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Stefan Jestl and Maryna Tverdostup

The Vienna Institute for International Economic Studies
Wiener Institut für Internationale Wirtschaftsvergleiche

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STEFAN JESTL
MARYNA TVERDOSTUP

Stefan Jestl and Maryna Tverdostup are Economists at The Vienna Institute for International Economic Studies (wiiw).

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Abstract

This paper analyses the labour market entry of refugees and other (non-humanitarian) migrants originating from middle- and low-income non-European countries that arrived in Austria in 2014-2016. Specifically, we analyse factors that shaped the transition to and out of the first job in the Austrian labour market, document the characteristics of the first job and explore job stability in Austria. Even though refugees took longer to find a job, individual and household characteristics, as well as labour market indicators, are associated with the time between arrival and the first job in Austria, similar to other migrants. Refugees and other migrants also found similar job types as their entry jobs, which tended to be located in low-wage segments. The results, however, suggest that other migrants held their first job, on average, for a longer time than refugees. Although other migrants quit their first job relatively quickly when it was marginal employment, refugees tended to hold marginal jobs as long as full-time and part-time jobs. Finally, our results suggest that entry jobs with a higher quality in terms of working hours and wages (i.e. full-time jobs) tended to be linked with job stability, while entry jobs with a lower quality (i.e. marginal jobs) tended to be associated with job instability for both refugees and other migrants. The results of the paper showcase the importance of immediate access to various training and re-education programs for refugees to improve the quality of their entry jobs and their long-term prospects in the Austrian labour market.

Keywords: Refugees, labour market integration, labour market entry, labour market transition, job stability

JEL classification: C41, J15, J62

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1 Introduction

Since 2014, some European countries have seen a large influx of refugees, mostly coming from Syria, Afghanistan, Iraq and Iran. Austria was among the European countries with the highest number of asylum applications in 2015 and 2016. Although a substantial number of individuals received a negative decision on their asylum application in Austria, the number of applicants who have been granted asylum was above 20,000 per year in 2016-2018 (Expertenrat für Integration, 2018).

Against this backdrop, the major challenge has been to promote the integration, most notably labour market integration, of refugees. An effective and fast economic integration is not only beneficial for the refugees but also for the host country and society (Konle-Seidl & Bolits, 2016). Even though labour market access is strongly restricted after refugees arrive in Austria, they seem to find their way into employment over time. Forstner, Kernbei, Münz, and Wagner-Pinter (2019) show that refugees improve their labour market performance the longer they stay in Austria. Also, Jestl, Landesmann, Leitner, and Wanek-Zajic (2022) report that non-European refugees who arrived in Austria in 2009-2018 have shown, on average, significant progress in employment rates over time, catching up to natives.[1] At first glance, these results present an overall positive outlook on the economic assimilation of refugees in Austria.

In particular, the first step into the labour market is pivotal for paving the way for a successful integration. Characteristics of the first job seem to largely determine immigrants' future earnings and job stability (Ansala, Åslund, & Sarvimäki, 2022). Immigrants are likely to enter the job market and hold jobs in low-wage segments (Ansala et al., 2022; Arendt, 2022; Aslund, Forslund, & Liljeberg, 2017; Bratsberg, Raaum, & Røed, 2018). Importantly, individuals in low-wage segments are generally at higher risk of becoming (frequently) unemployed and thus remaining in a precarious employment situation (Stewart, 2007). This puts a successful integration at risk, as it can hinder the extent and stability of labour market integration.

This paper studies the labour market entry of refugees and other (non-humanitarian) migrants originating from middle- and low-income non-European countries that arrived in Austria in 2014-2016. Specifically, we analyse factors that shaped the transition to and out of the first job in the Austrian labour market and document the characteristics of the first job in Austria. Furthermore, we analyse immigrants' job stability over time and explore the extent the employment type of the entry job was linked to their future labour market outcomes.

Empirical research on job entry and labour market transitions of refugees is scarce. Aslund et al. (2017) provide results on the job entry of non-Western refugees who arrived in Sweden in 1990-2014. Their findings indicate that labour market entry took a relatively long time, and the first job contact constituted an important entry into the labour market. Refugees often find their first job in small and low-wage firms overrepresented in service industries. Ansala et al. (2022) compare the labour market entry and job stability between immigrants (including refugees) who arrived in Finland and Sweden in 1990-2010, using rich employer-employee matched data. Interestingly, even

[1] This catch-up in the labour market performance of refugees is consistent with other findings in the literature. See Fasani, Frattini, and Minale (2022) for the evidence for 20 European countries and Ruiz and Vargas-Silva (2018) for the UK. Other studies also find a considerable improvement in the economic assimilation of refugees within the first period of their stay in a new country, but then observe divergence over time. See Sarvimäki (2017) for the evidence for Finland, Schultz-Nielsen (2017) for Denmark and Bratsberg, Raaum, and Røed (2017) for Norway.

though both countries show significant differences in the history of immigration influx, immigrants entered and proceeded in the labour market in similar ways. Similar to the findings of Aslund et al. (2017), the typical immigrant entry jobs were in the low-wage segment, predominately in the service industries. Moreover, managers and colleagues related to the first job often shared the same ethnic background, which indicates segregation in entry jobs. Importantly, their findings further suggest that the characteristics of immigrants' entry job determined to a large extent their subsequent earnings and job stability.

This paper contributes to the literature by providing insights into the labour market entry and job stability of non-European refugees in Austria. Specifically, the contribution of our analysis is manifold. First, to our best knowledge, this is the first empirical analysis that explores the labour market entry and job stability of refugees in Austria. Second, using a rich administrative dataset allows us to follow refugees and compare their labour market entry and integration with those of other (non-humanitarian) migrants that originate from similar countries. As these immigrant groups differ significantly in their access to the labour market after their arrival in Austria, the separate analysis of both groups provides valuable insights into heterogeneous patterns concerning labour market integration. Third, the analysis puts a spotlight on the previous large refugee wave and focuses exclusively on middle- and low-income non-European immigrants that arrived in Austria in 2014-2016. Previous studies primarily use information about refugees who arrived in the countries in earlier periods.

Our results show that other migrants entered the Austrian job market instantly after their arrival, while refugees struggled to find a job at the very beginning after their arrival. However, after the challenging start, refugees increased their employment rate considerably and closed the gap with other migrants. Even though refugees took longer to find a job, individual and household characteristics, as well as labour market indicators, are associated with the time between arrival and the first job in Austria, similar to other migrants. Surprisingly, highly educated immigrants appeared to face larger difficulties in finding a job in Austria compared with low-educated immigrants. Refugees and other migrants found similar entry job types. Interestingly, full-time jobs accounted for more than a third of all entry jobs for both immigrant groups. However, overall, entry jobs tended to be in low-wage segments. Despite similarities between refugees and other migrants regarding their entry job and its characteristics, other migrants held their first job for a longer time than refugees. Moreover, although other migrants quit their first job relatively quickly when it was marginal employment, refugees tended to hold marginal jobs as long as full-time and part-time jobs. Finally, our results suggest that entry jobs with a higher quality in terms of working hours and wages (i.e. full-time jobs) tended to be linked with job stability, while entry jobs with a lower quality (i.e. marginal jobs) tended to be attached with job instability for both refugees and other migrants. Importantly, for both immigrant groups, we see that taking a marginal job as their entry job was linked to fewer days in full-time employment during their stay in Austria. However, starting with a marginal job was associated with staying in marginal employment for a longer period after exiting the entry job.

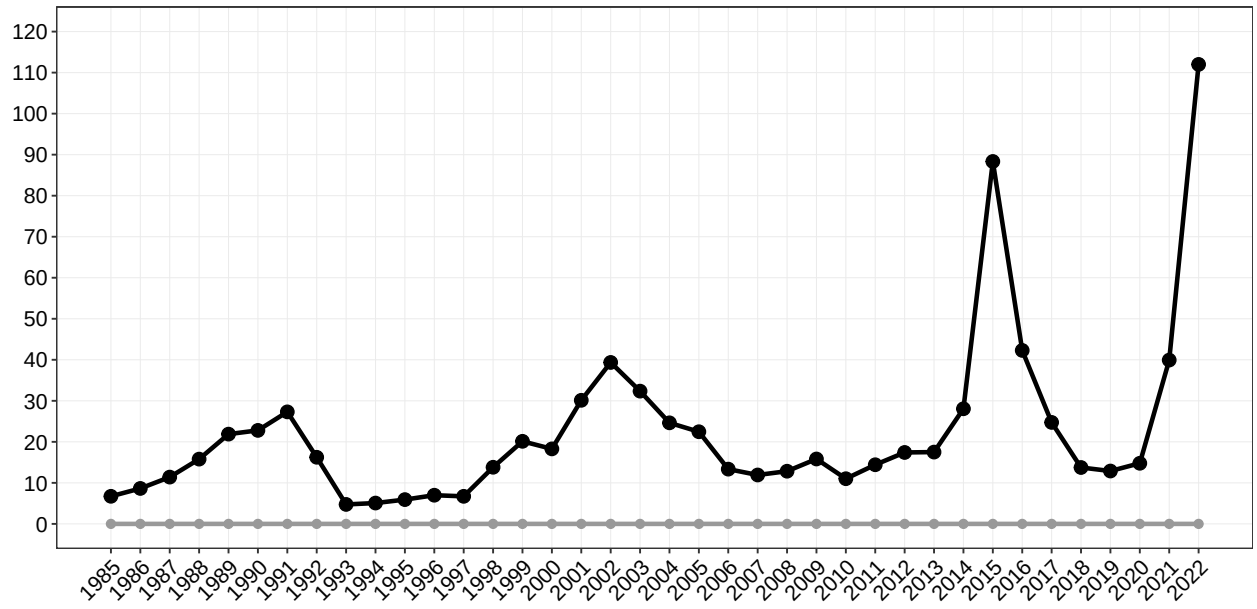
The remainder of this paper is structured as follows. Section 2 provides an overview of the institutional setting in Austria regarding the labour market access of refugees and other migrants. In Section 3, we discuss our data source and describe our procedure for constructing the sample for analysis. In Section 4, we present our results for the labour market entry of refugees and other migrants in Austria, look at the transition to the first job, and document the characteristics of immigrants' first jobs. Section 5 presents the results for the duration of immigrants' first jobs, while Section 6 reports the

results for immigrants' job stability in the Austrian labour market. Finally, Section 7 presents our conclusions.

2 Refugees in Austria

Austria has a long immigration history. Over the last 30 years, Austria experienced four refugee waves (see Figure 1).[2] The collapse of the socialist regimes in Eastern Europe resulted in a surge in the number of asylum applications. Another sharp increase was documented in 2000-2005. During this period, many refugees from Afghanistan and asylum seekers from Chechnya and Kosovo arrived in Austria. In 2014 and 2015, the inflow of refugees surged strongly, with most coming from Afghanistan, Syria, Iraq and Iran. The inflow decreased starting in 2016, and by 2018, it had dropped back to the same relatively low level of ten years earlier. Most recently, we can see a major increase in the number of asylum applications. The number of applications increased to a record high level in 2022, with most applicants coming from Afghanistan, India, Tunisia and Morocco.[3]

Figure 1 **Asylum application in Austria in thousands, 1995-2022**



Source: Austrian Ministry of Interior. Own illustration

The considerable increase in the number of asylum seekers in 2015 had significant repercussions for the duration of asylum applications. Although Austrian authorities are supposed to make a decision within six months in the regular asylum procedure, the average duration of the procedure was 16.5 months in 2017 (Expertenrat für Integration, 2018). If asylum status is rejected in the first instance, the asylum seeker can appeal to the courts (with a further chance to get granted asylum and subsidiary or humanitarian protection). In such cases, the asylum procedure is prolonged.

[2] See the official numbers of the Austrian Ministry of Interior: https://bmi.gv.at/301/Statistiken/.

[3] A surge of war refugees from Ukraine is only partly captured in Figure 1, as Ukrainians are eligible to apply for temporary protection, which is different from a regular asylum application.

In general, refugees have limited access to the labour market in the first years after arriving in the host country. Only after obtaining asylum status (subsidiary or humanitarian protection status) are refugees allowed to work without specific work permits. During the asylum application procedure, however, refugees can work after a three-month waiting period and only in particular areas, such as seasonal jobs in agriculture and tourism[4], private households, or charitable and voluntary activities. Until October 2018, asylum seekers below the age of 25 could also start an apprenticeship in shortage occupations. In addition, refugees can work as self-employed by registering a trade, which is possible three months after their asylum application procedure starts. During the asylum application, refugees receive public "basic care" support (Grundversorgung), which covers the provision of housing and food, some pocket money and additional allowances (e.g., for clothes). However, if earned income exceeds a certain threshold (the amount depends on the province of residence), individuals face a reduction or withdrawal of the basic care support.

The restricted access to the labour market in the first period after the arrival of humanitarian immigrants in Austria is documented in the results of Jestl et al. (2022). In the first two years after the arrival, the probability of finding a job was almost zero for those individuals. Accordingly, only a few asylum seekers found their way into the Austrian labour market during their asylum procedure. After the difficult start, however, refugees showed a remarkable improvement in their labour market performance and caught up, though not fully, with Austrian-born individuals and other (non-humanitarian) migrants.

3 Data and sample construction

In this study, we utilise information from the register-based labour market career data from Statistics Austria. The dataset provides information about the days in different activity statuses (a detailed description is provided below) over time of the total Austrian resident population.[5] Specifically, the data combine information from multiple administrative registers, such as the central social security register, the unemployment register and the central population register. These data are further enriched with other register-based data. This allows us to use additional information about year and country of birth, sex, education, family status and household structure (number of children and the age of the youngest child), and the district of the main residence. Based on these data, we construct a monthly panel dataset that allows us to follow individuals over time and have information about the labour market status(es) of the corresponding months over the years.

After the preparation of the data, we select the sample to conduct our analysis. In this study, we analyse the labour market experience of immigrants who arrived in Austria in 2014-2016. Specifically, we focus on *refugees* and *other (non-humanitarian) migrants* from low- and middle-income non-European countries. The group of refugees born in these countries accounted for the majority of the total number of immigrants who came to Austria in 2014-2016. We determine the year when a person appears for the first time in our data as the year of arrival. *Refugees* are defined as individuals born in low- and

[4] In particular, it is also required that the position cannot be filled by an Austrian citizen, a citizen of the EU or a legally residing third-country national with access to the labour market.

[5] If there are multiple activity statuses at the same time, the order of the Labour Force Concept of the International Labour Organisation is applied, which is as follows: compulsory service; employed, at work; employed, but temporarily not at work; unemployed; persons receiving a pension; students; and other statuses.

middle-income non-European countries who came to Austria between 2014 and 2016 and were once registered in *basic care*, which is the support scheme for asylum seekers in Austria. Refugees appear in the data as soon as they receive a social security number, which occurs days or weeks after the asylum application procedure starts. As soon as a refugee enters Austrian territory, the person must apply for asylum, and the asylum procedure starts. The Austrian state is obliged to support the asylum seeker, which is done via the basic care support scheme. Our dataset, however, does not include information about the decision on the asylum application. The second group of interest are *other migrants*. This group also comprises individuals born in low- and middle-income non-European countries who came to Austria in 2014-2016 but were never registered in the basic care support scheme. They are expected to appear in the data as soon as they register their place of residence with Austrian authorities, which they are obliged to do by law within three months of their arrival in Austria. Other migrants can be individuals who have migrated for work, study or family reunion reasons. As we do not have information about admission classes, we cannot directly distinguish between reasons for migration in the data. To focus on the core working-age population, we further select only individuals who were between the ages of 20 and 50 upon arrival.

By exploiting information about registrations in basic care, we can distinguish between refugees and other migrants, even when they are from the same country. As we focus on immigrants from low- and middle non-European countries, this makes the group of refugees and other migrants more comparable.[6] The possibility of identifying refugees and distinguishing them from other migrants allows us to go beyond other studies that apply the country of origin as a proxy for the refugee status. Immigrants who moved for the reason of family reunification with refugees in Austria are not registered in basic care and are thus captured in the group of other migrants. As these individuals principally have a residence permit upon arrival, they have immediate access to the labour market in contrast to the highly restricted labour market access for refugees.

In total, we register 55,539 refugees and 45,361 other migrants who arrived in Austria in 2014-2016. Figure A.1a in the Appendix illustrates the number of incoming immigrants by the year of arrival. The panel dataset allows us to follow refugees and other migrants from their arrival onwards. Overall, our monthly panel dataset provides information for the period from January 2014 to May 2021. We, however, identify a number of immigrants who came to Austria between 2014 and 2016 but moved abroad again (or disappeared from the registers for other reasons) up to May 2021.[7] In the present analysis, we only consider individuals out of the pool of refugees and other migrants who stayed in Austria from arrival until May 2021. Finally, we are left with 39,883 refugees and 16,078 other migrants who provide continuous information from arrival until May 2021. Accordingly, other migrants (around 64%) show a much higher attrition rate than refugees (around 28%) (see also Figure A.1b in the Appendix).[8] Figure 2 shows the distribution of these immigrants across the three years of arrival. As can be seen, the number of arriving other non-humanitarian migrants who stayed in Austria was relatively stable during 2014-2016. In contrast, the number of incoming refugees who stayed in Austria skyrocketed in 2015 compared with 2014 but fell sharply in 2016.

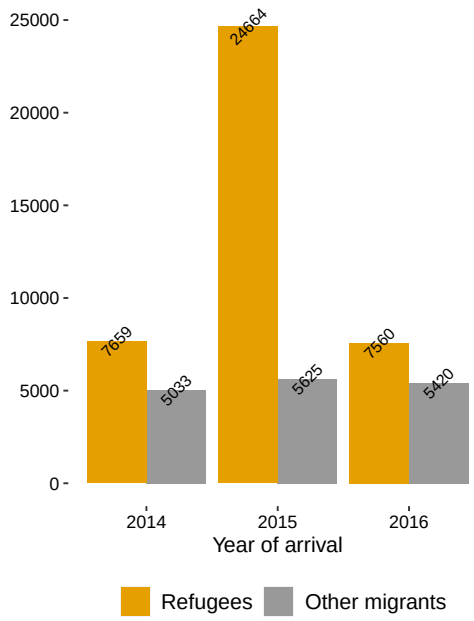
[6] We acknowledge, however, that the proportions by country of birth are not equal among refugees and other migrants from the same regions. To account for these differences, we consider country of birth fixed effects in our econometric analyses below.

[7] The largest number of immigrants drop out of the registers in the first two years after arrival.

[8] The attrition rate is revealed to be relatively constant across the year of arrival. An exception is refugees who arrived in 2016, as they show a somewhat higher attrition rate compared with previous arrival cohorts.

Most of the refugees who arrived in Austria between 2014 and 2016 and stayed in the country came from Syria, Afghanistan, Iraq and Iran. This set of countries accounts for almost 90% of the total stock of refugees in our final sample. In total, however, we register refugees from 80 low- and middle-income non-European countries.[9] In the group of other non-humanitarian migrants, we find high numbers of immigrants who were born in Turkey, Chechnya, Iran, China, India, Syria and Afghanistan. In sum, we list more than 100 countries of origin for this immigrant group.

Figure 2 **Sample of immigrants with full information by year of arrival**



Notes: The graph shows the number of refugees and other migrants who stayed in Austria over the entire period (until May 2021) and thus provide full information from arrival onwards.

Source: Statistics Austria. Own calculations and illustration.

[9]This includes Somalia, Chechnya, Nigeria, Turkey, Pakistan and India.

Table 1 **Composition of sample, persons at year of arrival**

	in %	*Refugees*	*Other migrants*
Sex	*Male*	65.8	44.1
	Female	34.2	55.9
Education	*Low*	60.7	39.8
	Medium-low	22.6	23.0
	Medium-high	9.9	18.9
	High	6.6	17.2
	Not available	0.2	1.1
Age	*20-29*	53.2	53.8
	30-39	32.4	33.4
	40-50	14.5	12.7
Total number		39,883	16,078

Notes: This table reports gender, educational attainment, and age structure by immigrant group at the year of arrival.
Source: Statistics Austria. Own calculations.

Table 1 further provides an overview of the final sample s gender, educational attainment and age cohort structure. All covariates refer to the time of arrival. While we find a predominant proportion of men among refugees, the share of women and men is more balanced among other migrants. Interestingly, the proportion of women is larger than men among other migrants. One reason for this might be that the group of other migrants also includes individuals who moved for family reunion (see the discussion in Section 3). Likewise, we observe relatively large differences in the educational attainment structure between refugees and other migrants.

Almost 85% of refugees can be attributed to lower educational attainment groups, while these groups account for only 65% among other migrants. However, the age structure is very similar among refugees and other migrants. Most immigrants arrived in Austria when they were 20-30 years old. Only a relatively small proportion of older individuals came to Austria in 2014-2016 and stayed in the country.

4 Labour market entry

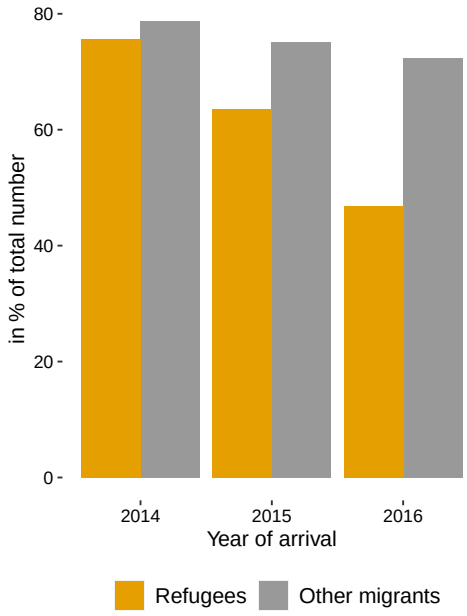
We start our analysis by exploring the labour market entry of refugees and other non-humanitarian migrants who arrived in Austria between 2014 and 2016 and stayed in the country over the observational period (i.e. until May 2021). The entry job is defined as the first spell of being employed in a job documented in the labour market career data for at least 10 days. Specifically, being employed includes full-time, part-time, marginal[10] or self-employed work. In total, we find that 25,012 refugees (roughly 63% of the total number of refugees) and 12,117 other migrants (around 75% of the total number of other migrants) found a job during their stay in Austria. Accordingly, other migrants had a 10 percentage point higher employment participation than refugees. The literature explores various reasons why refugees may experience slower integration into the labour market compared with other non-humanitarian migrants (Brell, Dustmann, & Preston, 2020; Dustmann, Fasani, Frattini, Minale,

[10]Marginally employed individuals receive a monthly remuneration that does not exceed a certain threshold (between EUR 425.70 and EUR 475.86 in 2017-2021). Marginally employed individuals are only insured against accidents at work.

& Schönberg, 2017, for an overview). In addition to the limited labour market access during the asylum procedure, refugees often experience uncertainty, tend to be less favourably (self-)selected (Borjas, 1987), face mental health issues (Kohlenberger, Buber-Ennser, Rengs, Leitner, & Landesmann, 2019) and lack social networks in the host countries, which can be important for finding a job. Furthermore, some non-humanitarian immigrants might have moved after receiving a job offer, which implies that they already have a job upon arriving in Austria.

Moreover, we observe variations in employment participation across the year of arrival cohorts in Figure 3. Unsurprisingly, the earlier an immigrant arrived in Austria, the higher the overall employment participation. For refugees, we see a considerable decline from 76% among the 2014 arrival cohort to around 47% among the 2016 cohort. Even though other migrants also show lower rates for later arrival cohorts, employment participation remained above 70%.

Figure 3 **Share of immigrants with an entry job by year of arrival**



Notes: The graph shows the proportions of refugees and other migrants who got a job during observational period. The entry job is defined as either full- and part-time employment, marginal employment or self-employment.

Source: Statistics Austria. Own calculations and illustration.

Next, we take a look at the characteristics (upon arrival) of the immigrants who found a job in Austria. Columns (3) and (4) in Table 2 present the structure of immigrants who found a job with respect to gender, educational attainment, and age cohort structure. The variation across the population groups of immigrants with an entry job resembles what we have already observed in Table 1. This indicates that mainly compositional effects drive the patterns observed for immigrants with an entry job in Table 2. Columns (5) and (6) in Table 2 further show the employment participation rates by the population subgroup for refugees and other migrants. Across all subgroups, a larger proportion of the group of other migrants found a job in Austria compared with refugees. Even though we find a lower participation rate of women compared to men for both immigrant groups, the difference is much more pronounced among refugees. Only around a third of the female refugees who came to Austria

in 2014-2016 were ever employed until May 2021. The participation rate of women in the group of other migrants is comparatively high at almost 70%. The limited labour market integration of female refugees is consistent with previous findings for countries such as Austria (Jestl et al., 2022), Norway (Bratsberg et al., 2017), and Denmark (Schultz-Nielsen, 2017).

Table 2 **Composition of immigrants with an entry job and employment participation rates by subgroup**

		Structure among immigrants with entry job, in %		Participation rate, in %	
		Refugees	*Other migrants*	*Refugees*	*Other migrants*
Sex	*Male*	82.9	48.8	79.0	83.5
	Female	17.1	51.2	31.3	69.0
Education	*Low*	63.7	42.6	65.9	80.8
	Medium-low	19.4	20.6	53.6	67.5
	Medium-high	10.3	19.2	65.5	76.4
	High	6.4	16.7	60.8	73.4
	Not available	0.2	0.9	65.2	57.8
Age	*20-29*	56.4	55.4	66.5	77.6
	30-39	31.9	33.3	61.9	75.0
	40-50	11.7	11.3	50.6	66.8
Total		25,012	12,117	62.7	75.4

Notes: The Columns (3) and (4) report gender, educational attainment, and age structure for refugees and other migrants who found an entry job in Austria over the observational period. The Columns (5) and (6) show the employment participation rates for population subgroups. All characteristics refer to the time of arrival.
Source: Statistics Austria. Own calculations.

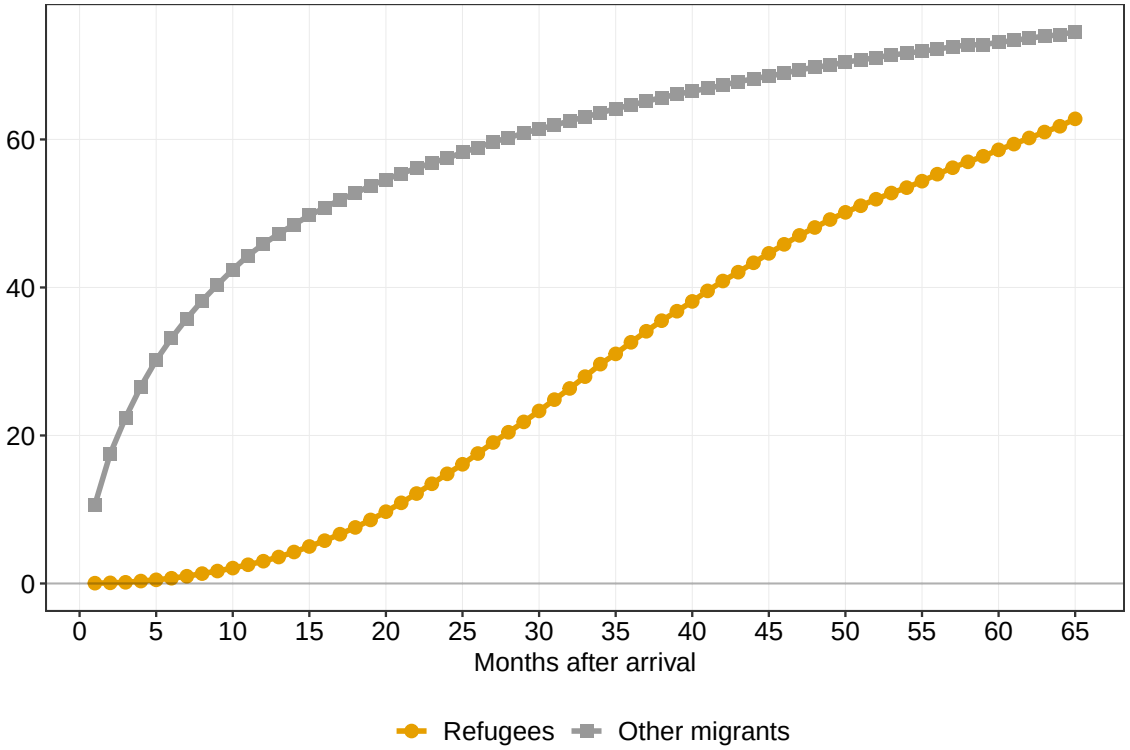
We further find similar patterns of employment participation rates across educational attainment groups among refugees and other migrants.[11] Interestingly, the group of the lowest educated individuals had the highest participation rate in both immigrant groups. In contrast, highly educated immigrants show a much slower labour market integration. Their participation rates range from 60.8% for refugees to 73.4% for other migrants. Similar patterns for the two immigrant groups can also be observed for the participation rates for age cohorts. Younger immigrants principally show a more pronounced labour market integration than older immigrants.

4.1 Transition to the first job

After the identification and characterisation of immigrants who stayed in Austria and found a job, we now turn to the analysis of the time and transition to the first job. On average, it took refugees 1,090 days to find the first job (almost three years), while other migrants only needed 450 days (1.2 years). Due to the highly restricted access to the Austrian labour market for refugees (especially during the asylum procedure), it is not surprising that this group of immigrants had more difficulties finding their way into the job market. As other non-humanitarian migrants have access to the Austrian labour market immediately after their arrival, we expect to see a lower average time for entering the job market.

[11] The patterns are also rather robust across year of arrival cohorts.

Figure 4 **Cumulative share of immigrants who experienced a job entry over time after arrival**



Notes: The graph shows the proportions of refugees and other migrants who got a job during observational period. The entry job is defined as either full- or part-time employment, marginal employment or self-employment.

Source: Statistics Austria. Own calculations and illustration.

The significant difference in the labour market access for refugees and other migrants after arrival can also be found in Figure 4. The figure illustrates the cumulative share of immigrants who got their first job months after their arrival in Austria. As can be seen, other non-humanitarian migrants entered the job market instantly after their arrival, while refugees struggled to find a job at the very beginning after their arrival. However, after the difficult start (especially after the asylum procedure), refugees increased their employment participation considerably and closed the gap with other migrants. After 18 months since their arrival in Austria, the number of new job entries for refugees outpaced that of other migrants (see Figure A.2 in the Appendix). However, although refugees experienced a fast catch-up, they still lagged behind after more than five years after arrival.

Next, we examine which observable characteristics were related to the time immigrants took to find their first job in Austria. This allows us to identify the main factors that explain the search process and shed light on potential differences between refugees and other migrants. To do so, we estimate a proportional Cox hazards specification separately for refugees and other migrants in the following form:

$$h(t) = h_0(t) exp\{\boldsymbol{X\beta} + \gamma_{cb} + \delta_d + \mu_a\}, \tag{1}$$

where t captures the number of days from arrival until the start of the first job. $h_0(t)$ denotes the

baseline hazard, while the vector $\boldsymbol{X}$ includes a rich set of explanatory variables. To account for systematic differences between origin countries, we consider fixed effects at the country of birth level, γ_{cb}. Furthermore, δ_d controls for district-specific and μ_a for year of arrival-specific[12] time-invariant characteristics.[13]

On the one hand, $\boldsymbol{X}$ contains individual and household characteristics, including age, gender, educational attainment, the number of children, the age of the youngest child and the household type. On the other hand, we consider labour market indicators at the district level, such as the unemployment and employment rate in manufacturing, tourism and agriculture, as a share of total employment. This allows us to take the general conditions in local labour markets into account. Moreover, we add to our specification the share of individuals born in non-European and non-high-income countries relative to the total resident population in each district. We use this variable as a proxy for local social networks and to control for potential enclaves. Importantly, as we apply a panel data set, we exploit month-specific information about our set of covariates in our regression analysis from arrival until job entry. Specification 1 is estimated using a maximum likelihood estimation.

Table 3 presents the estimation results of Specification 1. Column (1) reports the results of the proportional Cox hazards regression for refugees and Column (2) those for other migrants. The first two variables concern the age of the immigrants. For both immigrant groups, we find that older individuals tended to find a job less quickly compared with the age cohort within the bracket 20-30. The differences across age cohorts are, however, more pronounced for refugees. As already discussed above, female immigrants faced large difficulties in integrating into the Austrian labour market. This is also reflected by the results of the female dummy in Table 3. Female other migrants and particularly female refugees entered the Austrian job market much slower than their male counterparts. Moreover, we find very interesting results for the immigrants' educational attainment level. The results suggest that lower-educated immigrants found their first job most quickly. The results for the other education groups show hazard ratios below one. Interestingly, even the group of highly educated immigrants experienced job entry slower than their lower-educated counterparts. This result is in line with previous findings for Austria (Jestl et al., 2022). Potential reasons for difficulties for highly educated immigrants may be due to the need for high (host-country) language competence for high-skilled jobs. More generally, it is also likely to be related to problems with the transferability of skills (e.g., Basilio, Bauer, & Kramer, 2017) and an incentive to look longer for a job that matches their educational attainment level. Conversely, household structure did not seem to play a major role in determining the time of the job entry. The number of kids, however, is revealed to result in slower entry into the Austrian job market of refugees. The results regarding the age of the youngest child further highlight, as expected, that especially having a young child was associated with a relatively slow job entry. Beyond that, the local job structure in the Austrian districts seemed to be related to the timing of the job entry. The results indicate that in districts where manufacturing was an important industry for employment of the resident population, immigrants found a job less quickly. Interestingly, we find a similar deferring effect when the tourism sector is pronounced in Austrian districts, but only for refugees. In general, this may indicate a higher competition in the labour market for jobs between recently arrived immigrants, earlier-arrived immigrants and Austrian-born individuals. We also find similar effects for the local unemployment rate for both other migrants and refugees. The higher the

[12] Figure 3 has already indicated remarkable differences across year of arrival cohorts in employment participation.

[13] We do not take unobserved heterogeneity into account. We, however, argue that our set of fixed effects does already account for systematic differences among immigrant groups to a large extent.

local unemployment rate, the more strained local labour markets and the longer immigrants needed to take to find their first job.

Finally, a higher share of migrants in the district and the time to job entry shows an interesting differing association between refugees and other migrants. While it seems to be related to a longer job search for refugees, it is associated with faster job entry for other migrants. These results suggest that other migrants tended to have better access to or make better use of social networks to find job opportunities. In contrast, refugees seemed to be less able, or not able, to benefit from such networks. This is in line with the argument that refugees do not have the same possibility of choice of destination and have less time to prepare before they move and thus have less information about and less access to pre-existing social networks. The networks for refugees might further be less established and thus smaller. For refugees, the result may also indicate a higher competition in the labour market for jobs between recently arrived refugees and earlier-arrived immigrants.

Overall, the estimation results in Table 3 indicate rather similar findings for refugees and other migrants. These similarities suggest that one key reason for the different timing of entering the Austrian labour market constitutes the restricted access to the labour market for refugees.

4.2 Characteristics of the first job

Above, we have already discussed the individual characteristics of immigrants who experienced job entry after their arrival in 2014-2016 until May 2021. Our dataset also allows us to present an overview of a set of first jobs' characteristics. Unfortunately, information about the companies where immigrants found their first job is rather limited in the labour market career data.[14] Figure 5 illustrates the job types of refugees' and other migrants' first jobs in Austria. We distinguish between full-time and part-time employment, other employment, marginal employment, and self-employment. Other employment refers to an employment spell of being an employee, but information on whether the job is full-time or part-time is not available or cannot be identified. As can be seen, the structure of employment types looks somewhat similar for refugees and other migrants. Against the background of the large differences in finding the first job in Austria between refugees and other migrants (see Section 4.1), this result is to some extent surprising. Importantly, full-time jobs account for more than a third of all first jobs for both immigrant groups. Also, the share of self-employed immigrants is almost the same for both groups. For the other employment types, however, we observe differences between refugees and other migrants. While part-time jobs account for a larger share among other migrants (23.15%), marginal (31.20%) and other employment (12%) are higher among refugees.

Specific groups of immigrants may be more likely to take particular jobs. For instance, more disadvantaged immigrants with a potentially poorer labour market performance could be more likely to get marginal jobs instead of full-time jobs. Consequently, the results of the present analysis might be driven by a selection process. To provide more insights into the possible selection of specific groups of immigrants, we estimate the above specification separately by educational attainment group. Fig-

[14] We do not have access to employer-employee matched data. Thus, we do not have access to the information about company size and structure and cannot use an employer ID to identify the workforce of companies. For an analysis in this respect that relies on employer-employee matched data, see Ansala et al. (2022)

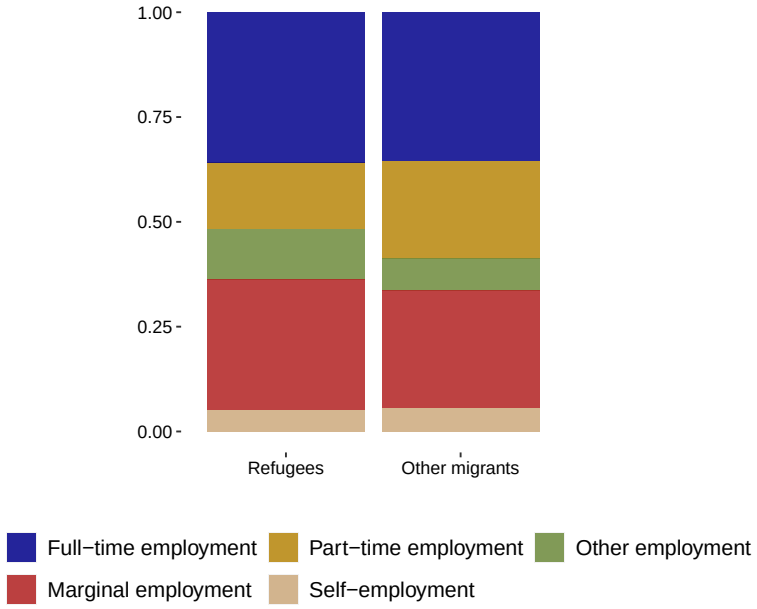
Table 3 **Proportional Cox regression – transition to first job**

Dependent variable:	*Days until job entry*	
	Refugees	*Other migrants*
	(1)	(2)
Age: 30-39	0.919***	1.011
	(0.0131)	(0.0209)
Age: >39	0.603***	0.719***
	(0.0119)	(0.0217)
Female	0.238***	0.491***
	(0.00434)	(0.00989)
Medium-low education	0.651***	0.705***
	(0.0122)	(0.0192)
Medium-high education	0.934***	0.669***
	(0.0176)	(0.0198)
High education	0.877***	0.831***
	(0.0189)	(0.0243)
Education not available	0.626	0.530***
	(0.184)	(0.0834)
Partner household	1.003	0.949
	(0.0307)	(0.0327)
Other family household	1.029	1.010
	(0.0478)	(0.0627)
Other household	0.575***	0.675***
	(0.0127)	(0.0252)
Household not available	0.581	1.391
	(0.193)	(0.324)
# of kids	0.897***	0.980
	(0.00707)	(0.0173)
Age of youngest child: 0-2	0.676***	0.587***
	(0.0234)	(0.0236)
Age of youngest child: 3-5	0.892***	0.790***
	(0.0359)	(0.0464)
Age of youngest child: 6-9	1.034	0.886**
	(0.0437)	(0.0529)
Age of youngest child: 10-14	0.957	0.922
	(0.0452)	(0.0576)
Age of youngest child: >14	0.935	0.807***
	(0.0442)	(0.0474)
Share manuf. jobs	0.891***	0.892***
	(0.0195)	(0.0278)
Share agricul. jobs	1.049	1.057
	(0.0762)	(0.0532)
Share tourism jobs	0.930***	1.007
	(0.00924)	(0.0136)
Share of foreign-born (non-EU & non-rich)	0.869***	1.092***
	(0.0180)	(0.0249)
Unemployment rate	0.877***	0.969***
	(0.00522)	(0.00794)
Observations	1,942,524	466,722
Number of individuals	39,883	16,078
District fixed effects	Y	Y
Country of birth fixed effects	Y	Y
Year of arrival fixed effects	Y	Y

Notes: This table shows the estimation results of Specification 1. Results are reported as hazard ratios. Standard errors in parentheses are clustered at the individual level. *Age cohort 20-29*, *male*, *lower education*, *singles* and *no children* are the omitted variables in the regression. * p<0.1, ** p<0.05, *** p<0.01.
Source: Statistics Austria. Own calculations.

ure A.3 in the Appendix contrasts the structure of employment types by education group separately for refugees and other migrants. Most interestingly, we find the highest share of full-time jobs among highly educated individuals for other migrants and among lower educated individuals for the group of refugees. A common finding among refugees and other migrants is that the share of marginal employment is the lowest for the group of highly educated immigrants, although the differences are generally larger for other migrants.

Figure 5 **Employment status of immigrants' first job**



Notes: The graph shows the proportions of job type of immigrants' first job. *Other employment* covers employment spells being an employee but information is not available whether the job is full-time or part-time. *Marginal employment* refers to jobs where the payment does not exceed a certain threshold (between 425.70 EUR and 475.86 EUR in the period 2017-2021).

Source: Statistics Austria. Own calculations and illustration.

To provide detailed insights into the potential sorting of immigrants into particular job types, we estimate the probability of taking a specific job considering the same set of explanatory variables as in Specification 1.[15] However, contrary to the specification above, all covariates refer to the time when immigrants took their first job, as the specification is estimated in a cross-sectional framework. As job entry varies over time across immigrants, we can include both the labour market indicators at the district level and district fixed effects, even in the cross-sectional specification. The inclusion of this set of variables allows us to account for the labour market conditions at the time of the job entry in an appropriate way.[16] Table A.11 and Table A.12 report the estimation results for this specification for refugees and other migrants, respectively. We find that older refugees were less likely to take a full-time job as an entry job, while older other migrants were more likely to take a full-time job than younger individuals. Moreover, older other migrants showed a lower probability of finding a marginal job and a higher probability of self-employment. For both immigrant groups, we observe that

[15] In addition, we include the time between arrival and taking the first job as an additional covariate in the specification.

[16] Specifically, we estimate a cross-sectional linear probability model in an ordinary least squares framework in the form of $Job_i = \boldsymbol{X_i}\boldsymbol{\beta} + \gamma_{cb} + \delta_d + \mu_a + \epsilon_i$ for an immigrant i. We also consider additional explanatory variables to account for the time before the job entry: the number of days spent in training provided by the public employment service, the number of days spent in education prior to the job entry and the number of days used for searching for the first job.

women were less likely to find full-time jobs compared to men. However, they were more likely to get part-time jobs and marginal jobs. Furthermore, female immigrants tended to become self-employed less often. For educational attainment levels, we observe, as expected, that immigrants with high education had a lower probability of finding a marginal job compared to lower-educated immigrants. Interestingly, considering all other covariates, higher-educated refugees did not reveal a statistically different probability of finding full-time jobs than lower-educated refugees. This is, however, not the case for the group of other migrants, which is in line with the results presented in Figure A.3a and Figure A.3b in the Appendix. We further find that living in a multiple-person household and having children seemed to be associated with a lower likelihood of taking a full-time job.

Table 4 presents further characteristics of immigrants' first jobs. The first panel pertains to the industry types of immigrants' first jobs. Similar to the employment status of immigrants' first jobs as discussed above (see Figure 5), refugees' and other migrants' first jobs in Austria were found in almost the same labour market segments. We find that both refugees and other migrants had their first job often in the service sector. In particular, the industries *accomodation & food service*, *wholesale & retail trade* and *administrative & support service* (which includes activities of employment placement agencies and temporary employment agency activities, facilities support and cleaning activities) were important segments for their job entry. Moreover, the regional structure of job entries seems rather similar between refugees and other migrants. Around 60% of immigrants' first jobs were found in urban regions. Finally, we show the average real gross monthly wages of immigrants' entry jobs (deflated to prices in 2016). The availability of information about wages for self-employed immigrants is limited. We, therefore, do not report average wages for this employment type. Overall, refugees earned EUR 1,202 and other migrants EUR 1,543 per month on average. Considering the total monthly wage distribution for Austria during 2017-2020, immigrants are found above the 30^{th} percentile. This result corresponds to the findings of Ansala et al. (2022) for the entry jobs' earnings of immigrants in Finland and Sweden.[17] The (slightly) higher monthly wage of other migrants relative to refugees can also be found when we compare the average monthly wages of immigrants by employment type. The largest difference is shown for full-time jobs, while the wages for part-time entry jobs are almost the same.

[17]Please note that Ansala et al. (2022) analyse annual earnings instead of monthly earnings.

Table 4 **Characteristics of immigrants' first job**

			Refugees	*Other migrants*
Industry	*in %*	*Agriculture*	1.7	0.3
		Manufacturing	6.8	7.0
		Wholesale & retail trade	11.2	12.9
		Transport	4.4	3.6
		Accommodation & food service	23.9	26.2
		IT & finance	1.2	4.5
		Administrative & support service	20.3	14.0
		Others	26.9	27.3
		Not available	3.7	4.1
Region	*in %*	*Urban*	57.5	62.4
		Non urban	42.5	37.6
Real monthly wage	*in EUR*	*Full-time employment*	1,836	2,546
		Part-time employment	1,170	1,188
		Other employment	1,578	1,726
		Marginal employment	308	437
		Self-employment	-	-
		Total	1,202	1,543

Notes: The graph shows the proportions of job type of immigrants' first job. *Other employment* covers employment spells being an employee but information is not available whether the job is full-time or part-time. *Marginal employment* refers to jobs where the payment does not exceed a certain threshold (between 425.70 EUR and 475.86 EUR in the period 2017-2021). Availability of wage information for *self-employment* is limited. *Agriculture* covers the NACE Rev-2 code *A*, *Manucturing* the code *C*, *Wholesale & retail trade* the code *G*, *Transport* the code *H*, *Accommodation & food service* the code *I*, *IT & finance* the codes *J* and *K*, and *Administrative & support service* the code *N*. *Others* include all remaining industries (*B*, *D*, *E*, *F*, *L*, *M*, *O-T*).
Source: Statistics Austria. Own calculations.

5 Duration of the first job

After our analysis of the labour market entry of refugees and other migrants who arrived in Austria in 2014-2016, we analyse the variation in the time it took them to enter the workforce for the first time. It may be the case that refugees need a longer time to find their first job and exit it faster compared to other migrants. Table 5 shows the average duration measured in days of immigrants' entry job by population subgroup. Overall, the average number of days in employment was around 250 for refugees and 470 for other migrants. Accordingly, other migrants had a faster job entry (see Section 4.1) and held their jobs for a longer time on average, even though they found their first employment in similar job types and industries (see Section 4.2). Male immigrants showed a longer duration than their female counterparts, although among refugees the differences between men and women were relatively small. Across educational attainment groups, highly educated immigrants held their jobs for relatively longer. Especially among other migrants, the differences between highly educated and other educational attainment groups were significant. However, the variation in the average duration across education groups among refugees was much lower. Likewise, we do not find large differences across age cohorts among refugees. However, among other migrants, older immigrants tended to stay in their jobs for a longer time than younger immigrants. We further report the average number of days in the first job by job type. The structure of the first jobs' length was again very similar among refugees and other migrants. As can be seen, the duration of self-employment was the longest for both immigrant groups. Interestingly, the duration of part-time jobs was longer than that of full-time jobs.

Refugees and other migrants quit marginal jobs as their first job in Austria relatively quickly.

Table 5 **Average duration (days) of immigrants' entry job**

		Refugees	*Other migrants*
Sex	*Male*	255.5	532.7
	Female	219.3	407.2
Education	*Low*	245.5	361.4
	Medium-low	241.3	541.2
	Medium-high	257.5	395.5
	High	294.9	723.3
Age	*20-29*	249.9	412.1
	30-39	253.3	523.4
	40-50	235.1	583.9
Job type	*Full-time employment*	258.8	416.6
	Part-time employment	362.6	699.2
	Other employment	152.1	272.9
	Marginal employment	117.3	211.5
	Self-employment	461.5	775.6
Total		249.3	468.5

Notes: The table summarises the average duration measured in days of immigrants' entry job by population subgroup. All covariates refer to the time of arrival.
Source: Statistics Austria. Own calculations.

In the next step, we analyse which observable characteristics were associated with the first job's duration in Austria and whether the entry job's employment type mattered for the job duration after considering other covariates. Specifically, we estimate a specification that is similar to Specification 1. However, this time the dependent variable measures the number of days in the first job. Moreover, we add a set of additional covariates to the specification. We also consider the number of days spent in training provided by the public employment service and the number of days spent in education before the job entry. We further include the number of days used for searching for the first job to account for differences between fast and slow job entries. This variable is also expected to control for selection to some extent. A faster job entry may reflect the fact that those individuals have more favourable characteristics. Finally, we add dummy variables that capture the employment type of the entry job (part-time employment represents the omitted variable). This allows us to analyse whether the duration of the first job varies across employment types after controlling for a rich set of individual and household characteristics, labour market indicators, and a set of fixed effects.

Table 6 reports the estimation result of this specification. For most of the variables, we find similar results for refugees and other migrants. However, different results between immigrant groups can also be found for a set of covariates. Older refugees tended to quit their first job faster than younger refugees, while older other migrants held their entry job longer than younger other migrants. Above, we have already discussed that female immigrants struggled to find their way into the Austrian job market. Interestingly, however, a gender difference for the duration of the first job can only be observed for other migrants. Female other migrants seemed to have left their first jobs faster than male other migrants. We do not find statistically significant differences between female refugees and male refugees for the duration of the entry job. A further interesting finding is that, after controlling for

other covariates, only highly educated refugees tended to hold their first jobs as long as lower-educated refugees. Both medium educational attainment groups among refugees tended to have ended their first jobs earlier. In contrast, among other migrants, the higher their education, the longer they hold their entry job.

Interestingly, we further find that the higher the number of days spent in training provided by the public employment service and the higher the number of days spent in education before the job entry, the faster immigrants' entry job ended. The results are very similar for refugees and other migrants. The result for training might be affected by a selection bias, where more disadvantaged immigrants with a poorer labour market performance could be more likely to undergo training offered by the public employment service. Moreover, the result for the number of days after arrival until job entry suggests that a longer search time tended to be associated with individuals leaving their first jobs sooner. Similar to training, the result might reflect a selection bias. More disadvantaged immigrants may need a longer time to enter the Austrian job market and thus struggle to stay longer in their first job.

Finally, we look at the results for the first jobs' type of employment. For both immigrant groups, we find that marginal employment tended to end faster, while immigrants were self-employed for a relatively long time compared with part-time employment. Full-time jobs had a longer duration than part-time jobs for other migrants, but not for refugees. Refugees further held relatively long jobs ascribed to the group of other employment.

The results discussed above might again be driven by selection (see the discussion in Section 4.2). To provide more insights into differences between employment types of job entry, we also estimate the specification (see Table 6) separately for each education group of both refugees and other migrants. Table 7 lists the estimation results for the employment type dummies of the proportional Cox hazards regressions by education group. In all regressions, the reference group for the job type are part-time jobs. We find that the results of the total sample in Table 6 for full-time jobs are robust across the educational attainment groups. Even highly educated refugees did not hold full-time jobs for a longer time than part-time jobs. Moreover, among other migrants, there is a consistent trend across education groups of quickly leaving marginal jobs. After controlling for other explanatory variables in our specification, highly educated other migrants ended their marginal employment relatively early. This might be in favour of better job opportunities. Interestingly, this result cannot be found in the corresponding results for refugees. While low-educated refugees quit marginal jobs faster than part-time jobs, highly educated refugees held their marginal jobs for a similar duration to part-time jobs. This may indicate the lack of job opportunities for refugees compared to other migrants.

Table 6 **Proportional Cox regression – transition out of first job**

Dependent variable:	*Days in first job*	
	Refugees	*Other migrants*
	(1)	(2)
Age: 30-39	1.104***	1.003
	(0.0171)	(0.0222)
Age: >39	1.190***	0.903***
	(0.0253)	(0.0293)
Female	1.016	1.235***
	(0.0212)	(0.0279)
Medium-low education	1.073***	0.743***
	(0.0221)	(0.0221)
Medium-high education	1.045**	0.803***
	(0.0216)	(0.0261)
High education	0.977	0.601***
	(0.0232)	(0.0195)
Education not available	1.146	0.766*
	(0.375)	(0.123)
Partner household	0.960	1.668***
	(0.0304)	(0.0640)
Other family household	0.979	1.287***
	(0.0500)	(0.0859)
Other household	1.078***	1.254***
	(0.0246)	(0.0537)
Household not available	0.185***	1.167
	(0.0690)	(0.330)
# of kids	1.009	0.970
	(0.00889)	(0.0198)
Age of youngest child: 0-2	1.131***	1.175***
	(0.0415)	(0.0498)
Age of youngest child: 3-5	0.977	0.958
	(0.0422)	(0.0633)
Age of youngest child: 6-9	0.966	0.976
	(0.0438)	(0.0629)
Age of youngest child: 10-14	1.001	1.070
	(0.0514)	(0.0707)
Age of youngest child: >14	0.962	1.041
	(0.0506)	(0.0631)
Share manuf. jobs	1.392***	1.099***
	(0.0331)	(0.0359)
Share agrcul. jobs	0.531***	0.606***
	(0.0434)	(0.0498)
Share tourism jobs	0.913***	0.926***
	(0.00853)	(0.0124)
Share of foreign-born (non-Europe & non-rich)	1.739***	1.493***
	(0.0387)	(0.0333)
Unemployment rate	0.997	0.984*
	(0.00586)	(0.00855)
Days in PES training prior to job entry	1.001***	1.002***
	(4.09e-05)	(0.000141)
Days in education prior to job entry	1.001***	1.001***
	(8.45e-05)	(4.37e-05)
Days until job entry	1.000***	1.000***
	(1.89e-06)	(2.43e-06)
Entry job: full-time employment	0.998	0.590***
	(0.0209)	(0.0166)
Entry job: other employment	0.845***	1.004
	(0.0276)	(0.0463)
Entry job: marginal employment	1.113***	1.471***
	(0.0235)	(0.0420)
Entry job: self-employment	0.570***	0.544***
	(0.0264)	(0.0296)
Observations	219,880	192,691
Number of individuals	25,012	12,117
District fixed effects	Y	Y
Country of birth fixed effects	Y	Y
Year of arrival fixed effects	Y	Y

Notes: Results are reported as hazard ratios. Standard errors in parentheses are clustered at the individual level. *Age cohort 20-30*, *male*, *lower education*, *singles*, *no children*, and *entry job: part-time employment* are the omitted variables in the regression. PES – public employment service. * p<0.1, ** p<0.05, *** p<0.01.
Source: Statistics Austria. Own calculations.

Table 7 **Regression results for employment type dummies of Proportional Cox regression by education level**

Dependent variable:	*Days in first job*							
	Refugees				*Other migrants*			
Educational attainment:	*Low*	*Medium-low*	*Medium-high*	*High*	*Low*	*Medium-low*	*Medium-high*	*High*
Entry job: full-time employment	0.973	1.005	1.059	1.045	0.688***	0.544***	0.454***	0.504***
	(0.0247)	(0.0550)	(0.0745)	(0.0984)	(0.0278)	(0.0363)	(0.0373)	(0.0392)
Entry job: other employment	0.858***	0.750***	0.730***	0.723**	1.021	0.899	0.701***	2.002***
	(0.0358)	(0.0558)	(0.0816)	(0.0994)	(0.0728)	(0.0957)	(0.0884)	(0.237)
Entry job: marginal employment	1.074***	1.058	1.179**	1.156	1.430***	1.512***	1.188**	2.310***
	(0.0280)	(0.0570)	(0.0789)	(0.111)	(0.0616)	(0.103)	(0.0796)	(0.206)
Entry job: self-employment	0.479***	0.575***	0.604***	0.919	0.546***	0.395***	0.792*	1.060
	(0.0335)	(0.0486)	(0.0871)	(0.156)	(0.0480)	(0.0441)	(0.103)	(0.170)
Observations	138,495	41,020	23,370	16,461	64,300	45,600	31,435	48,892
Number of individuals	15,942	4,841	2,579	1,607	5,163	2,500	2,325	2,025
District fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Country of birth fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Year of arrival fixed effects	Y	Y	Y	Y	Y	Y	Y	Y

Notes: Results are reported as hazard ratios. Estimates for the employment type dummies of the entry job are extracted from a Proportional Cox regression specified in a similar way as presented in Table 6 (educational attainment dummies are omitted), however it is estimated separately for each educational attainment group. *Entry job: other employment* is the reference entry job employment type. Estimates for the other covariates are not shown and are available upon request. * p<0.1, ** p<0.05, *** p<0.01.
Source: Statistics Austria. Own calculations.

6 Job stability

So far, we have primarily addressed in our analysis the time until the job entry and the duration of the first job in the Austrian labour market. In a further step, we analyse whether the employment status of the entry job and characteristics at the time of the job entry are related to immigrants' job stability. Recent findings by Ansala et al. (2022) for immigrants in Finland and Sweden suggest that characteristics of the first job are largely linked to their job stability. We define the job stability of refugees and other migrants as the number of jobs and the number of days in employment, unemployment and inactivity.[18] All variables are measured within the period starting from the job entry until May 2021. Table 8 summarises average values for our job stability indicators.

Table 8 **Average values for job stability indicators**

	Refugees	*Other migrants*
Number of jobs	3.5	3.9
Total days in work	712.2	1,288.5
Total days in unemployment	237.5	121.8
Total days in inactivity	125.1	245.8

Notes: The table reports average values for the four job stability indicators for refugees and other migrants. All variables are measured within the period starting from the job entry until May 2021.
Source: Statistics Austria. Own calculations.

To examine empirically the relationship between the entry job and job stability, we build on the empirical framework of Ansala et al. (2022) and estimate the following specification separately for refugees and other migrants using a cross-section:

$$y_i = \boldsymbol{X_i}\boldsymbol{\beta} + \boldsymbol{Z_i}\boldsymbol{\theta} + \gamma_{cb} + \delta_d + \mu_a + \epsilon_i, \tag{2}$$

where y_i denotes our indicators for the job stability of an immigrant i. The vector $\boldsymbol{X_i}$ includes the same set of covariates as in the specification discussed in Section 4.2. We again consider the same set of fixed effects as applied above. $\boldsymbol{Z_i}$ is a vector of dummy variables that capture the employment types of the entry jobs, and ϵ_i is the remaining error term. All explanatory variables refer to the time of immigrants' job entry. The inclusion of labour market indicators and the fixed effects allows us to account appropriately for the labour market conditions at job entry. The specification is estimated by employing an ordinary least squares framework.

Table 9 and Table 10 report the estimation results of Specification 2 for refugees and other migrants, respectively. On average, older refugees tended to have fewer jobs and spent fewer days employed but more days unemployed. Among other migrants, however, older immigrants spent more time in both employment and unemployment.[19] In line with our findings discussed above, we find that female immigrants with a labour market participation experienced job instability (i.e., fewer days in employment and more days in unemployment) compared to male immigrants, on average. Regarding education, highly educated immigrants tended to have a better labour market performance than lower-

[18] Please note that inactivity excludes days immigrants spent in education.
[19] Other migrants below the age of 30 spent a relatively long time in education. This was not found for refugees.

educated immigrants. Accordingly, even though highly educated immigrants struggled to enter the Austrian job market (see the discussion in Section 4), those who found a job showed the expected stronger labour market performance. Household structure, the number of children and the age of the youngest child at the time of the job entry had a limited effect on refugees' job stability. Most variables with statistically significant results can be found for the number of days in inactivity. We further observe that the regional job structure at the time of job entry and the number of days spent in public employment service training and in education before job entry influenced the future labour market path of immigrants.

Next, we turn to the results of the set of dummy variables for the employment type of the entry job. The reference employment type constitutes part-time employment. Based on our set of other explanatory variables, we find that refugees who took a full-time job as their first job in Austria had fewer jobs, stayed longer in employment, and spent fewer days in unemployment and inactivity, on average. Similarly, refugees who became self-employed as their first job after arrival showed a relatively high number of days in employment and less time in unemployment. Interestingly, however, those refugees also tended to spend relatively more days being inactive. In contrast, refugees who started with marginal employment in Austria tended to have more jobs over time and spent considerably less time in employment. Moreover, marginal employment as the entry job was not associated with a larger number of days in unemployment but with more time spent in inactivity.

The results for other migrants in Table 10 tend to be similar to those for refugees. Those other migrants who took a full-time job as their entry job showed relatively pronounced job stability, with fewer days spent in unemployment and inactivity. Also, other migrants who became self-employed as the first step into the Austrian job market showed a relatively strong labour market performance. Conversely, those other migrants who entered the Austrian job market via marginal employment spent fewer days in employment but more days in inactivity and had more jobs. Surprisingly, and contrary to the results for refugees, those individuals spent fewer days in unemployment.

The results suggest that entry jobs with higher quality in terms of working hours and wages (see Section 4.2) (i.e. full-time jobs) tended to be linked with the job stability of immigrants, while entry jobs with a lower quality (i.e. marginal jobs) were associated with more job instability. Interestingly, self-employment seemed to be also associated with job stability.

To provide insights into heterogeneous effects across population subgroups and into a possible selection process, we estimate in a further step Specification 2 by educational attainment group. Figure A.4 illustrates the results of how the employment type dummies of the entry job affect job stability for refugees, while Figure A.5 illustrates those for other migrants. The results for the set of the other explanatory variables are available upon request. As can be seen, marginal jobs as the first job in Austria show relatively robust results for both refugees and other migrants across education groups: larger number of jobs, fewer days in work and more days in inactivity. In contrast, marginal employment was less likely linked to days in unemployment. A further important finding is that a full-time job as the entry job was associated with more days in employment for all education groups among both immigrant groups. Especially among refugees, the estimated link is equal across educational attainment levels.

As the employment type of the entry job seems to be associated with immigrants' days in employment, we also explore the link between the type of the entry job and the total number of days spent in the

different job types until May 2021. To do so, we re-estimate Specification 2 and use the days in full-time, part-time, other, marginal and self-employment as the dependent variable. Importantly, the duration of the first job is not considered in the calculation of the dependent variable. This allows us to provide more detailed insights into whether the characteristics of the first job were related to immigrants' future employment path. The estimation results for the employment type of entry job are provided in Table A.13 for refugees and Table A.14 for other migrants in the Appendix. Importantly, for both immigrant groups, we see that taking a marginal job as the entry job was linked to a lower number of days in full-time employment over the immigrants' stay in Austria. However, starting with a marginal job after the arrival in Austria was associated with staying in marginal employment for a longer time after exiting the entry job.[20]

[20]We also estimated this specification by educational attainment group. The link between marginal jobs as entry jobs and days in marginal employment after the first job was very robust across the educational groups among both immigrant groups.

Table 9 **Least squares regression – job stability for refugees**

	Refugees			
Dependent variable:	*Number of jobs*	*Days in work*	*Days in unemployment*	*Days in inactivity*
	(1)	(2)	(3)	(4)
Age: 30-39	-0.133***	-17.85***	21.70***	0.638
	(0.0356)	(5.003)	(4.008)	(3.375)
Age: >39	-0.430***	-85.45***	82.08***	6.501
	(0.0449)	(6.924)	(5.739)	(4.603)
Female	-0.643***	-118.6***	8.507*	92.67***
	(0.0435)	(6.466)	(5.053)	(5.206)
Medium-low education	-0.253***	-27.64***	-32.28***	46.98***
	(0.0464)	(6.544)	(4.885)	(4.961)
Medium-high education	-0.218***	-2.625	-18.00***	1.140
	(0.0448)	(6.444)	(5.456)	(3.854)
High education	-0.493***	22.35***	-36.22***	2.629
	(0.0461)	(7.326)	(6.053)	(4.717)
Education not available	0.416	62.56	-84.30*	-45.60
	(0.809)	(74.96)	(47.55)	(75.34)
Partner household	-0.141**	-10.73	-19.52**	22.46***
	(0.0704)	(10.63)	(8.676)	(6.754)
Other family household	-0.0903	-15.52	3.157	5.429
	(0.107)	(16.00)	(13.14)	(10.50)
Other household	0.0720	-35.38***	-21.20***	50.26***
	(0.0536)	(7.514)	(6.227)	(4.339)
Household not available	0.387	162.0*	-37.85	-39.15
	(0.873)	(96.30)	(54.04)	(90.32)
# of kids	-0.0101	-11.46***	4.695**	5.555***
	(0.0187)	(2.812)	(2.285)	(1.880)
Age of youngest child: 0-2	-0.00186	-0.447	3.839	-4.078
	(0.0771)	(11.85)	(9.561)	(8.035)
Age of youngest child: 3-5	0.0113	17.17	-0.0507	-13.54
	(0.0921)	(13.96)	(11.29)	(9.351)
Age of youngest child: 6-9	-0.120	17.86	0.0272	-20.87**
	(0.0936)	(14.62)	(11.98)	(9.958)
Age of youngest child: 10-14	0.109	36.70**	-0.561	-41.14***
	(0.102)	(16.10)	(13.12)	(10.09)
Age of youngest child: >14	0.130	36.37**	-28.00**	-10.81
	(0.108)	(16.55)	(13.42)	(11.07)
Share manuf. jobs	-0.0802	-12.39	12.35*	-16.19***
	(0.0565)	(8.169)	(6.587)	(5.083)
Share agricul. jobs	-0.0895	83.05***	31.88**	-52.61***
	(0.125)	(21.63)	(12.83)	(18.24)
Share tourism jobs	-0.0417*	17.90***	-0.287	-2.708
	(0.0220)	(3.236)	(2.513)	(2.224)
Share of foreign-born (non Europe & non-rich)	-0.140**	-53.68***	-16.23**	16.93***
	(0.0561)	(8.771)	(7.162)	(5.607)
Unemployment rate	-0.00319	27.61***	-5.158***	-9.143***
	(0.0139)	(2.067)	(1.624)	(1.385)
Days in PES training prior to job entry	-0.000149**	0.0744***	-0.00640	-0.0476***
	(7.16e-05)	(0.0106)	(0.00876)	(0.00685)
Days in education prior to job entry	-0.000263**	0.0253	-0.0300**	-0.0572***
	(0.000115)	(0.0190)	(0.0137)	(0.0121)
Days until job entry	-0.00208***	-0.579***	-0.205***	-0.148***
	(5.22e-05)	(0.00800)	(0.00614)	(0.00592)
Entry job: full-time employment	-0.185***	46.61***	-26.47***	-16.72***
	(0.0443)	(6.926)	(5.720)	(3.895)
Entry job: other employment	-0.0177	-48.89***	-30.29***	34.32***
	(0.0560)	(8.682)	(7.140)	(5.519)
Entry job: marginal employment	0.757***	-112.6***	9.113	89.12***
	(0.0495)	(7.275)	(5.987)	(4.628)
Entry job: self-employment	-0.886***	62.41***	-122.6***	48.33***
	(0.0725)	(12.06)	(7.934)	(9.325)
Constant	7.948***	1,439***	444.0***	633.8***
	(0.742)	(114.6)	(89.81)	(83.63)
Observations	25,012	25,012	25,012	25,012
District fixed effects	Y	Y	Y	Y
Country of birth fixed effects	Y	Y	Y	Y
Year of arrival fixed effects	Y	Y	Y	Y

Notes: This table reports the estimation results of Specification 2 using an ordinary least squares estimation for refugees. Robust standard errors in parentheses. *Age cohort 20-29*, *male*, *lower education*, *singles*, *no children*, and *entry job: part-time employment* are the omitted variables in the regression. PES – public employment service. All covariates refer to the time of the immigrants' job entry. * p<0.1, ** p<0.05, *** p<0.01.
Source: Statistics Austria. Own calculations.

Table 10 **Least squares regression – job stability for other migrants**

	Other migrants			
Dependent variable:	*Number of jobs*	*Days in work*	*Days in unemployment*	*Days in inactivity*
	(1)	(2)	(3)	(4)
Age: 30-39	-0.101*	23.79***	15.57***	-11.84
	(0.0601)	(9.210)	(4.468)	(7.778)
Age: >39	-0.230***	59.48***	27.94***	-55.85***
	(0.0882)	(13.75)	(7.101)	(11.73)
Female	-0.900***	-298.3***	16.57***	263.4***
	(0.0557)	(10.33)	(4.704)	(8.889)
Medium-low education	-0.865***	35.07***	-56.53***	9.139
	(0.0834)	(12.40)	(5.754)	(11.05)
Medium-high education	-0.804***	-6.956	-44.64***	-42.98***
	(0.0878)	(13.99)	(6.593)	(11.39)
High education	-1.369***	42.33***	-45.38***	-24.58**
	(0.0797)	(13.24)	(6.741)	(11.02)
Education not available	-1.241***	-168.7***	-45.00*	13.72
	(0.343)	(63.38)	(25.60)	(36.07)
Partner household	0.695***	-77.71***	36.70***	74.66***
	(0.102)	(16.05)	(7.060)	(12.92)
Other family household	0.559***	-55.36**	23.59*	33.16
	(0.173)	(28.17)	(13.56)	(23.51)
Other household	0.435***	-56.17***	8.977	-3.393
	(0.106)	(17.23)	(7.200)	(13.31)
Household not available	0.214	52.41	-13.00	-70.07
	(0.672)	(96.94)	(25.87)	(56.20)
# of kids	0.0481	5.065	-4.801	-2.946
	(0.0501)	(7.843)	(4.298)	(6.542)
Age of youngest child: 0-2	-0.343***	22.28	18.46**	-41.99***
	(0.115)	(17.64)	(9.115)	(15.23)
Age of youngest child: 3-5	-0.302*	-31.12	34.66**	-16.10
	(0.175)	(27.24)	(14.91)	(22.90)
Age of youngest child: 6-9	0.00468	-2.653	10.80	-25.83
	(0.180)	(27.13)	(14.24)	(23.63)
Age of youngest child: 10-14	-0.0240	7.050	28.54*	-54.76**
	(0.175)	(28.75)	(15.30)	(25.26)
Age of youngest child: >14	-0.122	1.604	15.86	-9.137
	(0.166)	(25.96)	(12.71)	(22.11)
Share manuf. jobs	0.0176	32.20**	3.311	-26.37**
	(0.0883)	(12.89)	(6.165)	(10.94)
Share agricul. jobs	-0.216*	-4.630	-12.58	30.09**
	(0.120)	(19.18)	(7.658)	(14.80)
Share tourism jobs	-0.0738*	0.531	-4.296	19.71***
	(0.0413)	(5.802)	(2.803)	(4.758)
Share of foreign-born (non Europe & non-rich)	-0.219***	-99.33***	1.112	5.485
	(0.0624)	(9.765)	(4.641)	(8.140)
Unemployment rate	-0.0320	8.042**	-1.789	1.825
	(0.0239)	(3.761)	(1.733)	(3.102)
Days in PES training prior to job entry	0.000207	0.0769	0.191***	-0.256***
	(0.000239)	(0.0493)	(0.0374)	(0.0346)
Days in education prior to job entry	0.000138*	-0.0376**	-0.0151**	-0.0616***
	(8.25e-05)	(0.0149)	(0.00602)	(0.0113)
Days until job entry	-0.00147***	-0.661***	-0.0744***	-0.136***
	(7.97e-05)	(0.0130)	(0.00629)	(0.0109)
Entry job: full-time employment	-0.584***	59.98***	-17.94***	-22.98**
	(0.0734)	(11.47)	(5.788)	(9.598)
Entry job: other employment	0.0535	-0.444	-16.20*	12.64
	(0.116)	(18.67)	(9.435)	(15.20)
Entry job: marginal employment	0.766***	-86.37***	-27.67***	59.75***
	(0.0792)	(12.44)	(5.948)	(10.65)
Entry job: self-employment employment	-0.855***	97.13***	-87.47***	3.826
	(0.124)	(19.88)	(7.378)	(17.38)
Constant	7.441***	1,532***	253.2**	718.1***
	(1.469)	(248.3)	(98.30)	(236.4)
Observations	12,117	12,117	12,117	12,117
District fixed effects	Y	Y	Y	Y
Country of birth fixed effects	Y	Y	Y	Y
Year of arrival fixed effects	Y	Y	Y	Y

Notes: This table reports the estimation results of Specification 2 using an ordinary least squares estimation for other migrants. Robust standard errors in parentheses. *Age cohort 20-29*, *male*, *lower education*, *singles*, *no children*, and *entry job: part-time employment* are the omitted variables in the regression. PES – public employment service. All covariates refer to the time of the immigrants' job entry. * p<0.1, ** p<0.05, *** p<0.01.
Source: Statistics Austria. Own calculations.

7 Conclusion and policy recommendations

This paper analyses the labour market entry and job stability of refugees and other (non-humanitarian) migrants arriving in Austria in 2014-2016. Specifically, the paper studies the factors driving the transition in and out of the first job in Austria and the characteristics of the first job. Additionally, we analyse migrants' job stability over time and the extent to which the entry job relates to the future labour market outcomes of migrants in Austria.

Our results indicate that it takes refugees much longer to find their first job compared to other non-humanitarian migrants, which is mostly due to the highly restricted job market access during the asylum application procedure. Whereas other migrants enter the labour market instantly, refugees face major barriers, and it takes them, on average, almost three years to get employed. However, a gap in employment between refugees and other migrants narrows steadily over time, suggesting that refugees are finding their way into the Austrian labour market despite a difficult start. However, the job entry analysis reveals a number of similarities between refugees and other migrants. Individual and household characteristics, including older age, being a female, holding higher educational attainments and having young children, are strongly associated with slower job entry for both groups of migrants. Likewise, the characteristics of the first jobs are similar between refugees and other migrants. Namely, full-time jobs account for more than a third of all initial jobs; the majority of immigrants got their first employment in the low-wage segment; and these first jobs were in service industries for many migrants.

The analysis of migrants' job stability reveals that refugees had a slower job entry and held initial jobs for a shorter time, on average, even though the characteristics of the first jobs appear strongly aligned with those of other migrants. However, when other migrants enter the labour market with a marginal job, they tend to quit it faster than refugees, who tend to hold marginal jobs as long as full-time and part-time jobs. Importantly, highly educated other migrants had the most stable initial jobs, whereas refugees with higher education did not reveal any notable advantage in terms of initial job duration. This result suggests that the high educational credentials of refugees do not facilitate their quick employment but, on the contrary, are associated with longer job search time and less stable entry jobs. Significant difficulties faced by migrants and, especially, refugees when recognising education degrees and prior work experience likely explain this disadvantage. Among other migrants, the proportion of those moving to Austria specifically for work and with their education credentials already recognised before reallocation may be relatively high, whereas refugees may lack formal proof of educational achievements or spend years getting their degrees recognised.

Although refugees, especially highly educated ones, struggle to enter the Austrian labour market, they show major improvements in labour market performance once they find their first job. However, the type of the first job appears to be a strong predictor of further labour market success for both refugees and other migrants. The migrants who took a full-time entry job had, on average, fewer subsequent jobs, spent fewer days in unemployment or inactivity, and had longer employment spells. For both groups of immigrants, marginal jobs as entry jobs appear to leave a long-lasting trace on employment outcomes, as those immigrants spent fewer days in full-time employment after their entry jobs. Thus, our results indicate that entry jobs of higher quality in terms of work hours and wages, as well as self-employment, are strongly linked with longer-term job stability for both groups of immigrants.

The delayed labour market entry of refugees, less stable initial jobs and the tendency to stay in low-quality (marginal) employment for a longer time may leave a long-lasting impact on the employment success of refugees and deter their access to stable and higher-quality jobs in the future. From the policy perspective, this finding showcases the importance of simplified labour market access for refugees in the first year(s) of their arrival in Austria and suggests that better-tailored active labour market policies are needed to improve the quality of refugees' entry jobs. As the asylum application procedure takes years, the refugees waiting for a decision lose years of job experience and incur skills depreciation, which may be most pronounced for highly educated refugees. Faster job access has multiple benefits for the state, as it reduces pressure on the public "basic care" support system and helps combat labour shortages. For refugees, earlier job entry allows them to acquire the skills and knowledge needed in the Austrian labour market, including language skills. Apart from improving the economic well-being of refugees, faster job entry may also improve mental health, as employment fosters the building up of social networks and integration into society.

Yet, a mere right to get employment may not be sufficient for newly arrived refugees, as their knowledge about the host country's labour market and locally demanded skills may be limited. Hence, an early provision of active labour market policies is pivotal, and those should go beyond language courses. Access to re-education and re-qualification programs, as well as additional training to support existing qualifications, may improve the quality of refugees' entry jobs, as they will acquire the skills and training most needed in the local labour market. The results of the present analysis on the role of training uptake in job search and stability reveal no positive association, suggesting potential negative self-selection of refugees into training programs. Thus, refugees' training should be transformed from the "last resource" for those who did not succeed in getting a job to an immediate opportunity for all asylum applicants intending to stay in Austria.

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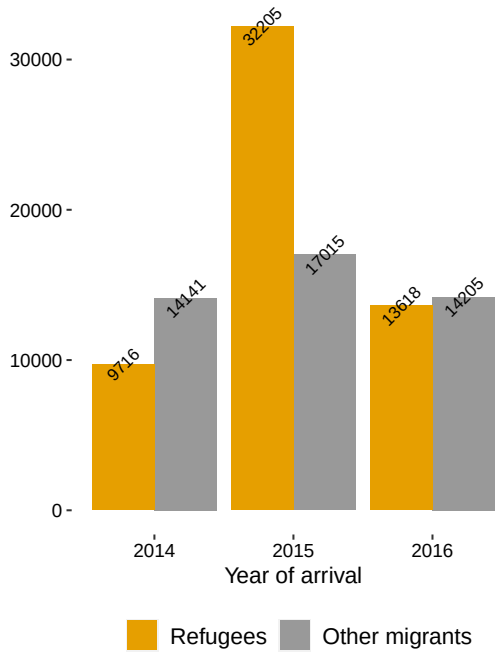
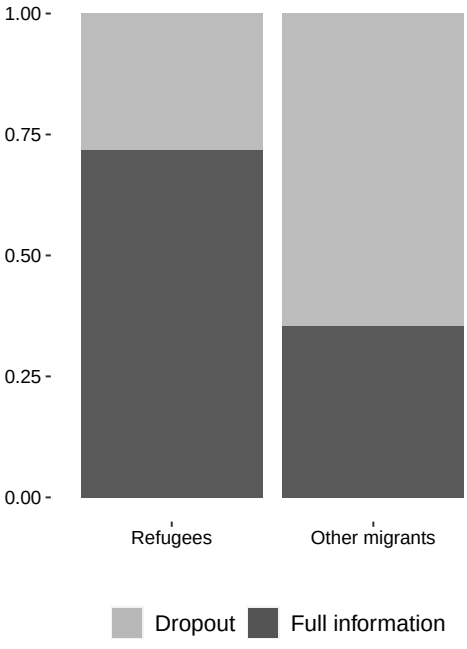
Appendix

Figure A.1 **Total sample – stayers and drop-outs**

(a) **Number of immigrants by year of arrival**

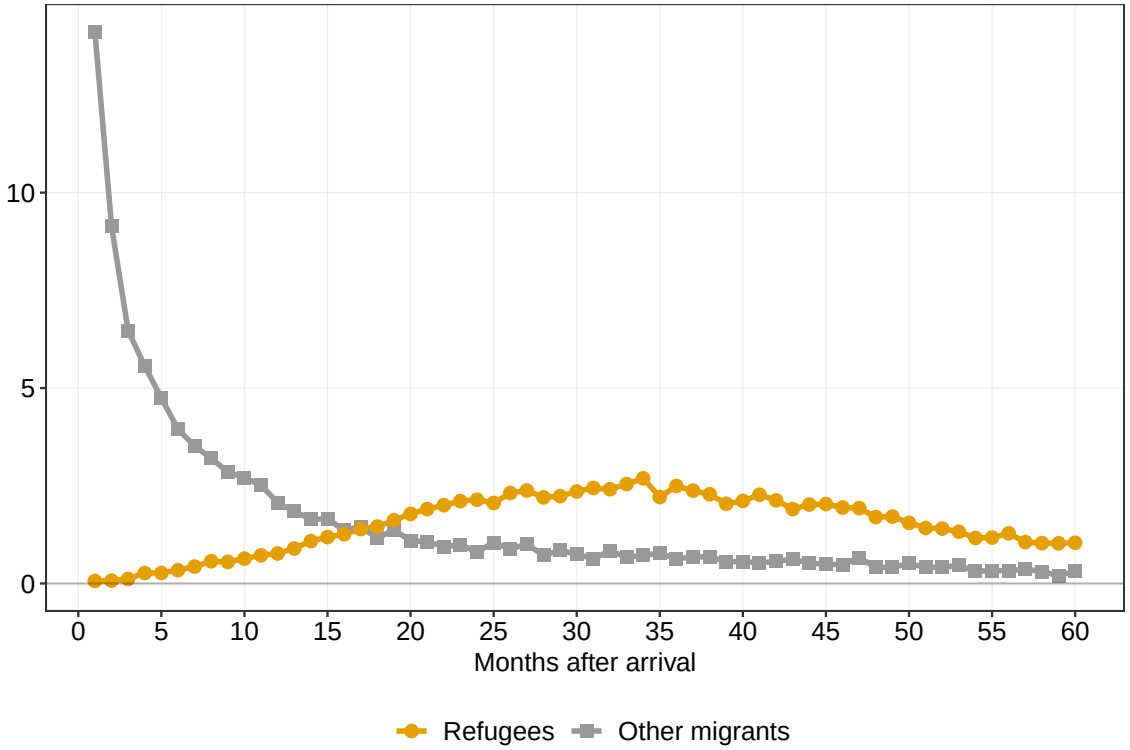


(b) **Drop-outs of immigrants**



Notes: The graphs provide infomation about the sample used in the analysis. Figure A.1a shows the total number of incoming refugees and other migrants by year of arrival illustration. Figure A.1b contrasts the proportions of the total stock of refugees and other migrants that remained in Austria and provide information over the entire observational period (until May 2021), and those who disappeared from the registers up to May 2021.
Source: Statistics Austria. Own calculations and illustration.

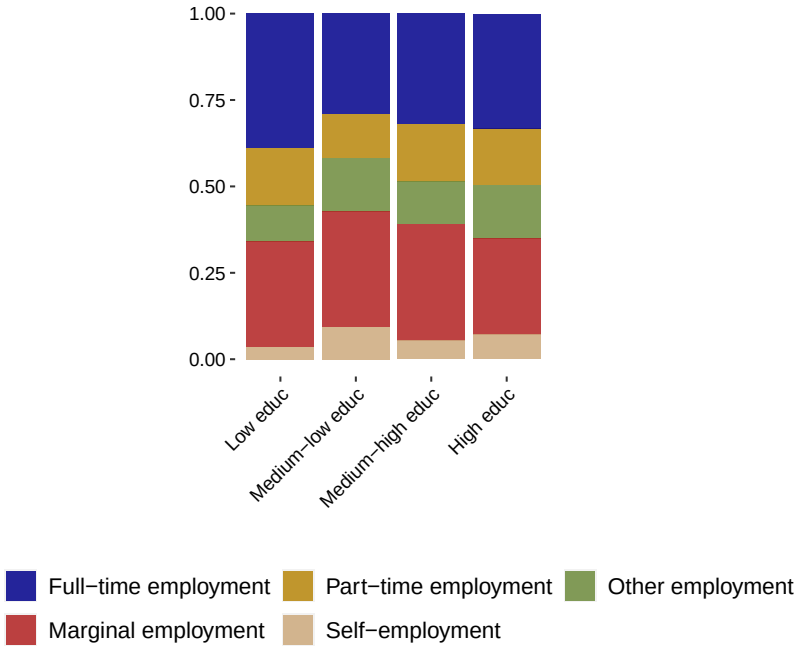
Figure A.2 **Share of immigrants who experienced a job entry in each month over time after arrival**



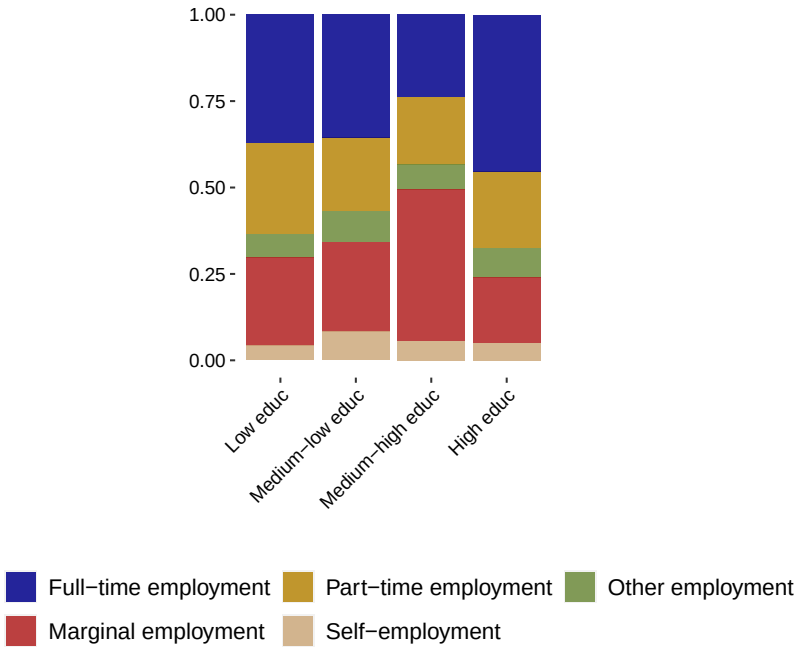
Notes: The graph shows the rate of job entries in each month over time after the arrival as a percentage of the total number of job entries.
Source: Statistics Austria. Own calculations and illustration.

Figure A.3 **Share of employment status of immigrants' first job by educational attainment group**

(a) **Refugees**



(b) **Other migrants**



Notes: The graphs show the proportions of job type of immigrants' first job by educational attainment group. Figure A.3a shows the structure for refugees, while Figure A.3b illustrates that for other migrants. *Other employment* covers employment spells being an employee but information is not available whether the job is full-time or part-time. *Marginal employment* refers to jobs where the payment does not exceed a certain threshold (between 425.70 EUR and 475.86 EUR in the period 2017-2021). The information about the educational attainment level refers to the time of arrival.
Source: Statistics Austria. Own calculations and illustration.

Table A.11 **Selection into employment types of entry jobs – refugees**

	Refugees				
Dependent variable:	*Pr(full-time employment)*	*Pr(part-time employment)*	*Pr(other employment)*	*Pr(marginal employment)*	*Pr(self-employment)*
	(1)	(2)	(3)	(4)	(5)
Age: 30-39	-0.00762	0.00174	-0.00213	0.00688	0.00113
	(0.00638)	(0.00508)	(0.00370)	(0.00635)	(0.00295)
Age: >39	-0.0275***	0.00494	0.00691	0.00865	0.00701*
	(0.00848)	(0.00715)	(0.00546)	(0.00878)	(0.00403)
Female	-0.200***	0.0949***	-0.00610	0.128***	-0.0160***
	(0.00723)	(0.00704)	(0.00532)	(0.00843)	(0.00352)
Medium-low education	-0.0637***	-0.0341***	0.00778	0.0495***	0.0406***
	(0.00795)	(0.00605)	(0.00524)	(0.00843)	(0.00469)
Medium-high education	-0.0218**	-0.00165	-0.00585	0.0240***	0.00534
	(0.00852)	(0.00709)	(0.00502)	(0.00849)	(0.00364)
High education	0.00941	0.00660	0.00505	-0.0353***	0.0143***
	(0.00985)	(0.00806)	(0.00605)	(0.00938)	(0.00453)
Education not available	-0.150**	0.0447	0.233	-0.123	-0.00443
	(0.0643)	(0.0954)	(0.157)	(0.153)	(0.0277)
Partner household	-0.0327**	0.0208*	0.0110	-0.00443	0.00538
	(0.0142)	(0.0115)	(0.00775)	(0.0133)	(0.00628)
Other family household	-0.0406**	0.0128	0.0369***	-0.0254	0.0163*
	(0.0205)	(0.0180)	(0.0132)	(0.0209)	(0.00920)
Other household	-0.0590***	-0.00336	0.00351	0.0329***	0.0259***
	(0.0101)	(0.00783)	(0.00542)	(0.00924)	(0.00422)
Household not available	0.0807	-0.0599	-0.0980	-0.0254	0.103**
	(0.0880)	(0.120)	(0.190)	(0.165)	(0.0475)
# of kids	-0.00896**	0.00559*	-0.00123	0.00297	0.00164
	(0.00352)	(0.00299)	(0.00222)	(0.00358)	(0.00153)
Age of youngest child: 0-2	-0.0117	-0.0293**	-0.0130	0.0707***	-0.0167**
	(0.0155)	(0.0129)	(0.00920)	(0.0155)	(0.00705)
Age of youngest child: 3-5	-0.0219	-0.0170	-0.0264**	0.0761***	-0.0108
	(0.0178)	(0.0152)	(0.0106)	(0.0182)	(0.00773)
Age of youngest child: 6-9	-0.0194	0.0119	-0.0224*	0.0381**	-0.00809
	(0.0186)	(0.0161)	(0.0115)	(0.0190)	(0.00817)
Age of youngest child: 10-14	0.0230	-0.0223	-0.0162	0.0339	-0.0185**
	(0.0209)	(0.0175)	(0.0135)	(0.0215)	(0.00914)
Age of youngest child: >14	0.0315	-0.0243	-0.0179	0.0122	-0.00160
	(0.0210)	(0.0179)	(0.0138)	(0.0213)	(0.00985)
Share manuf. jobs	0.000884	0.0421***	-0.0808***	0.0236**	0.0142***
	(0.00928)	(0.00712)	(0.00647)	(0.00951)	(0.00406)
Share agricul. jobs	-0.0700***	-0.0724***	0.118***	0.0248	-0.000470
	(0.0242)	(0.0245)	(0.0401)	(0.0291)	(0.0101)
Share tourism jobs	0.000752	0.00344	-0.0170***	0.00748**	0.00537***
	(0.00406)	(0.00310)	(0.00348)	(0.00375)	(0.00170)
Share of foreign-born (non Europe & non-rich)	0.0980***	0.0354***	-0.0619***	-0.0636***	-0.00789*
	(0.00813)	(0.00662)	(0.00633)	(0.00922)	(0.00456)
Unemployment rate	-0.0492***	-0.0287***	0.0702***	0.00621**	0.00143
	(0.00235)	(0.00192)	(0.00186)	(0.00248)	(0.00117)
Days in PES training prior to job entry	0.000241***	8.83e-05***	6.38e-05***	-0.000258***	-0.000135***
	(1.60e-05)	(1.30e-05)	(1.32e-05)	(1.59e-05)	(7.61e-06)
Days in education prior to job entry	-5.59e-05**	3.42e-05	-4.57e-05*	3.60e-05	3.14e-05
	(2.60e-05)	(2.45e-05)	(2.65e-05)	(3.34e-05)	(2.34e-05)
Days until job entry	-0.000218***	-9.14e-05***	0.000372***	-0.000110***	4.73e-05***
	(8.04e-06)	(6.24e-06)	(7.50e-06)	(9.06e-06)	(4.91e-06)
Constant	0.793***	-0.0196	0.0757	0.209	-0.0587
	(0.134)	(0.106)	(0.0988)	(0.135)	(0.0613)
Number of individuals	25,012	25,012	25,012	25,012	25,012
District fixed effects	Y	Y	Y	Y	Y
Country of birth fixed effects	Y	Y	Y	Y	Y
Year of arrival fixed effects	Y	Y	Y	Y	Y

Notes: This table reports the estimation results of Specification 2 using an ordinary least squares estimation for other migrants. Robust standard errors in parentheses. *Age cohort 20-29*, *male*, *lower education*, *singles*, *no children*, and *entry job: part-time employment* are the omitted variables in the regression. PES – public employment service. All covariates refer to the time of the immigrants' job entry. * p<0.1, ** p<0.05, *** p<0.01.
Source: Statistics Austria. Own calculations.

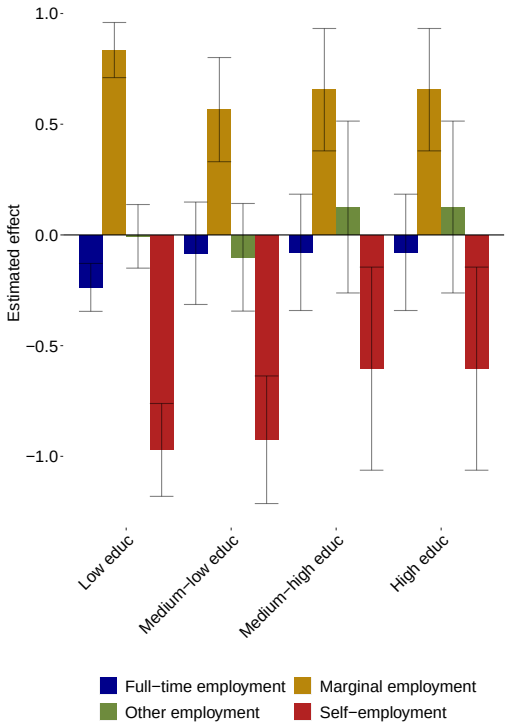
Table A.12 **Selection into employment types of entry jobs – other migrants**

	Other migrants				
Dependent variable:	*Pr(full-time employment)*	*Pr(part-time employment)*	*Pr(other employment)*	*Pr(marginal employment)*	*Pr(self-employment)*
	(1)	(2)	(3)	(4)	(5)
Age: 30-39	0.0461***	-0.00385	0.00946*	-0.0794***	0.0277***
	(0.00913)	(0.00847)	(0.00528)	(0.00863)	(0.00469)
Age: >39	0.0248*	0.00265	0.0129	-0.0941***	0.0538***
	(0.0131)	(0.0125)	(0.00790)	(0.0120)	(0.00808)
Female	-0.172***	0.0869***	-0.0185***	0.126***	-0.0226***
	(0.00921)	(0.00843)	(0.00507)	(0.00858)	(0.00483)
Medium-low education	0.0174	-0.0418***	0.0143**	-0.0165	0.0266***
	(0.0122)	(0.0111)	(0.00694)	(0.0114)	(0.00662)
Medium-high education	-0.0548***	-0.0441***	-0.0137*	0.123***	-0.00984
	(0.0129)	(0.0122)	(0.00745)	(0.0137)	(0.00693)
High education	0.0988***	-0.0199	0.00333	-0.0665***	-0.0158**
	(0.0132)	(0.0123)	(0.00780)	(0.0123)	(0.00677)
Education not available	-0.0913	-0.0616	0.0656	0.0134	0.0740**
	(0.0604)	(0.0582)	(0.0559)	(0.0549)	(0.0377)
Partner household	-0.0784***	0.0601***	-0.0359***	0.0600***	-0.00588
	(0.0156)	(0.0133)	(0.00956)	(0.0133)	(0.00784)
Other family household	-0.0618**	-0.00926	-0.0337**	0.0975***	0.00725
	(0.0270)	(0.0243)	(0.0160)	(0.0244)	(0.0141)
Other household	-0.151***	0.0227	-0.0303***	0.149***	0.00996
	(0.0165)	(0.0144)	(0.0100)	(0.0148)	(0.00869)
Household not available	-0.00677	0.0813	-0.183*	0.0723	0.0358
	(0.0971)	(0.137)	(0.103)	(0.0725)	(0.0488)
# of kids	-0.0202***	-0.00320	0.00878*	0.0144*	0.000163
	(0.00761)	(0.00739)	(0.00514)	(0.00746)	(0.00434)
Age of youngest child: 0-2	-0.00151	0.00294	-0.0124	0.0125	-0.00154
	(0.0181)	(0.0174)	(0.0111)	(0.0178)	(0.00999)
Age of youngest child: 3-5	0.00555	0.0151	-0.0230	-0.0125	0.0148
	(0.0260)	(0.0246)	(0.0156)	(0.0243)	(0.0146)
Age of youngest child: 6-9	0.00977	0.00754	-0.0139	-0.00853	0.00511
	(0.0268)	(0.0248)	(0.0145)	(0.0245)	(0.0141)
Age of youngest child: 10-14	-0.0474*	0.0657**	-0.00515	0.000216	-0.0134
	(0.0268)	(0.0269)	(0.0169)	(0.0259)	(0.0144)
Age of youngest child: >14	0.0105	0.0462**	-0.0157	-0.0418*	0.000860
	(0.0247)	(0.0233)	(0.0136)	(0.0227)	(0.0121)
Share manuf. jobs	-0.0344***	0.00545	-0.00275	0.0298**	0.00187
	(0.0131)	(0.0124)	(0.00983)	(0.0129)	(0.00677)
Share agricul. jobs	0.00951	0.00760	-0.0263	0.00275	0.00646
	(0.0209)	(0.0185)	(0.0187)	(0.0172)	(0.0107)
Share tourism jobs	-0.00513	0.0181***	-0.0215***	0.00224	0.00624**
	(0.00587)	(0.00525)	(0.00449)	(0.00524)	(0.00310)
Share of foreign-born (non Europe & non-rich)	0.0393***	0.0390***	-0.0977***	0.0181*	0.00132
	(0.00920)	(0.00890)	(0.00722)	(0.00975)	(0.00557)
Unemployment rate	-0.0131***	-0.0150***	0.0164***	0.000432	0.0113***
	(0.00355)	(0.00320)	(0.00249)	(0.00340)	(0.00213)
Days in PES training prior to job entry	0.000249***	0.000133**	6.94e-05	-0.000293***	-0.000159***
	(6.04e-05)	(5.96e-05)	(4.99e-05)	(5.63e-05)	(3.08e-05)
Days in education prior to job entry	-4.27e-05***	4.57e-05***	7.02e-06	3.85e-05**	-4.84e-05***
	(1.56e-05)	(1.67e-05)	(1.54e-05)	(1.95e-05)	(1.11e-05)
Days until job entry	-0.000181***	-6.69e-05***	0.000202***	-9.49e-06	5.58e-05***
	(1.21e-05)	(1.20e-05)	(1.19e-05)	(1.37e-05)	(9.17e-06)
Constant	0.887***	0.244	0.287**	-0.340*	-0.0777
	(0.200)	(0.194)	(0.114)	(0.179)	(0.109)
Number of individuals	12,117	12,117	12,117	12,117	12,117
District fixed effects	Y	Y	Y	Y	Y
Country of birth fixed effects	Y	Y	Y	Y	Y
Year of arrival fixed effects	Y	Y	Y	Y	Y

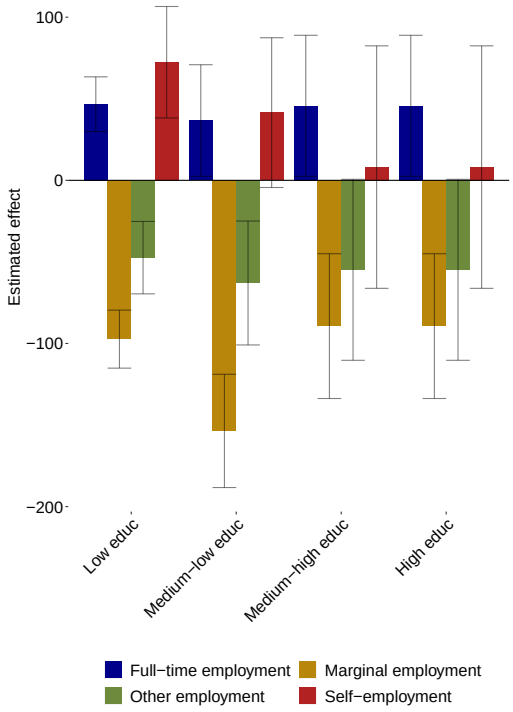
Notes: This table reports the estimation results of Specification 2 using an ordinary least squares estimation for other migrants. Robust standard errors in parentheses. *Age cohort 20-29*, *male*, *lower education*, *singles*, *no children*, and *entry job: part-time employment* are the omitted variables in the regression. PES – public employment service. All covariates refer to the time of the immigrants' job entry. * p<0.1, ** p<0.05, *** p<0.01.
Source: Statistics Austria. Own calculations.

Figure A.4 **Regression results of employment type of entry job on job stability – refugees**

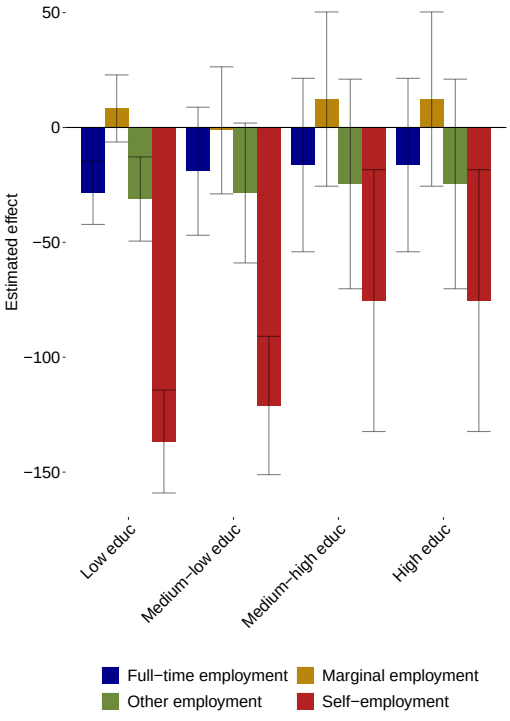
(a) **Number of jobs**



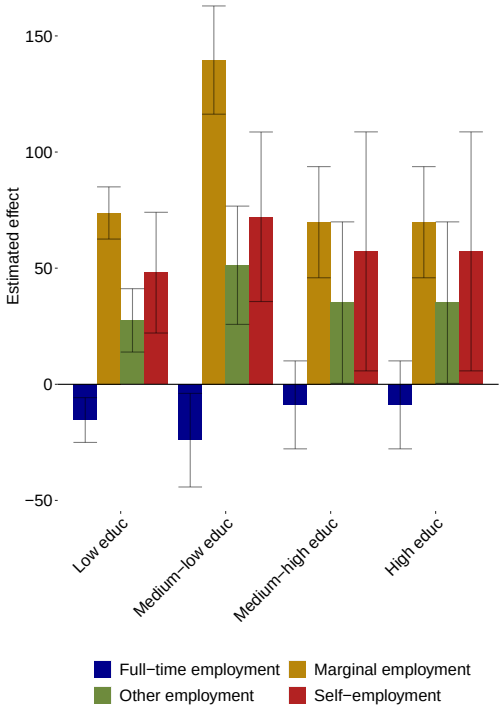
(b) **Days in work**



(c) **Days in unemployment**



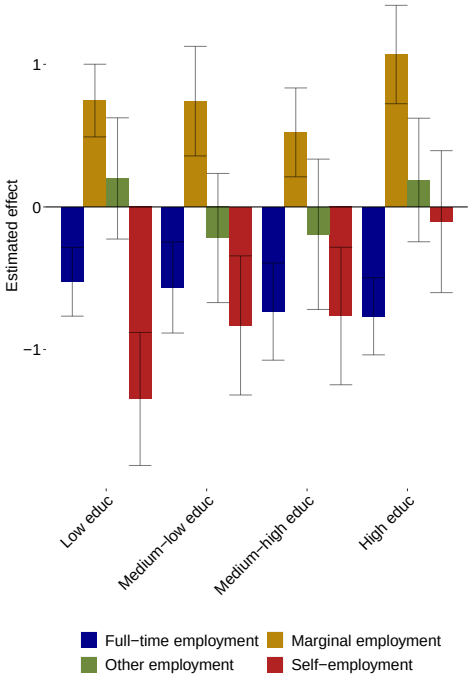
(d) **Days in inactivity**



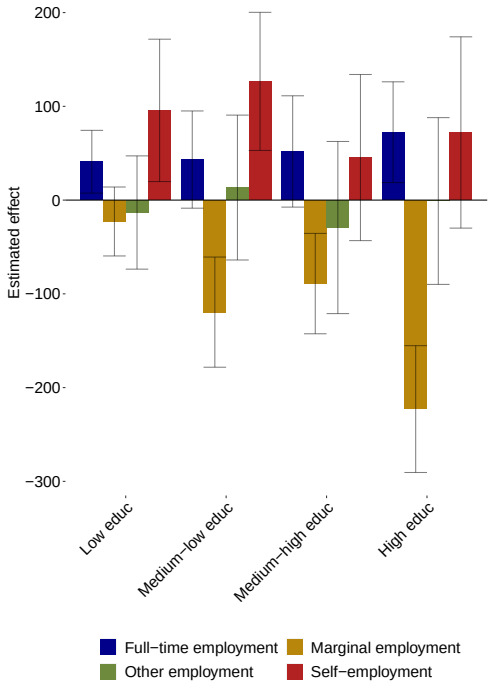
Notes: The graphs show the estimates for the employment type dummies extracted from the results of Specification 2 estimated by education group among refugees. Estimates are generate by employing a least squares estimation. The whiskers illustrate the corresponding 95% confidence interval. Full set of estimation results are available upon request.
Source: Statistics Austria. Own calculations and illustration.

Figure A.5 **Regression results of employment type of entry job on job stability – other migrants**

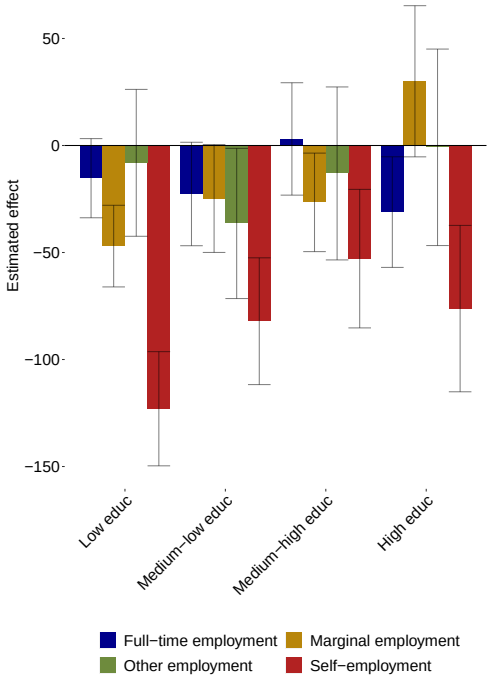
(a) **Number of jobs**



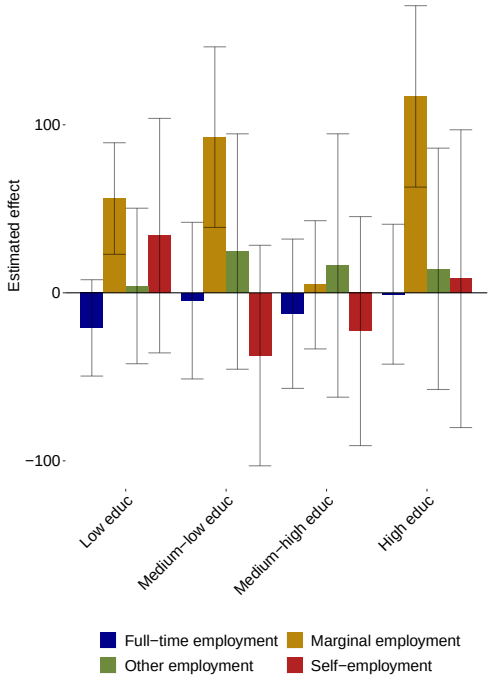
(b) **Days in work**



(c) **Days in unemployment**



(d) **Days in inactivity**



Notes: The graphs show the estimates for the employment type dummies extracted from the results of Specification 2 estimated by education group among other migrants. Estimates are generate by employing a least squares estimation. The whiskers illustrate the corresponding 95% confidence interval. Full set of estimation results are available upon request.
Source: Statistics Austria. Own calculations and illustration.

Table A.13 **Least squares regression results for employment type of entry job – days in work by job type for refugees**

Dependent variable:	*Refugees* *Days in*				
	Full-time employment	*Part-time employment*	*Other employment*	*Marginal employment*	*Self-employment*
	(1)	(2)	(3)	(4)	(5)
Entry job: full-time employment	-2.581	-39.84***	5.681*	-13.59***	-4.361**
	(6.660)	(3.920)	(3.120)	(2.071)	(2.147)
Entry job: other employment	6.274	-13.45***	-18.26***	12.95***	19.65***
	(7.912)	(4.500)	(4.549)	(2.795)	(3.088)
Entry job: marginal employment	-36.41***	5.192	-11.42***	61.21***	13.57***
	(6.649)	(4.369)	(3.119)	(2.794)	(2.561)
Entry job: self-employment	-149.3***	-49.81***	-61.02***	-17.33***	131.2***
	(8.539)	(5.061)	(4.776)	(3.279)	(9.139)
Number of individuals	25,012	25,012	25,012	25,012	25,012
District fixed effects	Y	Y	Y	Y	Y
Country of birth fixed effects	Y	Y	Y	Y	Y
Year of arrival fixed effects	Y	Y	Y	Y	Y

Notes: This table reports the estimation results of a Specification 2 considering the total days spent in employment status from job entry until May 2021 as the dependent variable using an ordinary least squares estimation for refugees. The duration of the first job is not considered in the calculation of the dependent variable. Robust standard errors in parentheses. *Entry job: part-time employment* are the omitted variables in the regression. Estimates for the other covariates are not shown and are available upon request. * p<0.1, ** p<0.05, *** p<0.01.
Source: Statistics Austria. Own calculations.

Table A.14 **Least squares regression results for employment type of entry job – days in work by job type for other migrants**

Dependent variable:	*Refugees* *Days in* *Full-time employment*	*Part-time employment*	*Other employment*	*Marginal employment*	*Self-employment*
	(1)	(2)	(3)	(4)	(5)
Entry job: full-time employment	-5.348	-106.8***	-10.38**	-24.70***	-3.525
	(13.21)	(9.025)	(4.507)	(4.122)	(4.696)
Entry job: other employment	155.2***	-14.69	0.202	-0.230	-2.761
	(23.07)	(15.26)	(7.758)	(6.266)	(6.886)
Entry job: marginal employment	-44.77***	21.54**	-2.229	122.5***	9.192**
	(12.67)	(10.05)	(4.646)	(6.338)	(4.648)
Entry job: self-employment	-208.3***	-124.8***	-47.55***	-16.96**	171.5***
	(17.73)	(13.28)	(6.776)	(7.429)	(16.29)
Number of individuals	12,117	12,117	12,117	12,117	12,117
District fixed effects	Y	Y	Y	Y	Y
Country of birth fixed effects	Y	Y	Y	Y	Y
Year of arrival fixed effects	Y	Y	Y	Y	Y

Notes: This table reports the estimation results of a Specification 2 considering the total days spent in employment status from job entry until May 2021 as the dependent variable using an ordinary least squares estimation for other migrants. The duration of the first job is not considered in the calculation of the dependent variable. Robust standard errors in parentheses. *Entry job: part-time employment* are the omitted variables in the regression. Estimates for the other covariates are not shown and are available upon request. * p<0.1, ** p<0.05, *** p<0.01.
Source: Statistics Austria. Own calculations.

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ZVR-Zahl: 329995655

Postanschrift: A 1060 Wien, Rahlgasse 3, Tel: [+431] 533 66 10, Telefax: [+431] 533 66 10 50
Internet Homepage: www.wiiw.ac.at

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