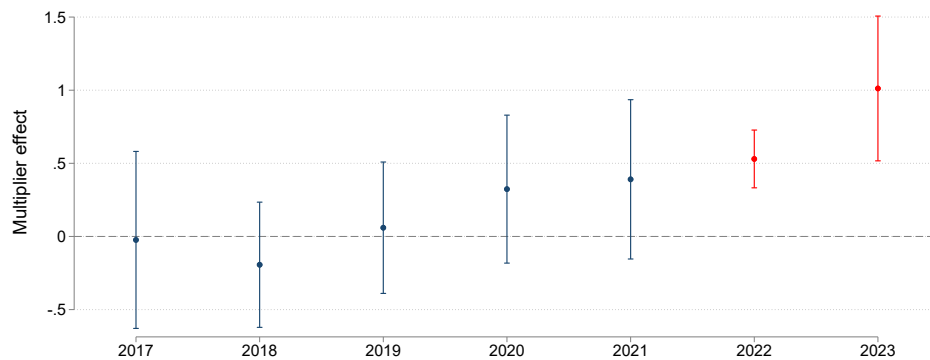
Figure 6. Estimates of the multiplier: Placebos (2017-21) vs. real multipliers (2022-23)



(a) IV1 estimates



(b) IV2 estimates



(c) IV3 estimates

Note: 2SLS estimates of the multiplier effect as specified in equation 2. Regressions include sector and county fixed effects and control for avg PL firm registrations 2015-2021 and UA employees. IV1 is (18+ refugees in county $\times$ share of self-employed refugees in sector back in UA). IV2 is (18+ refugees in county $\times$ share of post-war firms in UA register in sector.) IV3 is (18+ refugees in county $\times$ share of UA firms in sector in PL in 2015-2021). Capped bars are 95% confidence intervals. Standard errors clustered by county-sector (major sector in the case of regressions with IV2).

Table 2. Net registrations of all firms with Polish owners

	2022				2023			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UA firms	0.585** (0.275)	0.136 (0.253)	-0.243 (0.261)	-0.390 (0.298)	0.578*** (0.171)	0.446*** (0.170)	0.238 (0.303)	0.193 (0.284)
UA employees	-0.003** (0.002)	-0.002* (0.001)	-0.001 (0.001)	-0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)
N	33440	33440	33440	33440	33440	33440	33440	33440
R-sq	0.83				0.41			
KP LM p-val		0.02	0.01	0.00		0.03	0.00	0.00
KP F stat		13.79	111.71	57.42		49.18	36.25	30.67
IV		IV1	IV2	IV3		IV1	IV2	IV3

Note: Regressions include sector and county fixed effects and control for avg PL firm registrations 2015-2021. Columns 1 and 5 are OLS. IV1 is (18+ refugees in county $\times$ share of self-employed refugees in sector back in UA). IV2 is (18+ refugees in county $\times$ share of post-war firms in UA register in sector.) IV3 is (18+ refugees in county $\times$ share of UA firms in sector in PL in 2015-2021) The F stat is the first stage's Kleibergen-Paap rk Wald F statistic. First stage results are included in Appendix E. Standard errors clustered by county-sector (major sector when using IV1).

5.1 Downstream and upstream firms

What could explain this positive multiplier effect? One possibility is *creative emulation*, whereby Polish entrepreneurs are inspired by refugees who introduce new ideas, products, or technologies, leading them to start similar businesses. This would be in line with the peer effects suggested by Wallskog (2025); Giannetti and Simonov (2009); Guiso et al. (2021); Galambos and Amatori (2016), whereby exposure to entrepreneurship inspires entrepreneurs. Supporting this interpretation, our survey shows that 59% of Ukrainian owners say Polish entrepreneurs started firms similar to theirs. This could also reflect Polish entrepreneurs opening businesses similar to new Ukrainian businesses yet specifically targeted at native-born consumers, as suggested in (Obminski, 2025).

Another possibility is that Polish entrepreneurs start businesses that complement new Ukrainian firms in upstream or downstream sectors. To investigate upstream and downstream multiplier effects, we follow the approach of Javorcik (2004) (originally developed to identify FDI spillovers) and estimate Equation 2 with firm registrations in upstream or downstream sectors as dependent variables. To measure firm registrations upstream and downstream, we use Poland's input-output (IO) matrix for 2020. The cumulative input coefficients

for domestic intermediates in the IO matrix allow us to compute weighted averages of firm registrations in sectors that are upstream and downstream of each focal sector.²¹

Tables 3 and 4 report the estimated effects of Ukrainian firms on downstream and upstream Inc. firms registered by Polish owners. We find no evidence of a positive multiplier in either upstream or downstream sectors when we focus on Inc. firms (and results are similar when we include sole proprietorships). The estimates are around zero and not statistically significant. This does not rule out the possibility that Polish entrepreneurs start firms to supply or purchase goods from Ukrainian firms, since sectors trade a lot with themselves and such linkages may thus be part of our same-sector multiplier effect. Our survey evidence suggests this mechanism may be at play. Among Ukrainian business owners, 88% report that their firms supply goods or services to other local firms, while 62% purchase inputs locally. Some new Polish firms may have emerged to connect with the growing network of Ukrainian businesses.

Table 3. Multiplier estimates: Downstream firms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Downstream PL-owned Inc. firms							
	(2022)				(2023)			
UA Inc. firms	-0.001 (0.007)	0.001 (0.025)	-0.001 (0.007)	-0.005 (0.007)	-0.010 (0.012)	0.062 (0.068)	-0.004 (0.011)	-0.008 (0.013)
UA employees	-0.000** (0.000)	-0.000* (0.000)	-0.000** (0.000)	-0.000** (0.000)	-0.000 (0.000)	-0.000** (0.000)	-0.000 (0.000)	-0.000 (0.000)
N	33060	33060	33060	33060	33060	33060	33060	33060
R-sq	0.98				0.96			
KP LM p-val		0.12	0.02	0.00		0.16	0.02	0.00
KP F stat		2.11	114.36	41.02		1.78	97.07	35.79
IV		IV1	IV2	IV3		IV1	IV2	IV3

Note: Regressions include sector and county fixed effects and control for avg downstream registrations in 2015-2021. Columns 1 and 5 are OLS. IV1 is (18+ refugees in county $\times$ share of self-employed refugees in sector back in UA). IV2 is (18+ refugees in county $\times$ share of post-war firms in UA register in sector). IV3 is (18+ refugees in county $\times$ share of UA firms in sector in PL in 2015-2021). The F stat is the first stage's Kleibergen-Paap rk Wald F statistic. First stage results are included in Appendix E. Standard errors clustered by county-sector (major sector when using IV1).

²¹The IO matrix is available at: <https://stat.gov.pl/en/topics/national-accounts/annual-national-accounts/input-output-table-at-basic-prices-in-2020,5,4.html>. As in the FDI spillovers literature, we set the coefficient on the IO matrix's diagonal to zero to capture only upstream and downstream firms that are in different sectors.

Table 4. Multiplier estimates: Upstream firms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Upstream PL-owned Inc. firms							
	(2022)				(2023)			
UA Inc. firms	-0.011 (0.009)	0.006 (0.008)	-0.005 (0.007)	0.006 (0.009)	-0.011 (0.009)	0.006 (0.008)	-0.005 (0.007)	0.006 (0.009)
UA employees	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
N	33060	33060	33060	33060	33060	33060	33060	33060
R-sq	0.99				0.99			
KP LM p-val		0.09	0.02	0.00		0.09	0.02	0.00
KP F stat		3.20	75.38	40.56		3.20	75.38	40.56
IV		IV1	IV2	IV3		IV1	IV2	IV3

Note: Regressions include sector and county fixed effects and control for avg upstream registrations in 2015-2021. Columns 1 and 5 are OLS. IV1 is (18+ refugees in county $\times$ share of self-employed refugees in sector back in UA). IV2 is (18+ refugees in county $\times$ share of post-war firms in UA register in sector). IV3 is (18+ refugees in county $\times$ share of UA firms in sector in PL in 2015-2021). The F stat is the first stage's Kleibergen-Paap rk Wald F statistic. First stage results are included in Appendix E. Standard errors clustered by county-sector (major sector when using IV1).

6 Conclusion

The Ukrainian refugee influx is part of a global surge in forced displacement, affecting over 100 million people in 2022, including Syrians, Venezuelans, and many others (UNHCR, 2023b; Devictor et al., 2021). As refugee arrivals inevitably shape host-country economies, understanding their impacts is important for policy design.

Our paper documents that the 2022 wave of Ukrainian refugees in Poland triggered substantial business creation by Ukrainian owners. An additional 100 adult refugees in a county is associated with between 1.1 and 4.4 Ukrainian-owned business registration. Perhaps surprisingly, we find that refugee entrepreneurship stimulates rather than displaces business creation by Polish entrepreneurs. Using instrumental variables, we estimate that 100 additional Ukrainian registrations of private limited companies lead to between 32 and 53 more Polish registrations of similar firms in 2022. While we do not find an effect on downstream or upstream businesses, within-sector linkages may explain part of the multiplier effect. Another mechanism could be creative emulation, whereby Polish entrepreneurs are inspired

to start businesses by new Ukrainian firms. Survey evidence supports those two complementary mechanisms: 59% of Ukrainian owners report seeing Polish entrepreneurs starting similar firms, while 88% of say they engage in local business-to-business transactions. Overall, our results highlight that refugees' entrepreneurial activities can generate broad economic dynamism often overlooked in conventional analyses of wage and employment effects. What's more, these effects may amplify when the war ends and business with Ukraine resumes (Bahar et al., 2022).

International and local organizations increasingly emphasize entrepreneurship as a key tool for refugee integration. The World Bank (2021) highlights support for refugee business creation as a way to unlock economic potential, and the OECD (2021) similarly promotes immigrant entrepreneurship. In Poland, the UN High Commissioner for Refugees (UNHCR), the European Bank for Reconstruction and Development (EBRD), and the Polish Agency for Enterprise Development (PARP) provide legal and financial assistance to refugee-owned businesses. Our evidence that refugee entrepreneurship generates positive spillovers rather than displacement effects reinforces these policy approaches and suggests that facilitating refugee business creation can benefit both refugees and host communities. Yet, in many countries, refugees face legal barriers to entrepreneurship, such as lengthy asylum procedures, restricted access to work permits, and difficulties opening bank accounts or obtaining business licenses. Even when refugees have strong entrepreneurial drive, these constraints can push them into informality or prevent firm creation altogether. Giving refugees access to the formal economy can create positive spillovers for host communities.

References

- Akgündüz, Y. E., M. van den Berg, and W. Hassink (2018). The impact of the Syrian refugee crisis on firm entry and performance in Turkey. *The World Bank Economic Review* 32(1), 19–40.
- Aksoy, C. G. and P. Poutvaara (2021). Refugees' and irregular migrants' self-selection into Europe. *Journal of Development Economics* 152, 102681.
- Altındağ, O., O. Bakış, and S. V. Roza (2020). Blessing or burden? impacts of refugees on businesses and the informal economy. *Journal of Development Economics* 146, 102490.
- Audretsch, D. B., P. P. Momtaz, H. Motuzenko, and S. Vismara (2023). War and Entrepreneurship: A Synthetic Control Study of the Russia-Ukraine Conflict. Technical report.
- Azoulay, P., B. F. Jones, J. D. Kim, and J. Miranda (2022). Immigration and entrepreneurship in the United States. *American Economic Review: Insights* 4(1), 71–88.
- Bahar, D., B. Cowgill, and J. Guzman (2022, November). Legalizing entrepreneurship. Working Paper 30624, National Bureau of Economic Research.
- Bahar, D., C. Parsons, and P.-L. Vézina (2022, 09). Refugees, trade, and fdi. *Oxford Review of Economic Policy* 38(3), 487–513.
- Baszczak, L., A. Kielczewska, P. Kukołowicz, A. Wincewicz, and R. Zyzik (2022). *How Polish society has been helping refugees from Ukraine*. Warsaw: Polish Economic Institute.
- Bloomberg (2023). Ukrainians rush to relocate businesses to Poland after invasion. *Bloomberg*.
- Bosch, G. C. (2025). The impact of immigration on native entrepreneurship: Evidence from Spain. Technical report. Mimeo.
- Brücker, H., A. Ette, M. M. Grabka, Y. Kosyakova, W. Niehues, N. Rother, C. K. Spieß, S. Zinn, M. Bujard, A. R. Cardozo Silva, J. P. Décieux, A. Maddox, N. Milewski, L. Sauer, S. Schmitz, S. Schwanhäuser, M. Siegert, H. Steinhauer, and K. Tanis (2023, August). Ukrainian

- Refugees in Germany: Evidence From a Large Representative Survey. *Comparative Population Studies* 48. Section: Demographic Trends Around the Globe.
- Caliendo, L., L. D. Opmolla, F. Parro, and A. Sforza (2023). Labor supply shocks and capital accumulation: The short- and long-run effects of the refugee crisis in Europe. *AEA Papers and Proceedings* 113, 577–584.
- Card, D. (1990, January). The impact of the mariel boatlift on the miami labor market. *Industrial and Labor Relations Review* 43(2), 245–257.
- Chodavadia, S., S. P. Kerr, W. R. Kerr, and L. Maiden (2024, April). Immigrant entrepreneurship: New estimates and a research agenda. Working Paper 24-068, Harvard Business School.
- Cinelli, C., J. Ferwerda, and C. Hazlett (2024). sensemakr: Sensitivity analysis tools for OLS in R and Stata. *Observational Studies* 10(2), 93–127.
- Cinelli, C. and C. Hazlett (2020). Making sense of sensitivity: Extending omitted variable bias. *Journal of the Royal Statistical Society Series B* 82(1), 39–67.
- Clemens, M. A. and J. Hunt (2019). The labor market effects of refugee waves: Reconciling conflicting results. *ILR Review* 72(4), 818–857.
- Decker, R., J. Haltiwanger, R. Jarmin, and J. Miranda (2014). The role of entrepreneurship in US job creation and economic dynamism. *Journal of Economic Perspectives* 28(3), 3–24.
- Deloitte (2025, apr). Entrepreneurship amidst adversity: The rise of ukrainian refugee-led businesses in poland.
- Departament Badań i Analiz (2025, March). Wpływ napływu migrantów z ukrainy na polską gospodarkę: Podsumowanie stanu wiedzy. Technical report, Bank Gospodarstwa Krajowego. Accessed: 2025-09-19.
- Desai, S., W. Naudé, and N. Stel (2021). Refugee entrepreneurship: Context and directions for future research. *Small Business Economics* 56, 933–945.
- Devictor, X., Q.-T. Do, and A. A. Levchenko (2021). The globalization of refugee flows. *Journal of Development Economics* 150, 102605.

- Diebolt, C. and J. Huesler (2025). France's economic wound: How the Huguenot exodus shaped regional development. *Cliometrica* 122.
- Diegert, P., M. A. Masten, and A. Poirier (2022a). Assessing omitted variable bias when the controls are endogenous. Technical Report 2206.02303, arXiv.
- Diegert, P., M. A. Masten, and A. Poirier (2022b). REGSENSITIVITY: Stata module for regression sensitivity analysis. Statistical Software Components, Boston College Department of Economics.
- Dudek, B., A. Panuciak, and P. Strzelecki (2023). Sytuacja życiowa i ekonomiczna migrantów z Ukrainy w Polsce w 2023 r. Raport z badania ankietowego. Technical report, Narodowy Bank Polski.
- Duleep, H., D. A. Jaeger, and P. McHenry (2021). On immigration and native entrepreneurship. Discussion Paper 846, Global Labor Organization (GLO).
- Dębkowska, K., U. Kłosiewicz-Górecka, A. Szymańska, A. Wejt-Knyżewska, and K. Zybertowicz (2022). *Ukrainian companies in Poland since the start of the war in 2022*. Warsaw: Polish Economic Institute.
- Edo, A. (2020). The impact of immigration on wage dynamics: Evidence from the Algerian Independence War. *Journal of the European Economic Association* 18(6), 3210–3260.
- Fairlie, R. and B. Meyer (2003). The effect of immigration on native self-employment. *Journal of Labor Economics* 21(3), 619–650.
- Fairlie, R. W. and M. Lofstrom (2015). Immigration and entrepreneurship. In B. R. Chiswick and P. W. Miller (Eds.), *Handbook of the economics of international migration*, Volume 1, pp. 877–911. North-Holland.
- Friedberg, R. M. (2001). The impact of mass migration on the israeli labor market. *The Quarterly Journal of Economics* 116(4), 1373–1408.
- Galambos, L. and F. Amatori (2016). The entrepreneurial multiplier effect. *Enterprise & Society* 17(4), 763–808.

- Ghimire, K. (2021). Supply of immigrant entrepreneurs and native entrepreneurship. *IZA Journal of Development and Migration* 12(1).
- Giannetti, M. and A. Simonov (2009). Social interactions and entrepreneurial activity. *Journal of Economics & Management Strategy* 18(3), 665–709.
- Global Entrepreneurship Monitor Poland (2024). Report on entrepreneurship: Global Entrepreneurship Monitor, Poland 2024. Technical report, Polska Agencja Rozwoju Przedsiębiorczości.
- Green, D. A., H. Liu, Y. Ostrovsky, and G. Picot (2023). Are immigrants particularly entrepreneurial?: Policy lessons from a selective immigration system. Technical report, IZA - Institute of Labor Economics.
- Gromadzki, J. and P. Lewandowski (2023). Refugees from Ukraine on the Polish labour market. *Social Insurance. Theory and Practice* 155(4), 29–40.
- Grosfeld, I., E. Madinier, S. O. Sakalli, and E. Zhuravskaya (2024). Independent media, propaganda, and religiosity: Evidence from Poland. *American Economic Journal: Applied Economics* 16(4), 361–403.
- Gu, Z. (2023, December 31). Immigrant entrepreneurship in the us 1910-1940. Unpublished manuscript.
- Guiso, L., L. Pistaferri, and F. Schivardi (2021). Learning entrepreneurship from other entrepreneurs? *Journal of Labor Economics* 39(1), 135–191.
- Górny, A. and P. Kaczmarczyk (2023, February). Between Ukraine and Poland. Ukrainian migrants in Poland during the war. Technical Report 2(48), Center for Migration Research, Warsaw.
- Hainmueller, J., M. Marbach, D. Hangartner, N. Harder, and E. Vallizadeh (2025, September). Refugee labor market integration at scale: Evidence from germany's fast-track employment program. Working Paper.

- Herpell, M., M. Marbach, N. Harder, A. Orlova, D. Hangartner, and J. Hainmueller (2025). The impact of private hosting on the integration of ukrainian refugees in germany. *Nature Human Behaviour* —.
- Hessami, Z., S. Schirner, and C. Wobbe (2024). Asylum seekers, new business registrations, and job creation. Technical report, Ruhr-University Bochum.
- Hornung, E. (2014, January). Immigration and the diffusion of technology: The huguenot diaspora in prussia. *American Economic Review* 104(1), 84–122.
- Hunt, J. (1992). The impact of the 1962 repatriates from algeria on the french labor market. *Industrial and Labor Relations Review* 45(3), 556–572.
- Jahn, V. and M. F. Steinhardt (2023). Immigration and new firm formation – evidence from a quasi-experimental setting in germany. *International Migration Review* 0(0), 01979183231165496.
- Javorcik, B. S. (2004). Does foreign direct investment increase the productivity of domestic firms? In search of spillovers through backward linkages. *American Economic Review* 94(3), 605–627.
- Jin, Z., A. Kermani, and T. McQuade (2025). Native-immigrant entrepreneurial synergies. Working Paper 33804, National Bureau of Economic Research.
- Klejdysz, J. and T. Zawisza (2026). Taxation and business entry: Evidence from the polish self-employment “flat” tax. *Journal of Public Economics* 258, 105640.
- Kosyakova, Y., K. Gatskova, T. Koch, D. Adunts, J. Braunfels, L. Goßner, R. Konle-Seidl, S. Schwanhäuser, and M. Vandenhirtz (2024, Aug). Labour market integration of ukrainian refugees: An international perspective. IAB-Forschungsbericht 202416 (en), Institut für Arbeitsmarkt- und Berufsforschung (IAB), Nürnberg [Institute for Employment Research, Nuremberg, Germany].
- Lee, K. M., M. J. Kim, J. D. Brown, J. S. Earle, and Z. Liu (2023, November). Are Immigrants More Innovative? Evidence from Entrepreneurs. Working Papers 23-56, Center for Economic Studies, U.S. Census Bureau.

- Mahajan, P. (2024, 03). Immigration and business dynamics: Evidence from u.s. firms. *Journal of the European Economic Association* 22(6), 2827–2869.
- Mazower, M. (2004). *Salonica, City of Ghosts: Christians, Muslims and Jews, 1430–1950*. London: HarperCollins.
- McMahon, P. (2023). Poland's hospitality is helping many ukrainian refugees thrive: 5 take-aways. *The Conversation*. Accessed on May 15, 2024.
- Migliorino, N. (2008). *(Re)constructing Armenia in Lebanon and Syria: Ethno-Cultural Diversity and the State in the Aftermath of a Refugee Crisis*. New York and Oxford: Berghahn Books.
- Misiło, E. (2012). *Akcja "Wisła" 1947: Dokumenty i materiały*. Archiwum Ukraińskie & Management Academy Group.
- Murard, E. and S. O. Sakalli (2018, June). Mass Refugee Inflow and Long-Run Prosperity: Lessons from the Greek Population Resettlement. IZA Discussion Papers 11613, Institute of Labor Economics (IZA).
- Mykhailyshyna, D. and D. Zuchowski (2025, August). Migration shocks and voting: Evidence from Ukrainian migration to Poland. *Ssrn working paper*.
- Newman, A., L. Macaulay, and K. Dunwoodie (2024). Refugee entrepreneurship: A systematic review of prior research and agenda for future research. *International Migration Review* 58(3), 1140–1171.
- Obminski, A. (2025, December). Choosing distance: How natives reduce migrant exposure in daily life. Technical report, Paris School of Economics.
- OECD (2021). *Leveraging immigrant entrepreneurship for job creation and growth*.
- Olney, W. W. (2013). A race to the bottom? Employment protection and foreign direct investment. *Journal of International Economics* 91(2), 191–203.
- Pekkala Kerr, S. and W. Kerr (2020). Immigrant entrepreneurship in america: Evidence from the survey of business owners 2007–2012. *Research Policy* 49(3), 103918.

- Pentzopoulos, D. (2002). *The Balkan Exchange of Minorities and Its Impact upon Greece*. London: Hurst.
- Peri, G. and V. Yasenov (2019). The labor market effects of a refugee wave: Synthetic control method meets the Mariel Boatlift. *Journal of Human Resources* 54(2), 267–309.
- Pogarska, O., O. Tucha, I. Spivak, and O. Bondarenko (2023). How Ukrainian migrants affect the economies of European countries. VoxEU.
- Postepska, A. and A. Voloshyna (2025, March). The effect of ukrainian refugees on the local labour markets: the case of czechia. *Journal of Population Economics* 38(1), 1–45.
- Robinson, V. (1993). Marching into the middle classes? the long-term resettlement of East African Asians in the UK. *Journal of Refugee Studies* 6(3), 230–247.
- Scoville, W. C. (1952a). The Huguenots and the diffusion of technology. I. *Journal of Political Economy* 60(4), 294–311.
- Scoville, W. C. (1952b). The Huguenots and the diffusion of technology. II. *Journal of Political Economy* 60(5), 392–411.
- Strzelecki, P., J. Growiec, and R. Wyszynski (2022). The contribution of immigration from Ukraine to economic growth in Poland. *Review of World Economics* 158(2), 365–399.
- Tareque, I. S., J. Guzman, and D. Wang (2024). High-skilled immigration enhances regional entrepreneurship. *Proceedings of the National Academy of Sciences* 121(37), e2402001121.
- The Economist (2023). How Ukrainian refugee entrepreneurs are changing Poland. *The Economist*.
- The World Bank (2021, May). Entrepreneurship as a way of economic empowerment for syrian youth in turkey. Feature Story. Accessed on May 20, 2024.
- Trivellato, F. (2009). *The Familiarity of Strangers: The Sephardic Diaspora, Livorno, and Cross-Cultural Trade in the Early Modern Period*. New Haven: Yale University Press.
- Unel, B. (2024). Effects of immigration on native entrepreneurship in the US: An analysis of self-employment over 1980–2018. *Small Business Economics*.

UNHCR (2023a). Global trends report 2022. Technical report, United Nations High Commissioner for Refugees.

UNHCR (2023b). Regional refugee response plan for the Ukraine situation: Final report 2023. Technical report, United Nations High Commissioner for Refugees.

UNHCR and Deloitte (2024). Analysis of the impact of refugees from Ukraine on the economy of Poland. Technical report, UNHCR and Deloitte.

Wallskog, M. (2025). Entrepreneurial spillovers across coworkers. *Journal of Financial Economics* 170, 104077.

Zavodny, M. (2023). Immigration, employment growth and economic dynamism. Policy brief, National Foundation for American Policy.

Zuchowski, D. (2024). Migration response to an immigration shock: Evidence from Russia's aggression against Ukraine. *Journal of Economic Geography* 25(1), 21–40.

Appendix

A Business registrations in 2022-23 by owner citizenship

Sector	UA	PL	UA (%)
Computer programming, consultancy and related activities	6,168	40,172	0.13
Specialised construction activities	6,127	77,257	0.07
Other personal service activities	4,051	24,707	0.14
Land transport and transport via pipelines	2,346	20,394	0.10
Retail trade, except retail trade of motor vehicles	2,308	45,242	0.05
Construction of buildings	2,012	16,922	0.11
Wholesale trade, excluding motor vehicles	1,432	17,386	0.08
Food and beverage service activities	1,421	9,955	0.12
Manufacture of fabricated metal products	1,253	9,415	0.12
Trade of motor vehicles; repair of motor vehicles	975	14,831	0.06
Office administrative and business support activities	735	10,306	0.07
Human health activities	733	27,666	0.03
Education	730	17,861	0.04
Services to buildings and landscape activities	718	9,220	0.07
Other professional, scientific and technical activities	664	15,607	0.04
Employment activities	642	2,055	0.24
Head offices; management consultancy activities	605	13,713	0.04
Advertising and market research	447	7,820	0.05
Warehousing and support activities for transportation	446	4,995	0.08
Real estate activities	368	10,893	0.03
Manufacture of food products	340	2,476	0.12
Repair, maintenance and installation of machinery	324	6,935	0.04
Legal, accounting and tax consultancy	305	13,190	0.02
Information service activities	295	2,335	0.11
Postal and courier activities	241	1,793	0.12
Rental and leasing activities	240	3,763	0.06
Works related to construction of civil engineering	234	4,328	0.05
Missing	217	4,504	0.05
Architectural and engineering activities	164	11,404	0.01
Activities auxiliary to financial services and insurance	159	6,506	0.02
Crop and animal production	155	2,033	0.07
Manufacture of furniture	154	3,728	0.04
Motion picture, video and TV production	138	3,636	0.04
Manufacture of wearing apparel	125	1,415	0.08
Sports activities and amusement and recreation	122	3,628	0.03
Repair and maintenance of computers and household goods	119	2,270	0.05
Accommodation	116	3,917	0.03
Creative, arts and entertainment activities	107	3,268	0.03
Other manufacturing	90	1,838	0.05
Social work activities without accommodation	90	1,211	0.07
Manufacture of other transport equipment	90	379	0.19
Manufacture of products of wood and cork	81	3,347	0.02
Publishing activities	72	932	0.07

Sector	UA	PL	UA (%)
Manufacture of other non-metallic mineral products	70	1,251	0.05
Financial service activities	56	1,574	0.03
Tour operator, middlemen and reservation services	56	1,162	0.05
Telecommunications	46	786	0.06
Electricity, gas, steam and air conditioning supply	44	2,829	0.02
Manufacture of textiles	44	904	0.05
Scientific research and development	37	1,097	0.03
Manufacture of rubber and plastic	37	937	0.04
Residential care activities	32	201	0.14
Printing and reproduction of recorded media	29	958	0.03
Air transport	23	409	0.05
Manufacture of machinery and equipment n.e.c.	20	581	0.03
Manufacture of computer and electronic products	18	317	0.05
Manufacture of electrical equipment	17	364	0.04
Forestry and logging	17	1,231	0.01
Manufacture of chemicals	16	441	0.04
Activities of membership organisations	15	254	0.06
Veterinary activities	13	1,060	0.01
Waste collection, processing and materials recovery	11	561	0.02
Manufacture of leather	9	222	0.04
Manufacture of motor vehicles	9	176	0.05
Manufacture of paper products	9	350	0.03
Water transport	7	172	0.04
Manufacture of metals	7	133	0.05
Manufacture of beverages	6	122	0.05
Libraries, archives, museums and cultural activities	5	173	0.03
Security and investigation activities	4	693	0.01
Sewage disposal and treatment	3	282	0.01
Public administration and defence	3	131	0.02
Extraction of oil and gas	2	2	0.50
Mining of coal and lignite	2	2	0.50
Public and licence programmes broadcasting	1	38	0.03
Mining and quarrying support services	1	73	0.01
Fishing and aquaculture	1	64	0.02
Manufacture of tobacco products	1	4	0.20
Water collection, treatment and supply	1	58	0.02
Insurance, reinsurance and pension funding	1	114	0.01
Manufacture of coke and refined oil	1	11	0.08
Manufacture of pharmaceuticals	0	41	0.00
Extraterritorial organisations and bodies	0	0	—
Remediation activities and waste management	0	88	0.00
Gambling and betting activities	0	47	0.00
Other mining and quarrying	0	180	0.00
Mining of metal ores	0	0	—
Households as employers of domestic personnel	0	0	—
TOTAL	38,833	505,346	0.07

B Where did the refugees go and why?

In this section we look into the factors that shaped refugees' settlement locations across Poland. As we write in section 2, there were immediate, vast scale, grassroots efforts to aid and welcome refugees. Tens of thousands of private cars picked refugees from the border, Polish families hosted 1.6 million refugees (McMahon, 2023), and 77% of Polish citizens helped in some way (Baszczak et al., 2022). This widespread support led to a distribution of refugees across Poland's 380 counties, roughly proportional to population, with refugees registered in each and every of the 380 counties.

To examine the locational determinants of refugee settlement, we use a LASSO model, which combines variable selection and regularization to identify the most relevant location-specific predictors from a set of variables.

We consider measures of affinity with Ukraine such as the number of Ukrainians in the county in 2021 and the average number of firms registered by Ukrainian owners during 2015-2021. These capture existing Ukrainian networks as well as the "fit" of the business environment for Ukrainian entrepreneurs.

We also measure historical ethnic-Ukrainian communities using data on the 1947 deportations of Ukrainians to Western Poland during Operation Vistula, when around 140,000 Ukrainians from southeastern Poland were forcibly relocated, "scattered among the Polish population so that they do not pose any danger [to the Polish People's Republic]" (Misiło, 2012). Many deportees and their descendants remained in those counties and built cultural associations. The resettlement data were compiled by historian Eugeniusz Misiło based on transport records, and he kindly shared his data with us.²²

We consider transport costs from Ukraine, and specifically from Poland-Ukraine border checkpoints. We measure the geodesic distance from county centroids to the nearest border checkpoint. As many refugees traveled by train after crossing into Poland, we also look at train travel directions using Google maps. This allows us to check how long is the train journey from Premzl, just across from the Ukraine border, to each county's main train station, as well as the number of required connections. We also look at the counties' distance from UNHCR reception centers through which many refugees passed by to receive relocation assistance.

We also look at various local characteristics that may have affected refugees' location decisions. These include local county population, the average number of firms registered during 2015-2021 (a proxy for the local business environment), and the county's share of urban population, its unemployment rate, and average wages in 2021 (from Statistics Poland). We also measure political and cultural factors that may have acted as pull factors for refugees. We look at a measure of religiosity (Grosfeld et al., 2024), as religious communities may have been more likely to welcome and host refugees, as well as a measure of political preferences based on the vote share of the far-right party in 2021. The hypothesis here would be that far-right voters are more anti-refugee.

²²Zuchowski (2024) and Mykhailyshyna and Zuchowski (2025) build an instrument based on the 1947 settlements to isolate the effect of Ukrainian refugees in Poland on out-migration and on voting patterns.

The results in Table B.1 suggest that the location choice of adult refugees' is best predicted by population, average firm registrations during 2015-2021, far-right voters, wages, and unemployment. Other factors such as transports costs and religion do not seem to matter. When we look instead are the predictors of refugees as a share of the county population, we find previous pre-war Ukrainian migrants and Ukrainian firms as the main predictors, while far-right voters and unemployment also matter in this case.

Table B.1. Determinants of refugee locations in 2022 - LASSO

	(1) UA refugees (18+)	(2) UA refugees (18+)	(3) UA refugees (18+) (% pop)	(4) UA refugees (18+) (% pop)
Ukrainian affinity				
UA work visas in 2021	0.000	0.000		
UA work visas in 2021 (% pop)			0.030	0.032
Average UA firms 2015-2021	0.000	0.000		
Avg UA firms 2015-2021 (% firms)			0.462	0.707
Ukrainians resettled in 1947	0.000	0.000	0.000	0.000
Transport costs				
Distance to UA border	0.000	0.000	0.000	0.000
Train travel time	0.000	0.000	0.000	0.000
Nb of train legs	0.000	0.000	0.000	0.000
Min distance to UNHCR center	0.000	0.000	0.000	0.000
Local characteristics				
Population in 2021	0.005	0.007		
Average firms 2015-2021	3.408	3.430		
Vote far-right 2019 (%)	-6.953	-9.127	-0.012	-0.012
Main condition of successful life is God (%)	0.000	0.000	0.000	0.000
Average wages in 2021	0.033	0.047	0.000	0.000
Urban (%)	0.000	0.000	0.000	0.000
Unemployment (%) 2019	-25.110	-26.424	-0.028	-0.028
N	328	328	328	328
Model	SQRT-LASSO	LASSO	SQRT-LASSO	LASSO

Notes: LASSO estimates of the predictors of adult refugee locations across counties. We look at the predictors of refugees in levels and as share of county population. Around 50 counties are unreachable by train. We also do not have religion and urban variable for a total of 5 counties out of 380. Focusing on the variables available for the 380 counties does not change the results.

C Refugees and firms across counties

To show that across Poland's 380 counties, those that received more refugees as a share of population also saw disproportionately more Ukrainian firm registrations in 2022 and 2023, relative to what pre-war trends would predict, we estimate:

$$\text{UA firm registrations}_{i,2022} = \beta_0 + \beta_1 \text{UA refugees}_{i,2022} + \beta_2 \mathbf{X}_i + \varepsilon_i, \quad (3)$$

where i indexes counties, the dependent variable is the share of new firm registrations in 2022 owned by Ukrainians, and the main regressor is the inflow of Ukrainian refugees in 2022 as a share of county population (as of 31 December 2022. Using refugee stock data from any point after August 2022 yields similar results). The control vector X_i includes the share of pre-war Ukrainian migrants in the county population in 2021 and average Ukrainian firm creation over 2015–2021 (as a share of total firms), capturing pre-war Ukrainian presence and the local trend in Ukrainian entrepreneurship. Our aim here is to show that refugees are associated with Ukrainian business creation above and beyond what would have been expected based on prior economic trends and pre-existing Ukrainian networks. Pre-existing Ukrainian communities may themselves include new business owners, and may also have influenced refugee settlement. This “horse-race” control allows us to assess whether Ukrainian new business owners are more likely to be refugees or pre-war residents of Poland. Summary statistics and other data sources for refugees and businesses across counties in 2022–2023 are presented in Table C.1.

Table C.1. Summary statistics across 380 counties

	Obs.	Mean	Std. Dev.	Min.	25%	75%	Max.
All Ukrainian firm registrations in 2022	380	27.2	163.0	0	2	10.5	2786
Inc. Ukrainian firm registrations in 2022	380	12.5	97.4	0	0	3	1771
All Ukrainian firm registrations in 2023	380	31.3	172.9	0	2	13	2931
Inc. Ukrainian firm registrations in 2023	380	9.79	79.1	0	0	2	1454
Avg Ukrainian firm registrations 2015-2021	380	8.15	42.7	0	0.93	3.57	704.6
Avg total firm registrations 2015-2021	380	533.9	1432.1	59.4	186.8	466.3	24604.6
Ukrainian refugees registered as of Dec 2022	380	2516.8	6118.4	127	813	2474.5	100117
Men 18+ Ukrainian refugees registered as of Dec 2022	380	313.2	1018.4	8	79	259.5	16347
Women 18+ Ukrainian refugees registered as of Dec 2022	380	1122.4	2826.8	52	329.5	1090	45999
Population in 2021	380	99757.1	123860.0	18992	52502	109143.5	1863056
Ukrainian work permits in 2021	380	4257.0	9076.0	22	751.5	3775.5	89871

Source: KRS, CEIDG, PESEL, Statistics Poland, and Ministry of Family, Labour, and Social Policy.

Results are in Table C.2. We include results for 2022 and 2023 in separate panels. The columns show estimates using either *All firms* (columns 1-2), including Inc. firms and sole proprietorships, and when we focus on Inc. firms only (columns 3-4), and only on the subset of Inc. firms with Ukrainian owners residing in Poland (columns 5-6).

We find that a 1 percentage point increase in the refugee share of the county population in is associated with a .9 percentage point increase in the Ukrainian share of local business registrations in 2022 (column 2). When we focus on Inc. firms, we find that a 1 percentage point increase in the adult refugee share of the county population is associated with a 0.8 percentage point increase in the Ukrainian share of local business registrations. When we focus on Inc. firms with owners residing in Poland, we find the coefficient is slightly larger, with a 1 percentage point increase in the adult refugee share of the county population is associated with a 0.92 percentage point increase in the Ukrainian share of local business registrations. The coefficients are larger in 2023 for all firms, but smaller for Inc. firms.

Table C.2. UA refugees and firm creation

	UA firms (%)		UA Inc. firms (%)		UA Inc. firms (%) (resident owners)	
	(1)	(2)	(3)	(4)	(5)	(6)
	(2022)					
UA refugees (18+) (% pop)	1.383*** (0.281)	0.910*** (0.216)	1.889*** (0.473)	0.804** (0.333)	1.656*** (0.332)	0.924*** (0.298)
UA work permits in 2021 (% pop)	0.066* (0.036)	0.060** (0.027)	0.010 (0.063)	-0.005 (0.041)	0.029 (0.045)	-0.033 (0.042)
Avg UA firms 2015-2021 (%)		0.417*** (0.056)		0.955*** (0.101)		0.984*** (0.196)
N	380	380	380	380	380	380
R-sq	0.23	0.50	0.08	0.44	0.12	0.32
	(2023)					
UA refugees (18+) (% pop)	1.683*** (0.304)	1.252*** (0.249)	1.258*** (0.396)	0.398 (0.255)	0.931*** (0.289)	0.532* (0.290)
UA work permits in 2021 (% pop)	0.125*** (0.042)	0.119*** (0.036)	0.028 (0.050)	0.017 (0.031)	0.065* (0.035)	0.031 (0.039)
Avg UA firms 2015-2021 (%)		0.379*** (0.062)		0.756*** (0.126)		0.536** (0.256)
N	380	380	380	380	380	380
R-sq	0.33	0.50	0.06	0.39	0.07	0.15

Note: OLS estimates of equation 3. Robust standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. The dependent variable is the total number of firms registered by Ukrainian owners in county i in 2022 (or in 2023). The independent variable of interest is the number of adult Ukrainian refugees in county i as of 31 December 2022.

In Table C.3 we estimate the relationship between refugees and firms in levels instead of shares. We find a positive and significant relationship between refugees and all Ukrainian firm registrations. This is the case in 2022 and 2023. The coefficients in col. (1-4), suggests 1.1-4.4 extra registrations are associated with every 100 extra adult refugees in 2022, and 1.4-4.6 extra registrations in 2023. When we focus on Inc. firms with owners residing in Poland, we find 0.7-2 extra firms for every 100 adult refugees in 2022 and 0.7-1.8 in 2023 (col. 9-12).

Table C.3. UA refugees and firm creation

	UA firms					UA Inc. firms			UA Inc. firms (resident owners)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	(2022)											
UA refugees (18+)	0.041*** (0.003)	0.044*** (0.005)	0.044*** (0.004)	0.011*** (0.004)	0.024*** (0.004)	0.027*** (0.007)	0.027*** (0.005)	0.005 (0.007)	0.018*** (0.002)	0.020*** (0.004)	0.020*** (0.003)	0.007* (0.004)
Population in 2021		-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)		-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)		-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
UA work permits in 2021			-0.003*** (0.001)	-0.001** (0.000)			-0.003*** (0.001)	-0.001*** (0.000)			-0.002*** (0.000)	-0.001** (0.000)
Average UA firms 2015-2021					3.766*** (0.319)			2.499*** (0.511)				1.486*** (0.346)
N	380	380	380	380	380	380	380	380	380	380	380	380
R-sq	0.95	0.95	0.96	0.99	0.89	0.89	0.92	0.96	0.92	0.92	0.94	0.97
	(2023)											
UA refugees (18+)	0.044*** (0.003)	0.046*** (0.005)	0.046*** (0.004)	0.014*** (0.004)	0.019*** (0.003)	0.023*** (0.006)	0.022*** (0.005)	0.006 (0.006)	0.015*** (0.002)	0.018*** (0.004)	0.018*** (0.003)	0.007 (0.004)
Population in 2021		-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)		-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)		-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
UA work permits in 2021			-0.002*** (0.001)	-0.000 (0.000)			-0.002*** (0.001)	-0.001*** (0.000)			-0.002*** (0.000)	-0.001*** (0.000)
Average UA firms 2015-2021					3.608*** (0.370)			1.852*** (0.447)				1.272*** (0.318)
N	380	380	380	380	380	380	380	380	380	380	380	380
R-sq	0.96	0.96	0.96	0.99	0.88	0.89	0.92	0.95	0.91	0.91	0.94	0.96

Note: OLS estimates of equation 3 in levels instead of shares. The dependent variable is the total number of firms registered by Ukrainian owners in county i in 2022 (or in 2023). The independent variable of interest is the number of adult Ukrainian refugees in county i as of 31 December 2022. Robust standard errors in parenthesis. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

D Ukrainian employees vs entrepreneurs

Figure D.1. Shares of UA Inc. firms (2015–21) and UA employees (2022)

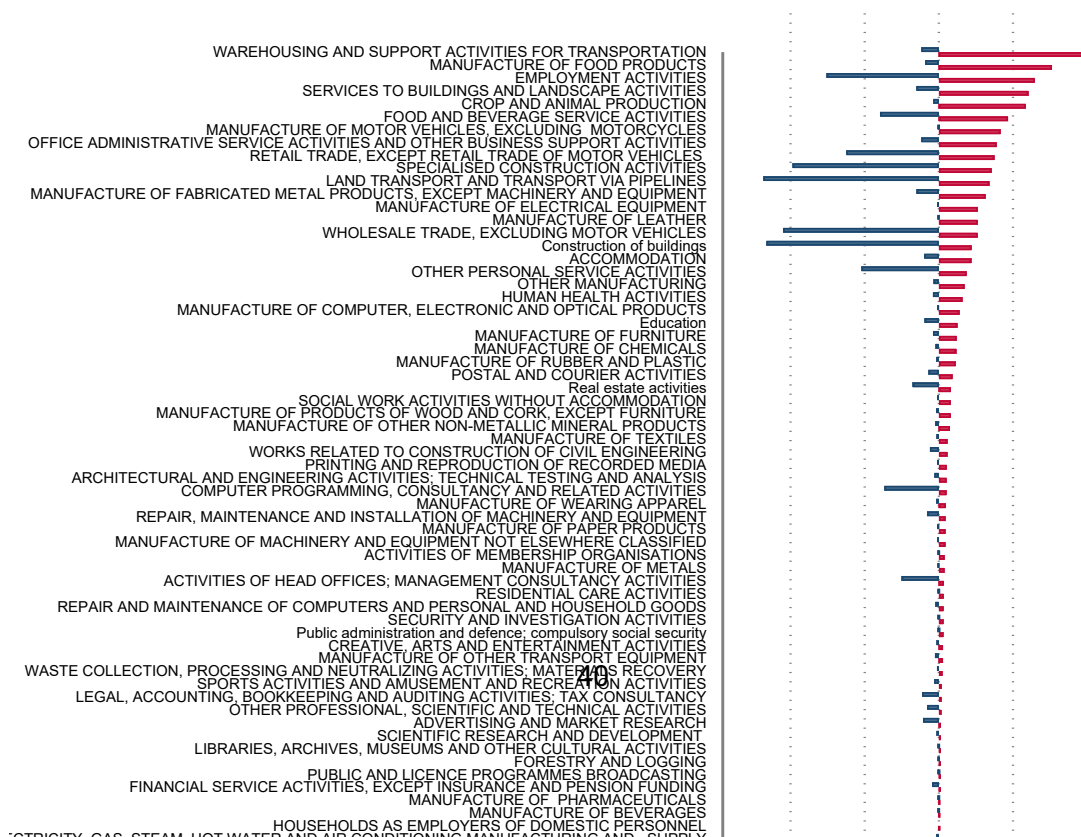
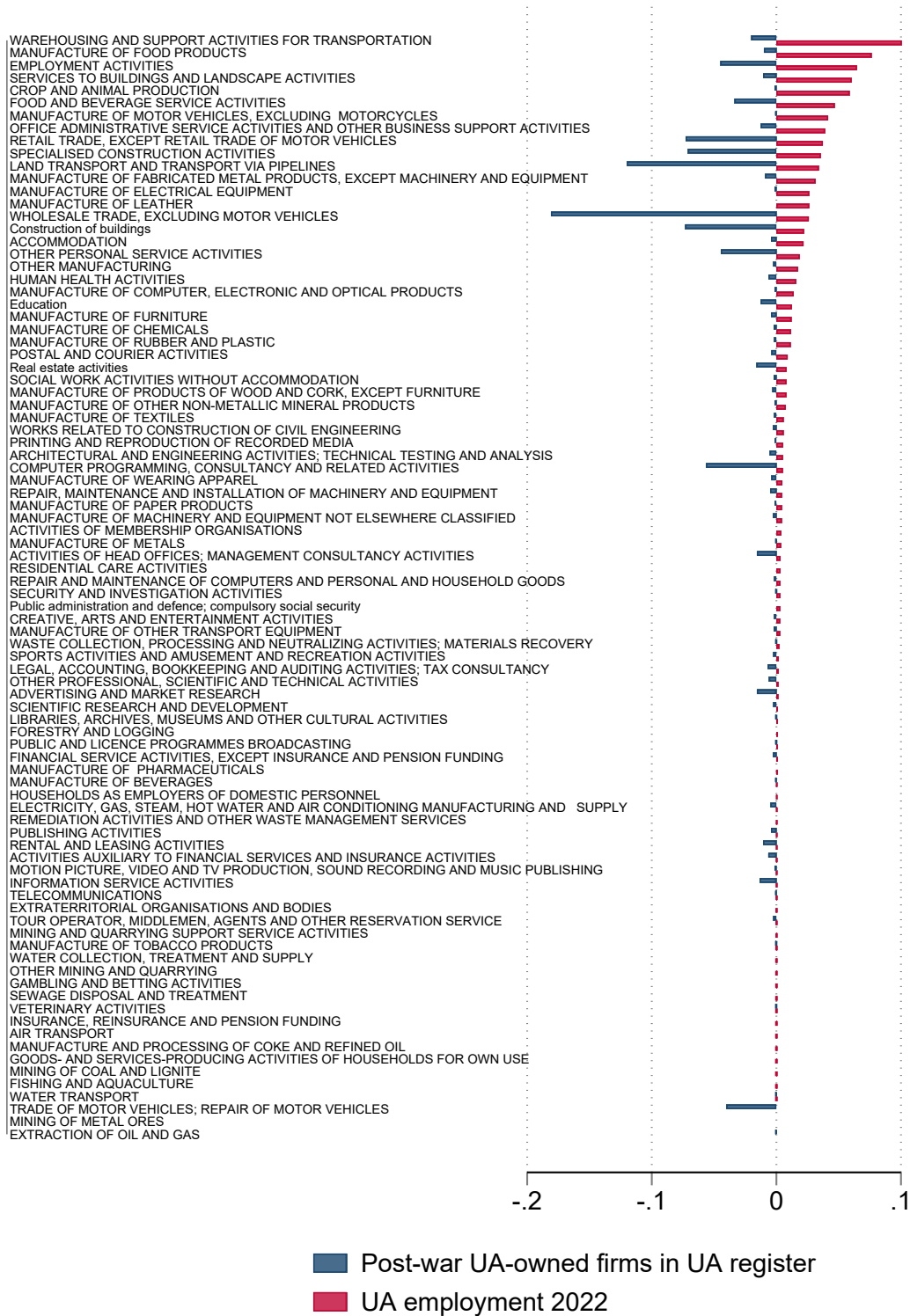


Figure D.2. Shares of UA firms in UA register and UA employees (2022)



Notes: The data on firms is from CEIDG, and the owners' names are matched in the Ukrainian register, which covers firms until Feb 2022; the data on Ukrainian employees is based on the employer notification requirement, from the Ministry of Family, Labor and Social Policy. The correlation between the two shares is 0.34.

E Multiplier estimate: First stage regressions

Table E.1 shows the first stage estimates from Equation 1. The two panels are for Inc. firms (top) and All firms (bottom), while columns alternate between the 2022 and 2023 firm samples. The results confirm that the interaction of adult refugees across counties and sector shares that capture the comparative advantage of Ukrainians in Poland has a positive and significant effect on Ukrainian firm creation, and this for our three IVs.

Table E.1. First stage

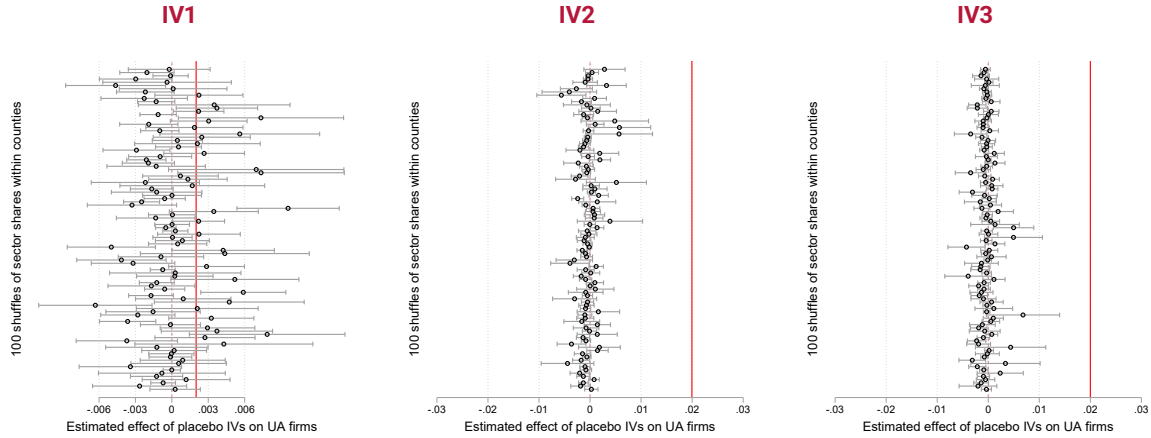
	(1) (2022)	(2) (2023)	(3) (2022)	(4) (2023)	(5) (2022)	(6) (2023)
UA Inc. firms						
IV 1	0.002** (0.001)	0.002* (0.001)				
IV 2			0.020*** (0.002)	0.013*** (0.002)		
IV 3					0.020*** (0.003)	0.012*** (0.002)
N	33440	33440	33440	33440	33440	33440
R-sq	0.53	0.61	0.83	0.79	0.68	0.67
All UA firms						
IV 1	0.005*** (0.001)	0.006*** (0.001)				
IV 2			0.024*** (0.002)	0.019*** (0.003)		
IV 3					0.030*** (0.004)	0.027*** (0.005)
N	33440	33440	33440	33440	33440	33440
R-sq	0.54	0.58	0.72	0.61	0.72	0.66

Note: Regressions include sector and county fixed effects and control for UA employees and avg PL firm registrations 2015-2021. IV1 is (18+ refugees in county $\times$ share of self-employed refugees in sector back in UA). IV2 is (18+ refugees in county $\times$ share of post-war firms in UA register in sector.) IV3 is (18+ refugees in county $\times$ share of UA firms in sector in PL in 2015-2021). Standard errors clustered by county-sector (major sector when using IV1). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

To verify that the sector shares in our IVs are uniquely adequate to capture the comparative advantage of Ukrainian refugees, in Figure E.1 we show that shuffling randomly sector shares, while keeping true refugee inflows across counties to construct placebo IVs, does not lead to first stage results similar to those we obtain with our real IVs. This is clearly the case for IV2 and IV3, where shuffled sector shares never lead to a positive first stage coefficient close to the true estimate. For IV1, which is weak, the results are less clear cut yet still point to the relevance of the real IV. This is also because this IV varies only across 20 sectors, reducing the range of randomness in the shuffles. This confirms that the sector shares need

to be in line with Ukrainian comparative advantage for the IV to work and that the IV captures more than simply refugee inflows.

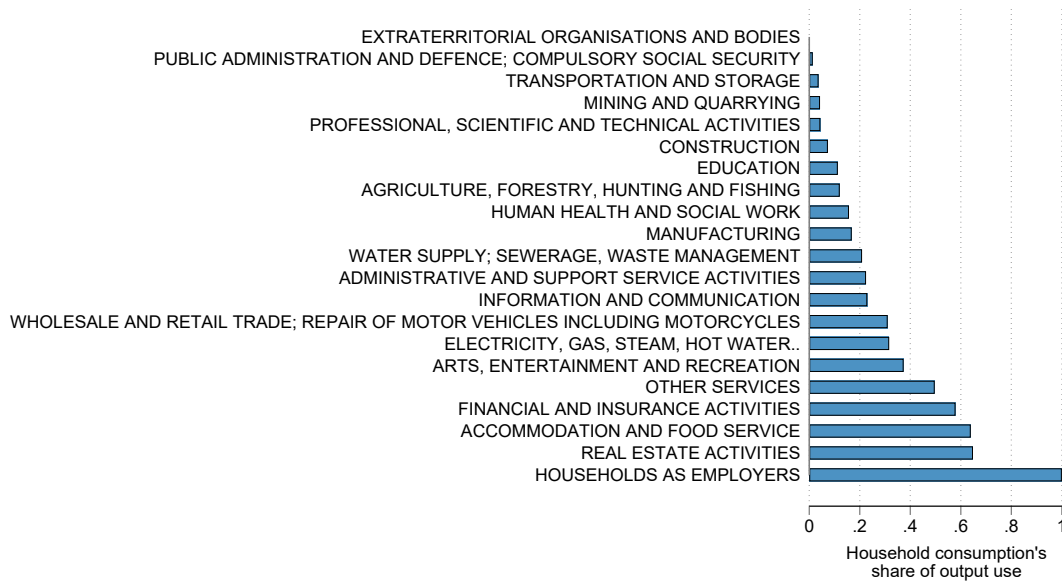
Figure E.1. First-stage placebos: Shuffling sector shares



Notes: Multiplier estimates for 2022 obtained by shuffling sector shares randomly, 100 times. The red line is the real first-stage estimate. IV1 is (18+ refugees in county $\times$ share of self-employed refugees in sector back in UA). IV2 is (18+ refugees in county $\times$ share of post-war firms in UA register in sector.) IV3 is (18+ refugees in county $\times$ share of UA firms in sector in PL in 2015–2021). Standard errors clustered by county-sector (major sector when using IV1).

As an additional placebo IV, we interact refugees and sectors' consumption share of total output, computed from Poland's 2020 input-output table (see Figure E.2). If refugee-driven consumption demand were the mechanism behind the multiplier effect, then an IV built on sector shares capturing refugees' propensity to consume should also generate a valid first stage and allow us to estimate a multiplier effect. Table E.2 shows that it does not generate a valid first stage, neither for Inc. firms nor when sole proprietorships are included. The placebo IV thus cannot deliver a second-stage multiplier estimate. This null result also speaks to the specificity of our preferred shares, which capture Ukrainians' comparative advantage in entrepreneurship rather than in consumption. The two are mostly orthogonal. Across 20 sectors, the correlation between consumption shares and refugee self-employment shares in pre-war Ukraine is only 0.17; across 87 sectors, the correlations with post-war Ukrainian firm shares and with Ukrainian-owned firm shares in Poland in 2015–2021 are -0.032 and -0.037 , respectively. In Table F.3 we show that our multiplier estimates are robust to including the interaction of refugees with consumption shares as a control, suggesting that the multiplier we estimate is not picking up the effect of refugees as consumers.

Figure E.2. Consumption shares



Notes: The data on firms is from Poland's 2020 Input-Output matrix and covers 87 sub sectors, here aggregated as 20 major sectors.

Table E.2. Household consumption shares in a placebo IV: First stage

	(1)	(2)	(3)	(4)
	UA Inc. firms	UA Inc. firms	UA firms	UA firms
UA refugees × C shares	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001 (0.000)
UA employees	0.002*** (0.001)	0.001*** (0.000)	0.003*** (0.001)	0.003*** (0.001)
N	33060	33060	33060	33060
R-sq	0.39	0.45	0.47	0.49
KP LM p-val	0.56	0.63	0.39	0.11
KP F stat	0.33	0.23	0.75	2.59

Note: Regressions include sector and county fixed effects and control for avg PL firm registrations 2015-2021. C shares are household consumption share of sector output. Standard errors clustered by county-sector *** p < 0.01, ** p < 0.05, * p < 0.10.

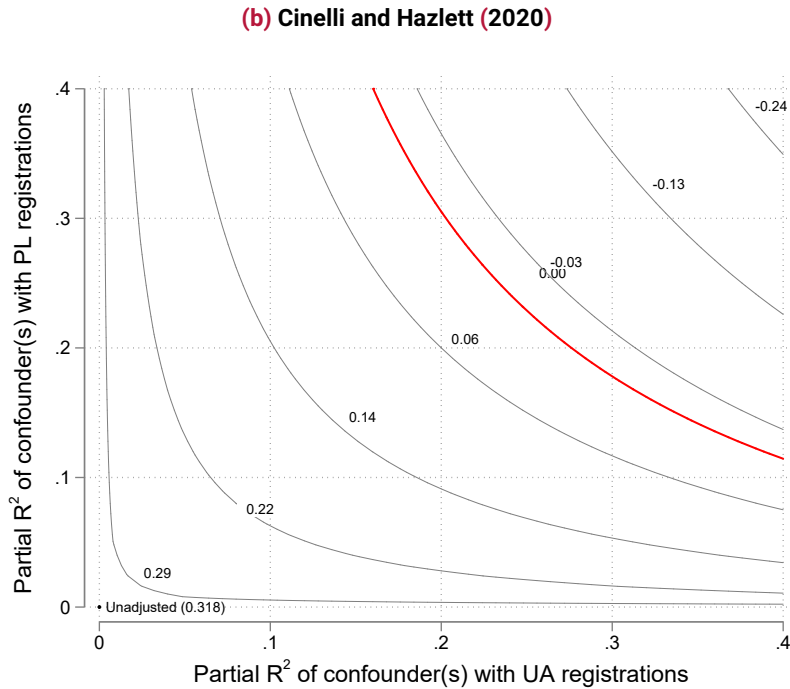
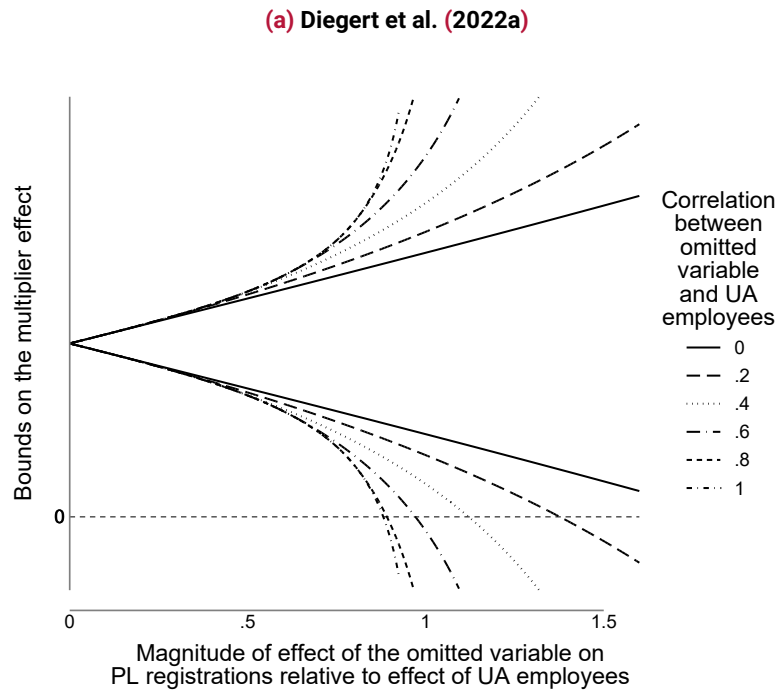
F Multiplier estimate: Robustness

While our empirical strategy—combining two-way fixed effects, controls, and instrumental variables—is designed to credibly identify the causal effect of Ukrainian firms on Polish firm creation, one potential concern is that an omitted variable bias is what drives our positive multiplier result. To assess this concern, we can perform sensitivity tests based on Diegert et al. (2022a) and Cinelli and Hazlett (2020). The intuition behind these tests is to relax the assumption of “no omitted variables” and assess how different the multiplier effect could be under different scenarios.

In panel (a) of Figure F.1, we use the Diegert et al. (2022b) package to compute bounds on our multiplier coefficient (from column (1) in Table 1) under alternative assumptions about the strength and correlation of potential omitted variables. The x-axis measures the potential magnitude of the effect of an omitted variable on new firm registrations by Polish owners, relative to the effect of our control variable, UA employees, which varies across counties and sectors. The different scenarios shown in the legend capture the correlation between an omitted variable and our control variable. The higher this correlation, the wider the bounds on our multiplier effect. The bounds in panel (a) of Figure F.1 suggest that our estimate is robust to relaxing assumptions about a potential omitted variable bias. To shrink our multiplier effect to zero, this omitted variable would need to be as predictive of new Polish firm registrations as Ukrainian employees (a relative magnitude of 1). And this is the case only if we assume this omitted variable is also highly correlated with our control variable. These results suggest that our multiplier coefficient is unlikely to be undermined by an omitted variable bias.

Panel (b) of Figure F.1 show the results of the sensitivity tests of Cinelli and Hazlett (2020) using the Stata package of Cinelli et al. (2024). Here the x-axis measures how strongly an omitted variable is correlated with the treatment, and the y-axis how strongly it is correlated with the outcome. The coefficient in the bottom left corner is the OLS estimate of the multiplier effect (from column (1) in Table 1). The contour lines tell us what combinations of omitted variable strength would reduce the multiplier effect to zero. It shows that our results are suggestive of a positive multiplier even under scenarios where the omitted variable is strongly correlated with the treatment or the outcome.

Figure F.1. Multiplier estimates' robustness to omitted variable bias: Sensitivity tests



Notes: The graphs show the sensitivity of our multiplier estimates for all firms in 2022, that from column (1) in Table 1, to potential omitted variables. The sensitivity tests are from Diegert et al. (2022a), stata package: Diegert et al. (2022b), and Cinelli and Hazlett (2020), stata package: Cinelli et al. (2024).

To further rule out the possibility that an omitted variable at the county–sector level drives both Ukrainian and Polish firm creation, we estimate panel regressions across counties, sectors, and years from 2011 to 2023. This specification allows us to include county–sector fixed effects to control for time-invariant unobserved heterogeneity at that level, as well as year fixed effects. We estimate both OLS and IV models, where the instrument is the interaction between the number of adult refugees (which switches on in 2022) and the three different sector shares that capture Ukrainian refugees’ comparative advantage. The results in Table F.1 again point to a positive multiplier effect within county–sector over time, and one that is larger than our cross-section benchmark. According to our IV estimates (column (3)), county–sectors with 10 additional Ukrainian firms in 2022 registered roughly 17.2 more Polish firms. Overall, the coefficients on Ukrainian firms are positive and statistically significant in all specifications, providing further evidence of a positive multiplier effect.

Table F.1. Panel regressions with county-sector and year fixed effects

	Net PL Inc. firms					Net PL firms		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UA Inc. firms	1.897*** (0.279)	1.170*** (0.335)	1.721*** (0.273)	2.220*** (0.378)				
UA firms					1.761*** (0.331)	0.909*** (0.259)	1.193*** (0.201)	1.208*** (0.215)
UA employees	0.001** (0.001)	0.003*** (0.001)	0.002** (0.001)	0.001 (0.000)	-0.002** (0.001)	0.002 (0.001)	0.001 (0.000)	0.000 (0.000)
N	434720	434720	434720	434720	434720	434720	434720	434720
R-sq	0.27				0.16			
F stat		1.92	19.66	19.50		18.87	103.55	204.41
IV		IV1	IV2	IV3		IV1	IV2	IV3

Notes: Regressions include county-sector and year fixed effects and control for avg PL firm registrations 2015-2021. Columns 1 and 5 are OLS. IV1 is (18+ refugees in county × share of self-employed refugees in sector back in UA). IV2 is (18+ refugees in county × share of post-war firms in UA register in sector.) IV3 is (18+ refugees in county × share of UA firms in sector in PL in 2015-2021). The F stat is the first stage’s Kleibergen-Paap rk Wald F statistic. Standard errors are clustered by county-sector (major sector when using IV1). *** p < 0.01, ** p < 0.05, * p < 0.10.

Table F.2. Net registrations of Inc. firms with Polish owners (Robustness to excluding firms owned by both Ukrainian and Polish owners)

	2022				2023			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UA Inc. firms (with no PL owner)	0.324* (0.180)	0.360*** (0.121)	0.356* (0.199)	0.562*** (0.147)	0.552* (0.292)	0.782*** (0.242)	0.498* (0.302)	1.062*** (0.392)
UA employees	0.001** (0.001)	0.001** (0.000)	0.001** (0.001)	0.001* (0.000)	0.001** (0.001)	0.001 (0.001)	0.001** (0.001)	0.001 (0.001)
N	33440	33440	33440	33440	33440	33440	33440	33440
R-sq	0.92				0.89			
KP LM p-val		0.05	0.01	0.00		0.08	0.01	0.00
KP F stat		3.84	65.63	36.09		3.20	52.73	35.05
IV		IV1	IV2	IV3		IV1	IV2	IV3

Note: Regressions include sector and county fixed effects and control for avg PL firm registrations 2015-2021. Columns 1 and 5 are OLS. IV1 is (18+ refugees in county $\times$ share of self-employed refugees in sector back in UA). IV2 is (18+ refugees in county $\times$ share of post-war firms in UA register in sector.) IV3 is (18+ refugees in county $\times$ share of UA firms in sector in PL in 2015-2021). The F stat is the first stage's Kleibergen-Paap rk Wald F statistic. The F stat is the first stage's Kleibergen-Paap rk Wald F statistic. First stage results are included in Appendix E. Standard errors clustered by county-sector (major sector when using IV1). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

In Table F.2 we show that our multiplier estimates are robust to removing firms with both Polish and Ukrainian owners from our independent variable, and thus treating them solely as Polish entrepreneurship. While these account for only around 1% of Polish-owned Inc. firms, we want to make sure our multiplier estimates is not biased by counting these firms as both Ukrainian and Polish. Results shown in Table F.2 are very close to those in Table 1, confirming that including these firms as both Polish and Ukrainian is not driving the previous multiplier estimates. We can also think of Ukrainian-Polish firms as part of the mechanism through which Ukrainian refugees foster Polish entrepreneurship.

In Table F.3 we show that our multiplier estimates are robust to controlling for the interaction of refugees with consumption shares across sectors, computed from Poland's 2020 input-output table (see Figure E.2). Combined with our control for Ukrainian employees, this allows us to isolate the effect of refugees as entrepreneurs from their effects as workers and as consumers.

Table F.3. Net registrations of Inc. firms with Polish owners - Controlling for refugees $\times$ Consumption shares

	2022				2023			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UA Inc. firms	0.316* (0.172)	0.356*** (0.128)	0.338* (0.189)	0.528*** (0.139)	0.561** (0.276)	0.757*** (0.233)	0.482* (0.286)	1.007*** (0.371)
UA employees	0.001** (0.001)	0.001** (0.000)	0.001** (0.001)	0.001* (0.000)	0.001** (0.001)	0.001 (0.001)	0.001** (0.001)	0.001 (0.001)
UA refugees $\times$ C shares	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
N	33060	33060	33060	33060	33060	33060	33060	33060
R-sq	0.92				0.89			
KP LM p-val		0.05	0.01	0.00		0.08	0.01	0.00
KP F stat		4.42	71.80	39.78		3.17	64.13	37.35
IV		IV1	IV2	IV3		IV1	IV2	IV3

Note: Regressions include sector and county fixed effects and control for avg PL firm registrations 2015-2021. Columns 1 and 5 are OLS. IV1 is (18+ refugees in county $\times$ share of self-employed refugees in sector back in UA). IV2 is (18+ refugees in county $\times$ share of post-war firms in UA register in sector.) IV3 is (18+ refugees in county $\times$ share of UA firms in sector in PL in 2015-2021). The F stat is the first stage's Kleibergen-Paap rk Wald F statistic. Standard errors clustered by county-sector (major sector in the case of regressions with IV2).

G Refugees and unemployment

The high rate of entrepreneurship among refugees might affect the labor-market effect of refugee waves, as refugees might be as much job creators as job takers. While we do not focus on the labor-market effects of Ukrainian refugees in Poland in this paper, we consider briefly the relationship between Ukrainian refugees and unemployment in this section. To do so, we look at whether more adult refugees in a county, as a share of its population, affect the local unemployment rate. We look at the change in unemployment from 2019, before the refugee wave and the COVID shock, to 2024, two years after the refugee inflow. We estimate regressions across 380 counties, controlling for factors that might explain unemployment changes such as a dynamic business environment or a high unemployment rate to begin with. We also estimate IV regressions where we instrument adult refugee shares with social media connections with Ukraine, using Facebook data, and train time from the Ukraine border.

Results in Table G.1 suggest that counties where Ukrainian adult refugees account for a larger share of the population saw larger declines in unemployment. The lower-bound estimate suggests that a 1 percentage point increase in Ukrainian adult refugees is associated with a 0.2 percentage point drop in the unemployment rate. Overall, during this period of record-low and decreasing unemployment—in January 2025 Poland's unemployment rate hit its lowest level ever according to Eurostat, at 2.6%—Ukrainian refugees may have contributed to lower unemployment rates.

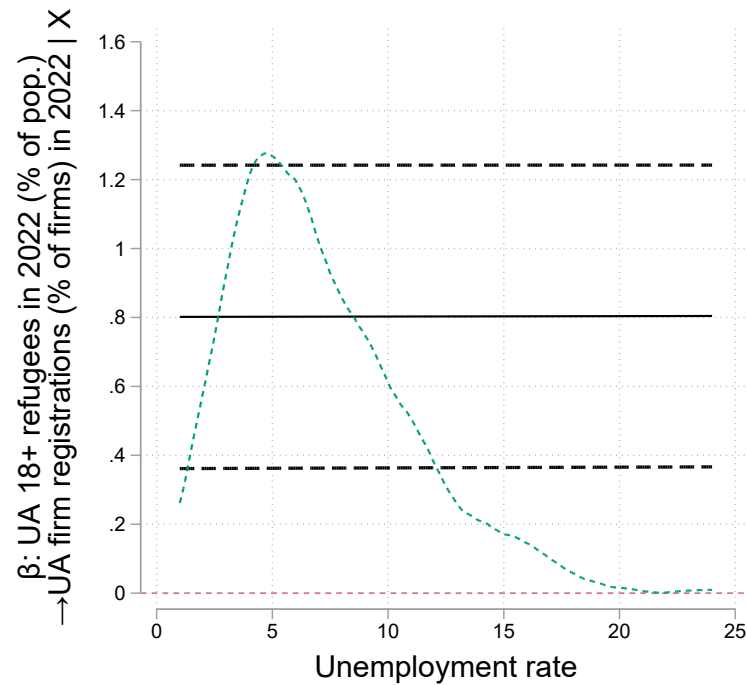
Table G.1. Ukrainian refugee entrepreneurship and local unemployment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Δ unem 2019-24	Δ unem 2019-24	Δ unem 2019-24	Δ unem 2019-24	Δ unem 2019-24	Δ unem 2019-24	Δ unem 2019-24	Δ unem 2019-24
UA 18+ refugees (% pop)	-0.274** (0.111)	-0.397*** (0.146)	-0.231** (0.112)	-0.401*** (0.146)	-0.267** (0.119)	-0.413*** (0.159)	-0.200* (0.117)	-0.299* (0.169)
Unemployment rate 2019	-0.090*** (0.027)	-0.091*** (0.028)	-0.107*** (0.027)	-0.108*** (0.028)	-0.091*** (0.027)	-0.091*** (0.028)	-0.102*** (0.027)	-0.096*** (0.028)
Urban (%)			-0.010*** (0.002)	-0.008*** (0.002)				
Average firms 2015-2021					-0.000 (0.000)	0.000 (0.000)		
Average wages in 2021							-0.000*** (0.000)	-0.000** (0.000)
Constant	0.864*** (0.249)	0.993*** (0.286)	1.450*** (0.288)	1.547*** (0.324)	0.861*** (0.250)	1.012*** (0.290)	2.481*** (0.539)	2.207*** (0.560)
N	380	333	378	331	380	333	380	333
R-sq	0.05	0.03	0.09	0.06	0.05	0.03	0.07	0.05
Hansen p-value		0.03		0.05		0.03		0.04
CD F stat		60.79		62.77		59.99		52.71

Note: Estimates of the effect of Ukrainian adult (% of pop) refugees in 2022 on changes in the local unemployment rate. Note: IVs are train min and number of legs from UA border and UA facebook connections at NUTS3 level. Standard errors clustered by NUTS3 region, in parenthesis. *** p < 0.01, ** p < 0.05, * p < 0.10.

Relatedly, a recurring question in the migrant entrepreneurship literature is whether migrants start businesses because they are discriminated against in the job market. If this were the case, we would expect higher rates of entrepreneurship in areas with higher unemployment, where they'd find it hardest to find a job. In Figure G.1 we show that the positive correlation of adult refugees with business creation is not concentrated nor strongest in high-unemployment counties. In fact, while it likely shaped where refugees settled, the unemployment rate did not affect at all the relationship between refugee inflows and firm creation. This suggests that necessity is unlikely to be the main driver of refugee entrepreneurship in this context. A survey by Dębkowska et al. (2022) finds that only 16% of Ukrainians who registered businesses in Poland in 2022 did it due to the "difficulty finding salaried employment in Poland". Our survey suggests only 25% did.

Figure G.1. Refugees and Ukrainian Inc. firm creation: Interaction with unemployment



Notes: Estimates of the effect of Ukrainian adult refugees in 2022 on UA firm registrations in 2022. The estimated equation is based on that in col. 2 of Table C.2, where we interact UA refugees with the county's unemployment rate and control of pre-trends and pre-war Ukrainian networks. The dashed lines are 90% confidence intervals. The short-dashed green line is the density estimate of unemployment across counties.

H Survey of Ukrainian entrepreneurs in Poland

We designed and implemented an online survey targeting all Ukrainian nationals who registered a business in 2022 or later. The questionnaire included modules on respondent demographics, firm characteristics, business background and motivations, networks and support structures, financing and challenges, and outlook and future plans. Crucially, the survey asked whether respondents had registered as refugees under the PESEL system, and we also gathered information on the extent of their business interactions with Polish firms.

To field our survey, we sent emails to around 10,000 business email addresses publicly available on the KRS and CEIDG business registries. The survey was drafted in English and then translated into Ukrainian, Polish and Russian by survey experts at the Institute for Structural Research in Warsaw (71% of owners chose to answer in Ukrainian, and 12% in Russian). We also collaborated with several partner organizations, including Ukrainian business associations and trade networks in Poland, UNHCR, and the Federation of Employers of Ukraine, who disseminated the link through their networks. The survey was hosted at badaniefir-

mua.pl, went live in March 2025, and remained open for one month. Respondents were informed about the voluntary nature of the study, assured of anonymity, and asked to provide informed consent before proceeding. No personally identifiable information was collected, and there was no possibility of recontacting participants. Upon completion, respondents received a digital supermarket (Biedronka) voucher worth 50 PLN ($\approx$ 14 USD).

Our survey suggests that most Ukrainian entrepreneurs are opportunity-driven rather than necessity-driven. Over two-thirds started their business for proactive reasons – for example, 70% wanted independence (to “be their own boss”) and around 40% spotted a market opportunity to fill. In contrast, only about one-fourth cited the lack of a salaried job in Poland as a key motive. Also, half of the entrepreneurs had an existing business in Ukraine instead of starting from scratch. The vast majority of these entrepreneurs plan intend to remain in Poland and continue expanding their business after the war. Only a small minority (8%) expects to return to Ukraine.

We can compare our survey responses to that by Dębkowska et al. (2022), who fielded a similar survey of Ukrainian entrepreneurs (n=80) (yet with no information collected on refugee status nor on business interactions). The results are summed up in Table H.1 and suggest similar findings. Few start businesses because they can’t find a job, many sought to continue a business they had back in Ukraine (in line with historical refugee episodes) and most plan to stay in Poland in the long run. Given the limited number of respondents, the survey should not be considered nationally representative.

Our questionnaire is available online: <https://tinyurl.com/3s86jnd9>

Table H.1. Comparing surveys of Ukrainian entrepreneurs in Poland

	Polish Economic Institute (n=80)	Our Survey (n=110)
Started firm due to lack of jobs	16%	25%
Sought to continue/owned a business back in Ukraine	50%	50%
Plan to stay in Poland long-term	66%	66%
Intend to return to Ukraine after the war	4%	8%

Source: Dębkowska et al. (2022) and our own survey.



www.ibs.org.pl