Local Labor Market Conditions at Arrival and the Economic Integration of Refugees and Their Children

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Abstract

This paper studies how initial economic conditions shape refugees' long-term integration. I leverage the inability of refugees to time their arrivals to local labor market conditions—due to quasi-random geographic placement and long processing times. Using administrative landing records linked to annual tax data from 1995–2021, I follow them over their first decade in Canada. Refugees initially placed in regions with higher unemployment are persistently less likely to work and earn lower incomes. In contrast, looking at the second generation—who landed as children—I find no lasting effects on education, employment, or social assimilation outcomes such as citizenship and intermarriage. To reconcile these patterns, I show that adverse initial conditions induce parental adjustments: higher unemployment rates at arrival raise rates of secondary migration to stronger labor markets and increase post-arrival educational investments. These parental responses are linked to improved outcomes among the second generation.

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1. Introduction

Economic success in the destination country is a central objective for all immigrants, including refugees. Yet refugees often experience slower labor market integration and persistently lower earnings than other immigrant groups.[1] As a result, policies that promote refugees' labor market integration are particularly salient. Depending on how refugees enter the country, governments can influence when and where they are resettled and impose incentives or restrictions related to secondary migration. These policy levers shape the initial conditions refugees face upon arrival—most notably, through their local economic environment.

Economic conditions at the time of entry into the labor market are especially consequential. Entering the labor market during a downturn reduces job availability, raises unemployment risk, and pushes workers toward lower-quality matches (Beaudry and DiNardo, 1991; Kahn, 2010; Oreopoulos et al., 2012); these effects can persist in the medium and long term if workers become locked into poor jobs or if unemployment spells cause lasting scarring via skill loss or employer inferences about worker productivity (Jacobson et al., 1993; Kroft et al., 2013). Such initial shocks can also propagate to the next generation: children exposed to parental job loss experience lower educational attainment (Ruiz-Valenzuela, 2021; Hilger, 2016; Rege et al., 2011) and lower earnings in adulthood (Oreopoulos et al., 2008; Uguccioni, 2022).

A priori, it is unclear whether we should expect these effects to be more pronounced or muted for refugees. On one hand, initial effects may be particularly severe for immigrants—and refugees—who lack local networks and country-specific skills at arrival and are more sensitive to business-cycle fluctuations (Bratsberg et al., 2006; Orrenius and Zavodny, 2010). On the other hand, refugees might mitigate these initial disadvantages if they are more likely to invest in local human capital in weak labor markets, or if they exhibit higher occupational and geographical mobility. For immigrants more broadly, the opportunity cost of investing in education is lower during downturns, offsetting medium- and long-run consequences (Battisti et al., 2022)—a similar mechanism could apply to refugees. Refugees also have higher mobility rates than both natives (Green, 1999) and other immigrants (Kaida et al., 2020), which might allow them to leave negatively affected areas at higher rates (Cadena and Kovak, 2016) and thereby avoid lasting effects.[2] Over a longer horizon, potential effects on children may also be attenuated given the relatively high intergenerational mobility observed among refugees (Adnan et al., 2023)

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[1] A large literature documents refugees' labor market trajectories after arrival and the factors shaping them (Brell et al., 2020; Foged et al., 2024; Bahar et al., 2024).

[2] While refugees generally exhibit higher rates of secondary migration, whether mobility increases in response to local economic shocks is less clear empirically: Åslund and Rooth (2007); Azlor et al. (2020); Godøy (2017) find that worse initial conditions do not significantly increase mobility among refugees.

and immigrants more broadly (Abramitzky et al., 2021; Connolly et al., 2023; Boustan et al., 2025), relative to natives.

This raises a series of empirical questions. Do initial labor market conditions actually matter for subsequent refugee employment outcomes? If so, how long do these effects persist, and do outcomes for refugees placed in weaker labor markets eventually converge to those of peers resettled in stronger ones? Finally, do these effects carry over to the next generation? I address these questions in an ideal empirical setting that combines quasi-exogenous assignment of refugees to local labor markets with exceptionally rich administrative data. Specifically, I study whether refugees who land in local labor markets characterized by higher unemployment are less likely to be employed and earn lower incomes; whether these effects diminish with time spent in Canada, and how long it takes for them to do so; and whether children who arrived as dependents remain affected by initial conditions when they reach adulthood.

Identifying the effect of initial conditions on later outcomes is challenging, since immigrants do not sort randomly across locations. Two main issues arise. First, immigrants who choose high-unemployment areas may differ along unobserved dimensions correlated with future outcomes, such as destination-specific knowledge or unobserved ability.

I address this concern by exploiting the institutional features of Canada's Government-Assisted Refugees (GAR) program. During the analytical period, refugees in this program were assigned to destinations within Canada according to administrative criteria that excluded their preferences, except in limited cases. They also faced long and uncertain waiting times before approval and a short window to travel once approved. The data record both the assigned destination and the actual residential location at year-end, making it possible to use the assigned destination to measure initial conditions and estimate an intent-to-treat effect. I further strengthen identification in two ways. First, I exclude refugees admitted under special subprograms with different selection and placement rules (roughly one-quarter of all GARs). Second, I include cohort fixed effects defined by country of birth and year of resettlement, which capture both time-varying macroeconomic conditions and the program's preference for assigning refugees to locations with communities of similar background.

The second issue is that regions with high unemployment differ from those with strong labor markets along many other, possibly unobserved, dimensions. I address this by exploiting temporal variation within regions and including region fixed effects in the main specification. As a robustness check, I measure unemployment at a finer spatial scale—the Census Metropolitan Area (CMA) level. Supporting this identification strategy, I show that, conditional on region and cohort fixed effects, there is little evidence of sorting on observables for either parents or children, and post-arrival outcomes are not correlated

with lagged unemployment rates in assigned destinations beyond the short-run persistence mechanically induced by serial correlation in local unemployment.

The analysis uses administrative data from Canada, which link detailed landing records to annual individual tax files for the universe of immigrants (the Longitudinal Immigration Database, IMDB). These data provide information on annual employment earnings, total income, government transfers, education-related deductions, and residential postal codes, together with arrival characteristics such as immigration category, education, year of arrival, and country of birth. I also use the IMDB–2016 Census linkage to obtain educational attainment and occupation for a 20% subsample. The analysis focuses on Government-Assisted Refugee (GAR) families resettled under the main program provisions between 1995 and 2011, excluding the province of Québec. Initial local economic conditions are measured by the unemployment rate in the region of arrival during the year of resettlement. Regions correspond to the Employment Insurance Economic Regions (EIER), which are designed by the federal government to reflect local labor market conditions. In 2011, the final arrival year in my analysis, there were 58 such regions across Canada. Annual regional unemployment rates are derived from the Labour Force Survey.

I estimate that a higher unemployment rate at arrival predicts persistently worse outcomes for refugees. A one–percentage-point increase in the initial unemployment rate (IUR) lowers the probability of reporting any employment income by 2.8 percentage points (a 7.4% decline) in the first year after arrival. The effect shrinks to 1.6 percentage points after three years but does not disappear within the first decade. Intensive-margin estimates are similar: a one–percentage-point higher IUR is associated with a 2.5% lower employment income by year ten. Distributional regressions show that the IUR mainly affects the lower tail of the income distribution. Heterogeneity by gender and education at arrival is limited, but language proficiency at arrival matters at the extensive margin: effects are larger for refugees who did not speak an official language upon resettlement. Results for total income mirror those for earnings, and refugees resettled to weaker labor markets receive persistently higher transfer payments, consistent with their lower employment and earnings. Because local unemployment exhibit some persistency, the estimated effect of the initial unemployment rate reflects conditions at arrival and in the few years that follow, rather than a one-year-only shock. (Oreopoulos et al., 2012; Wachter, 2020; Barsbai et al., 2025). As a descriptive comparison, I show that when other immigrants face a higher IUR their short-term labor market outcomes are also affected; however, they largely recover over time, contrary to GAR refugees.

I then extend the analysis to the next generation by examining children who arrived with refugee families and observing their outcomes in adulthood. The initial unemployment rate faced by parents at arrival does not significantly affect children's educational at-

tainment, employment, earnings, or social outcomes such as language spoken at home, citizenship acquisition, or intermarriage. Point estimates are small and generally close to zero; the largest, for employment income, is positive. Overall, these results suggest no sizable intergenerational effects of the initial labor market conditions. To explore why children appear to be isolated from these negative parental effects, I examine two adjustment margins available to refugees after arrival: investment in local human capital and secondary migration. For parents, a higher IUR increases both the likelihood of relocating away from high-unemployment areas and the propensity to invest in education. Evidence suggests that these behaviors may benefit children, mitigating the transmission of initial disadvantage.

The baseline results are consistent across a range of robustness checks, underscoring the stability of the findings. Estimates remain stable when excluding refugees resettled to Canada's largest immigrant destinations (Toronto and Vancouver), when using a more granular geographic definition, when measuring the IUR as unemployment only among low-educated workers, and when estimating separate regressions by years since arrival.

This paper contributes to two main literatures. First, this paper relates to research on how initial labor market conditions affect the economic integration of immigrants and refugees. For immigrants, early exposure to weak labor markets has been shown to slow integration and depress earnings, though the persistence of these effects varies across contexts: some studies find that initial disadvantages fade with time since arrival (Chiswick et al., 1997; Chiswick and Miller, 2002), while others document persistent income losses associated with adverse entry conditions (Lucchetti and Ruggieri, 2025; Barsbai et al., 2025). For refugees, quasi-random placement policies have provided natural experimental settings, in which previous work has shown that high local unemployment at arrival depresses employment and earnings in the short and medium run (Åslund and Rooth, 2007; Azlor et al., 2020; Mask, 2020; Aksoy et al., 2023; Wett et al., 2024). I build on this literature by documenting the long-term effects of local economic conditions at arrival on refugees' employment and earnings over a ten-year period. While previous work identified limited secondary migration as the primary channel through which initial conditions produce medium- and long-term negative effects (Godøy, 2017; Azlor et al., 2020), I document persistent scarring effects in a context with high relocation rates.

Most importantly, by tracking refugees' children into adulthood, I extend the literature's horizon of analysis to the intergenerational consequences of initial placement conditions. Prior work has shown that parental unemployment can have lasting effects on children's education and earnings (Oreopoulos et al., 2008; Hilger, 2016; Rege et al., 2011; Uguccioni, 2022), highlighting how adverse shocks experienced by parents can transmit to the next generation. My paper shows that initial local labor market conditions that lower the probability of employment for refugee parents do not translate into poorer outcomes for

their children. This result complements recent evidence of limited intergenerational effects of parental exposure to weak labor market conditions (Spencer and Matsuzawa, 2025), but does so in a setting where economic conditions at arrival are policy-assigned and where I can examine behavioral channels—such as secondary migration and post-arrival educational investments—through which initial conditions might affect both generations.

Second, the paper contributes to the broader literature on immigrants' and refugees' economic assimilation (Chiswick, 1978; Borjas, 1985; Baker and Benjamin, 1994; Brell et al., 2020) and the role of host-country institutions in shaping integration trajectories (Fasani et al., 2022; Hainmueller et al., 2016; Fasani et al., 2021; Bahar et al., 2024).[3] This work highlights how immigrants' outcomes evolve with time in the host country and how policy environments influence their long-term success. Related research on the second generation documents intergenerational mobility among immigrants' children and examines its main determinants (Algan et al., 2010; Abramitzky et al., 2021; Adnan et al., 2023; Boustan et al., 2025). I contribute to this literature by documenting refugees' behavioral adjustments in response to adverse initial conditions—specifically, secondary migration and post-arrival educational investments—and by quantifying their role in shaping their long-term outcomes. The administrative data I use allow these mechanisms to be traced with exceptional granularity, linking early local economic conditions to subsequent residential mobility and human-capital accumulation. Consistent with Boustan et al. (2025), who show that cross-country differences in intergenerational mobility among immigrants' children are driven mainly by destination-country policies, my findings underscore the importance of understanding how refugee settlement rules and constraints on mobility or education interact with these adaptive responses. In doing so, the paper also fits into the literature on immigrants' secondary mobility, which examines how migrants relocate in response to local labor market conditions at destination (Borjas, 2001; Cadena and Kovak, 2016; Wett et al., 2024). In parallel, it complements studies showing that the local environment at arrival—particularly the presence of co-ethnic networks—affects immigrants' human-capital investment and economic integration (Battisti et al., 2022).

The paper is structured as follows. Section 2 describes the context and institutional background. Section 3 describes the data, the construction of the measure of the initial unemployment rate, and the sample of interest. Section 4 outlines the identification assumptions and the empirical strategy. Section 5 presents the results. Section 6 reports the robustness checks. Finally, Section 7 concludes.

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[3]For Canada, more specifically, recent work documents the role of immigration category and arrival cohort for immigrant labor market outcomes, including refugees and their children (Warman et al., 2019; Sweetman and Warman, 2013).

2. Institutional Context: Refugee Resettlement in Canada

Canada is among the world's principal destinations for immigrants and refugees. According to the 2021 Census, foreign-born residents accounted for 23% of Canada's population—compared with 13.6% in the United States and 11% across OECD countries on average. Since 1980, Canada has admitted an average of 200,000 immigrants annually, roughly 13% of whom were refugees (IRCC, 2016b, 2025).

Canada admits refugees primarily through its refugee resettlement system, which emerged in the aftermath of the Indochinese refugee crisis (Casasola, 2016) and has expanded steadily over the past four decades.[4] Refugees are admitted through the *Refugee and Humanitarian Resettlement Program*, which encompasses three streams: Government-Assisted Refugees (GARs), Privately Sponsored Refugees (PSRs), and Blended Visa Office-Referred (BVOR) refugees.[5,6] Between 1980 and 2019, GARs accounted for roughly 52% of all resettled refugees, PSRs for 47%, and BVOR refugees for about 1%. Under the Government-Assisted Refugee program, refugees identified by the United Nations Refugee Agency (UNHCR) or another referral agency are admitted to Canada, where they receive income assistance and essential settlement services during their first year, funded through the Resettlement Assistance Program (RAP). In contrast, Privately Sponsored Refugees are identified directly by private sponsors—groups of Canadian citizens or permanent residents—who both nominate the refugees for resettlement and provide financial and social support during their first year in Canada. The Blended Visa Office-Referred program combines features of both systems: BVOR refugees are referred by the UNHCR and selected by Canadian visa officers, but their first year of support is shared—six months funded by the government and six months provided by private sponsors, who are also responsible for social support and community integration.

With these programs, Canada stands as one of the world's leading countries in refugee resettlement, historically accounting for roughly 10% of all refugees identified by the UNHCR as in need of permanent resettlement (Elgersma, 2015). The analysis in this paper focuses on refugees admitted through the GAR program, which provides a unique setting to study the role of local conditions in refugee integration, given that destination assignment is centrally administered rather than chosen by refugees themselves.

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[4]An exception are "Protected Persons", individuals who receive permanent residence after their need for protection is recognized by Canadian authorities, typically following a claim for refugee protection made from within Canada.

[5]Non-refugee immigrants are admitted primarily through the Canadian "points system", which emphasizes human-capital characteristics—such as education, proficiency in an official language, and work experience—and family reunification (Green, 1999; Green and Green, 2004).

[6]Under the 1991 *Canada–Québec Accord*, the province of Québec independently selects immigrants, and manages their reception and integration (Gagne et al., 1983).

2.1 The Government-Assisted Refugees Program

GARs are typically identified by the UNHCR and referred to destination countries with available resettlement quotas. Within this pool, Canadian visa officers conduct admissibility and protection interviews, recording information on language knowledge, family or social ties, health needs, and basic background characteristics, and ultimately select refugees for resettlement to Canada. The governing selection principle is humanitarian protection; unlike economic immigration, human-capital attributes (education, skills, prior work experience) do not determine admission (Perzyna and Agrawal, 2024). This emphasis was reinforced with the 2002 implementation of the *Immigration and Refugee Protection Act*, which shifted selection away from criteria related to potential economic integration after arrival toward protection needs. Once approved, cases are transferred to the Resettlement Operations Centre–Ottawa (ROC–O) for destination assignment, while refugees are encouraged to participate in pre-arrival orientation services delivered abroad by the International Organization for Migration (IOM) (Perzyna and Agrawal, 2024). The resettlement process is characterized by long and uncertain waiting times between referral and final approval, followed by a short and fixed window for actual travel to Canada, leaving little scope for refugees to time or influence their arrival.

After resettlement to Canada, GARs receive a suite of federally funded services—including reception at the port of entry, temporary accommodation, assistance in finding permanent housing, basic orientation, and referrals to settlement and government programs—delivered by local Service Provider Organizations (SPOs) under the Resettlement Assistance Program. These services are typically provided within the first six weeks after arrival. In addition, GARs receive a one-time start-up allowance[7] and monthly income support—anchored to provincial social-assistance rates—intended to cover shelter, food, and other basic expenses until self-sufficiency and for up to one year.

GAR refugees admitted for resettlement are matched to their final destination by the Resettlement Operations Centre–Ottawa based on pre-established annual targets for provinces and communities, the refugees' language profile, the presence of ethnic, cultural, or religious communities, medical or settlement needs, local service capacity, and the presence of family ties. The overarching allocation principle is a dispersal policy designed to balance arrivals across communities. In theory, provincial allocations of GARs are proportional to population, but in practice, they also reflect regional constraints and preferences—such as the desired balance of GAR-to-PSR arrivals or the number of inland asylum applications (Perzyna and Agrawal, 2024).

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[7]As of September 2024, the start-up allowance for a couple with two dependents was approximately $7,000, plus a school start-up allowance of $157.13 per child aged 4–17 (Refugee Sponsorship Training Program, 2024).

Within each province, GARs are destined to communities that host contracted RAP Service Provider Organizations. As part of Canada's regionalization policy—intended to alleviate pressure on gateway cities (Montréal, Toronto, and Vancouver) and support smaller centres—the federal government increasingly directs GARs to mid-sized and smaller cities (Jenkins, 2019). Each SPO is contracted annually to receive a target number of GARs based on capacity constraints, and refugees cannot self-select their destination across these sites.

Until recently, destination matching relied primarily on operational criteria—medical needs, housing availability, and organizational capacity—while family or social ties were often secondary. Qualitative work on this population has shown that many refugees only learned their final destination at the airport on the day of departure (Simich et al., 2002). Human-capital characteristics such as previous employment, education, or rural–urban background are not incorporated into matching (Perzyna and Agrawal, 2024). More broadly, the Canadian system does not account for complementarities between refugees' skills and local labor markets, and "refugees have little to no influence on their destinations" (Smith and Ugolini, 2023). Recent reports from *Immigration, Refugees and Citizenship Canada* (IRCC)—the federal department responsible for immigration policy and refugee resettlement—covering a period beyond the study window suggest an increased emphasis on facilitating family reunification where feasible, although it remains one of several factors balanced against capacity constraints and regional quotas (IRCC, 2016a).[8]

GARs receive permanent residency upon arrival in Canada. As permanent residents, they have unrestricted access to the labor market and full mobility rights within the country; they are not required to remain in their assigned community. Although SPOs contracted by IRCC are mandated to strongly encourage GARs "to proceed to their [assigned] final destination to avail themselves of the supports that are in place for them" (IRCC, 2019), evaluations document substantial early mobility. Official assessments found that roughly one-fifth of GARs relocated before the end of their first year in Canada (IRCC, 2011),[9] and more recent reports indicate that about 11% moved and sought RAP services from another SPO within the first year—most often citing employment (40%), proximity to friends (22%), or family (19%) as primary reasons (IRCC, 2016a). Among newly arrived immigrants, refugees—and GARs in particular—are more likely than economic or family-class migrants to undertake secondary migration (Kaida et al., 2020). Rates vary

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[8]Recent research explores algorithmic matching to optimize placement outcomes for immigrants and refugees (Bansak et al., 2018; Ferwerda et al., 2020; Ahani et al., 2021). IRCC is currently piloting a related approach for economic immigrants through the *GeoMatch* initiative based on these findings (Keung, 2018).

[9]GARs who alter their travel itinerary are responsible for any additional costs. They remain eligible to receive RAP services if they relocate to a community served by a RAP provider, although such moves can affect SPO funding and the scope of available services.

considerably across destinations, with higher mobility among GARs initially placed in smaller and mid-sized centres.

3. Data and sample selection

3.1 Immigrants' characteristics and outcomes

This study draws on linked administrative data from Statistics Canada, encompassing the universe of immigrants who arrived in Canada since 1980.[10] The core data source is the Longitudinal Immigration Database (IMDB), which includes immigrants' landing records, linked to their yearly individual tax files following arrival. I further complement these administrative data with the 2016 Canadian Census, which is linked to a subsample of immigrants which comprises around 20% of the total population recorded in the IMDB.

The IMDB landing records contain rich demographic and immigration-related information on all individuals who obtained permanent resident status since 1980.[11] For each individual, the records report a limited number of demographic characteristics which include sex, age, country of birth and marital status at arrival. Additionally, the IMDB includes more detailed information on immigrants at the time of their arrival, such as the year and exact date of arrival, country of last residence, years of education and highest educational qualification, language proficiency in the official national languages (English and French), and self-declared occupational skill level.[12] Crucially, the IMDB records three sets of variables that pertain to the detailed administrative procedures surrounding the immigration process to Canada, which I leverage in the selection of my sample and in the analysis. First, the records include immigrants' admission category at a detailed level: this allows to isolate immigrants who arrived to Canada as refugees, and to further distinguish across different subprograms of refugee resettlement—the main ones being Privately Sponsored Refugees, Government-Assisted Refugees, or Blended Sponsorship programs, under which further special sub-programs are identified. This allows me to identify with a high degree of precision refugees who were resettled under the Government-Assisted Refugee (GAR) program, and to exclude GARs admitted through specific sub-programs that may have followed distinct settlement protocols. Second, the IMDB indicates immigrants' destination at landing at a granular level—including Province, Census Metropolitan Area or Census Agglomeration (CMA/CA), and Cen-

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[10]Limited information is also available since 1950, although it does not report detailed immigration category—which makes it unsuitable for this analysis.

[11]A limited subset of records is also available for individuals who migrated to Canada as non-permanent residents, which allows the identification of immigrants who had obtained a temporary permit before becoming permanent residents.

[12]These variables are initially self-reported by immigrants and subsequently verified by an officer of the IRCC through a review of supporting documents and an interview.

sus Subdivision.[13] The destination location corresponds to the intended—or assigned, depending on the immigration category—location of settlement after arrival as per the immigration application managed by the IRCC. Third, the IMDB also includes an internal linkage—the Children Data Module— which allows for the identification of parent–child relationships within the landing records. All immigrants who were aged less than 18 years old at their time of admission are linked to their parents, and to their parents' characteristics at arrival if the latter were also immigrants to Canada. This facilitates the identification of family units who arrived together as GAR refugees, and allows me to include information on parental characteristics as well as on their outcomes after arrival when analyzing children long-term outcomes. It should be noted that a key limitation of this module is that it does not capture children born in Canada to immigrant parents following arrival.

Immigrants' landing records are linked to longitudinal tax files,[14] which provide detailed annual income and family composition information from 1982 to 2021. These records include information on employment income, total income, government transfer payments, and specific deductions claimed (e.g., for tuition and other education-related expenses).[15] For the subset of years 1997 and onward, these data are complemented by the Wages and Salaries Data Module, which adds information on wages and number of employment contracts per tax year. Importantly, the yearly tax data also include complete residential postal codes, as reported by filers when declaring their residential address, which allow tracking immigrants moves within Canada. First, this allows me to check whether individuals settled in their designated location in their year of arrival. Second, it permits the identification of subsequent internal mobility over time at the individual level. Finally, I leverage the family composition information reported in the tax files to construct outcomes pertaining to marital status for refugee children as they reach adulthood. These measures include marital status and intermarriage—where the latter is alternatively defined as marriage to another immigrant or to another immigrant born in the same country of birth.

Finally, I link the administrative IMDB records to the 2016 Census, which provides

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[13]Canadian census metropolitan areas and census agglomerations closely resemble U.S. commuting zones. They are formed by one or more adjacent municipalities centered on a population centre, and with a high degree of integration, as measured by commuting flows. A CMA must have a total population of at least 100,000, of which 50,000 or more residing in the central core. A CA must have a core population of at least 10,000. Census Subdivisions correspond to municipalities or areas treated as municipal equivalents for statistical purposes (e.g., Indian reserves, Indian settlements and unorganized territories).

[14]Specifically, the T1 Family File, which is compiled by Statistics Canada based on the annual individual T1 file, T4 tax file, and Canada Child Tax Benefit File (or the Canada Child Benefit file starting from July 2016) from the Canada Revenue Agency.

[15]While tax filing is mandatory for most Canadians and is required to determine eligibility for benefits and tax refunds, compliance is not universal (Robson and Schwartz, 2020). However, among Government-Assisted refugees in my sample, tax filing rates are extremely high, ranging from 98.9% in the first year after admission to 94.3% ten years later.

additional information pertaining to immigrants' socio-economic outcomes. The linkage is available for approximately 20% of the sample, which is slightly lower as compared to the 25% target of households who receive the questionnaire as a share of the total population. While the opportunities provided by the linkage to the Census are limited by the fact that it only provides a cross-sectional snapshot, these data offer valuable additional information on outcomes which are not available in tax records. For immigrants who were employed in 2016, these include detailed information on occupation and on the main language spoken at the workplace. For all immigrants, the Census also provides information on educational attainment and relevant dimensions of social integration such as citizenship acquisition, and languages spoken in the household.

3.2 Initial labor market conditions

The primary independent variable in the analysis is the local unemployment rate faced by refugees upon their arrival in Canada. In the main analysis, I use the yearly unemployment rate defined at the Employment Insurance Economic Region (EIER) level. Each refugee is assigned to the annual regional unemployment rate corresponding to the Census Subdivision designated by the IRCC as their assigned destination location at the time of landing. EIERs are geographic regions used by Employment and Social Development Canada for administering the Employment Insurance program, and are specifically designed to reflect local economic conditions and labor market dynamics. This makes this level of aggregation particularly suitable for this analysis. In 2011, the final year of refugees arrivals in my sample, there were 58 such regions across Canada (the total number of region currently stands at 62, see Figure 1). For each year of arrival, I calculate the regional unemployment rate using data from the Labour Force Survey (LFS).

To further characterize local labor markets, I construct additional variables, such as the total population and the immigrant share at the regional level, leveraging data from the Canadian Census.[16]

3.3 Sample construction and descriptive statistics

The analysis focuses on refugee families who were resettled to Canada under the Government-Assisted Refugee (GAR) program between 1995 and 2011. The initial year of observation, 1995, is determined by the availability of local unemployment rates at the Employment Insurance Economic Region (EIER) level, which are not reported in the Canadian Labour Force Survey before then. I set 2011 as the final arrival year to allow for a minimum of ten years of potential follow-up for all individuals in the sample.

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[16]Because Census data are available only every five years, I interpolate values for intercensal years.

As I am particularly interested in documenting the effects of the initial labor market conditions on the outcomes of both adults and children in the long term, the sample is restricted to family units in which at least one adult was resettled together with at least one child who was under the age of 18 at the time of arrival.[17] I further restrict the analysis to parents aged 18 to 45 at the time of landing, in order to ensure that they remain of working age over the subsequent period of observation.

In order to make sure that the refugees included in the analysis were effectively resettled according to the procedures outlined in Section 2, I impose three further restrictions to the sample. First, I exclude refugees resettled to the province of Quebec, which manages its immigration programs and policies separately from the Canadian federal government—which is reflected in a different selection of resettlement candidates and in different settlement policies upon refugees' arrival. Second, to ensure comparability in resettlement conditions, I exclude individuals admitted through special sub-programs of the GAR initiative, which may have followed distinct protocols. This includes 23% of the initial GAR population arrived over this period.[18] Third, I restrict the sample to individuals who first entered Canada as permanent residents under the GAR program and had never previously resided in the country. This ensures that the focus is on refugees with no prior exposure to Canadian institutions and labor markets at the time of their arrival.

After imposing these restrictions, the final sample stands at around 15,000 parents who migrated to Canada under the Government-Assisted-Refugee program in 1995-2011, with around 21,000 accompanying children.[19] Table 1 presents the descriptive statistics for this sample. The parents sample is balanced across genders, with 55% female refugees. 24% of parents arrived without a partner, and refugees were on average 34.4 years old at the time of arrival. Parents in the final sample have low educational attainment and English knowledge at their time of admission: 61.2% had only up to secondary education, with 10.6 years of education on average, and only 24.5% declared at least some knowledge of English at arrival. Children were 8.2 years old at time of arrival, on average. They had 2.1 years of education, on average, and for 12% of them parents declared some previous English knowledge. These families primarily originated from Africa and the Middle East (47%), followed by Europe (33%) and other regions in Asia and Oceania (18%). Most refugees in the final sample come from conflict-affected areas: the most

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[17]As mentioned in Section 3.1, one limitation of the IMDB is that it does not include children who were born in Canada after their parents' arrival.

[18]Over this period, the most common special programs included, for example, *Assistance to women at risk*, *Myanmar Refugees in La Oon Camp (Thailand)*, *Bhutanese Refugees in Nepal*, *Project Focus Afghanistan*, *Ex-Yugoslavia Appeal Pilot (Government and Private Sponsor)*, and *One Year Window of Opportunity*.

[19]Sample sizes are rounded to the nearest 1,000 in compliance with Statistics Canada vetting restrictions.

common countries of birth were Bosnia and Herzegovina, Yugoslavia, Afghanistan, Iraq, and Sudan. As shown in Table 2, 41% of refugees landed between 1995 and 1999, 29% between 2000 and 2004, and 30% between 2005 and 2011.

4. Identification and empirical strategy

4.1 Identification

The main identification challenge in this context is that immigrants do not choose where to live randomly: different individuals will sort into areas undergoing different economic conditions—and some of their (potentially unobservable) characteristics might be associated both with where they choose to move to and their subsequent labor market outcomes. Ideally, in order to study the effect of the initial unemployment rate faced by refugees, one would like to randomly allocate them to regions with different unemployment rates. What happens to the selected subset of Government-Assisted refugees in this context is very close to this ideal experiment. First, refugees in this sample experience long waiting times before being approved for resettlement followed by a relatively short time frame to effectively relocate to Canada—which makes timing their arrival difficult. In addition, and most importantly, the IRCC assigns them a destination location within Canada based on criteria that do not take into account refugee's preferences, if not in residual cases. As described in more detail in Section 2, the main concerns guiding the selection of the destination locations are to achieve a balanced geographic distribution within the country. This dispersal is evident when comparing the distribution of intended destinations for this group[20] to the destinations of other immigrants (Figure 2 and Appendix Figure A1, respectively). Overall, during the arrival period of my main sample, around 33% of Government-Assisted Refugees were resettled to Toronto, Vancouver and Montreal—the three main Census Metropolitan Areas in the country, which by the end of the period accounted for 35% of the total population (2011 Census)—as compared to 73% of other immigrants.[21]

It should be noted that the dispersal of Government-Assisted Refugees (GARs) is not implemented through a random selection of Canadian locations. First, GARs can only be resettled in locations that host Service Provider Organizations—non-governmental agencies funded by the government to deliver settlement services at the time of arrival.

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[20]For GAR refugees, the intended destination at arrival listed in the immigration records coincides with the one assigned by the IRCC.

[21]Specifically, the share of immigrants who listed one of these three main CMAs as their intended destination was 73% among economic immigrants, 70% among family immigrants, 47% among Privately Sponsored Refugees and 81% among protected persons—where the two latter categories correspond to other types of refugees under the Canadian immigration system.

This institutional constraint, implies that the set of possible resettlement sites is not a random subset of Canadian locations. As shown in Table 3, resettlement locations, on average, have lower unemployment rates, a larger total population, a higher immigrant share, and a higher number of previously resettled GARs.

Second, even within the eligible set of locations, the IRCC also considers whether refugees will find an existing local community from the same background. As a result, refugees arriving in the same year but from different countries of birth are placed in different locations, depending on where such communities exist. Accordingly, I focus on within-cohort variation—defining cohorts by year of resettlement and country of birth—so that comparisons are drawn only among refugees who share the same arrival timing and origin background.

Third, as discussed in Section 3.3, I exclude GARs admitted through special sub-programs, which often comprise different selection and placement procedures.

Taken together, these features of the GAR program allow me to exploit the resettlement process to identify the effect of initial labor market conditions at arrival on subsequent refugee outcomes. The key identification assumption is that, conditional on these constraints, GARs cannot time their arrival to coincide with favourable local labor market conditions in their Canadian destination. It is also unlikely that the yearly inflow of GARs meaningfully alters local economic conditions: between 1982 and 2021, annual arrivals accounted on average for only 0.06% of the total local population and 0.97% of the local immigrant population. Given this very small scale, their arrival is unlikely to measurably affect local unemployment rates, which remain driven by broader labor market dynamics.

I conduct a series of exercises to probe the validity of this assumption. First, I show that observable characteristics prior to resettlement are not correlated with local unemployment rates faced by GAR refugees at arrival (Panel a in Tables 4 and 5 for parents and children, respectively). Specifically, I regress individual characteristics on the initial unemployment rate at the assigned location in Canada, including destination region and country-of-birth-by-year-of-resettlement fixed effects: across all the characteristics available in the landing records, the estimated coefficients are very small and close to zero, and not statistically significant. As an additional test, I perform this check using the unemployment rate among low-educated individuals (Panel b of Tables 4 and 5)—a measure particularly relevant given the low educational attainment of refugees at arrival—and again find no statistically significant relationship. A potential concern is that while contemporaneous unemployment rates are uncorrelated with refugee characteristics, the latter might be linked to past local labor market trends. To address this, I examine whether characteristics at arrival are correlated with one- to five-year changes

in the unemployment rate (Panels C to G in Tables 4 and 5). Across all these tests, coefficients remain small and mostly statistically insignificant.

Finally, I run a placebo check to test whether refugee outcomes are associated with the local unemployment rate in the years preceding their arrival. Appendix Figure A2 shows estimates from separate regressions of refugee outcomes at arrival on the unemployment rate in the six years prior to resettlement, compared with the effect of the IUR faced in the year of arrival. I find that unemployment rates one to three years prior are correlated with outcomes at arrival, whereas coefficients beyond three years are small and statistically indistinguishable from zero. This pattern is consistent with the persistence of local unemployment: as shown in Appendix Figure A3 the current unemployment rate is strongly associated with future rates over a horizon of about four years, after which the estimated coefficients are very small and no longer statistically significant.

When local unemployment is persistent, a shock at the time of arrival proxies for a short sequence of adverse conditions. The lead test in Appendix Figure A2 shows no association with unemployment rates beyond the window in which the arrival-year rate is mechanically correlated with surrounding years (Appendix Figure A3). Consequently, following Oreopoulos et al. (2012), I interpret the estimated effect of the initial unemployment rate as a reduced-form "arrival shock bundle": it captures both conditions at arrival and the near-term path that typically accompanies them, rather than a literal one-year-only shock.

4.2 Empirical strategy

4.2.1 Parents

I estimate the dynamic effect of the local initial unemployment rate (IUR) on refugees' outcomes by year since arrival. The main outcomes of interest are labor market outcomes which include whether refugees filed their taxes, whether they declared any income, their annual employment and total income, as well as the government payment transfers they received. The initial unemployment rate is the yearly unemployment rate in the year of the refugees' arrival to Canada, measured in the region (EIER) they were assigned to by the IRCC, as described in more detail in Section 3.2. As refugees are not forced to comply with their location assignment, this entails that I effectively estimate the Intention-To-Treat effect.

Specifically, I estimate the following specification:

$$y_{i,c,l,m,t} = \alpha + \sum_{t=m}^{m+10} \beta_{(t-m)} IUR_{l,m} + \gamma' X_{i,m} + \delta' Z_{l,m} + \lambda_l + \lambda_{c,m} + \lambda_t + \varepsilon_{i,c,l,m,t} \quad (1)$$

where $y_{i,c,l,m,t}$ is outcome of refugee i from country c, resettled to region l at time m, in year t after arrival—where t ranges from the year of resettlement to 10 years later. $IUR_{l,m}$ is local unemployment rate in region l, at time m; $X_{i,m}$ are individual characteristics at resettlement (gender, age, education, English knowledge, skill level); $Z_{l,m}$ are region l characteristics measured at time m (population, immigrant share). λ_l are region fixed effects, which capture time-invariant regional characteristics which might affect i's outcomes. $\lambda_{c,m}$ are country of birth-by-year of resettlement fixed effects: this term captures any national-level changes over time that might have impacted refugees after their arrival—such as macroeconomic trends, or the available set of resettlement locations—, as well as possible changes in the unobserved characteristics of refugee cohorts over time. I interact the year of resettlement with the country of birth to take into account the two following factors: first, this term will capture changes in refugees cohorts within each country of origin. Second, this allows me to account for the fact that the IRCC does take into account the local presence of a community which shares the same nationality or language with a prospective refugee, when selecting their assigned location. This implies that the set of possible locations, or at least their probability of being selected, varies not only at the yearly level but also across countries of birth. This term accounts for this fact. Finally, λ_t represents year since arrival fixed effects, which account for common patterns in refugees outcomes over time spent in the destination country. $\varepsilon_{i,c,l,m,t}$ is the error term. I cluster standard errors at the region-by-year of resettlement level.

For outcomes measured in the 2016 Census, I adapt the estimating regression to reflect the single-year cross-section, which does not allow to separately estimate dynamic effects by year since arrival and and year of arrival effects as in Equation 1. Hence, I estimate the following slightly modified regression:

$$y_{i,c,l,m} = \alpha + \beta IUR_{l,m} + \gamma' X_{i,m} + \delta' Z_{l,m} + \lambda_l + \lambda_{c,m} + \varepsilon_{i,c,l,m} \tag{2}$$

where $y_{i,c,l,m}$ is the outcome of i from country c, resettled to region l at time m, measured in 2016; $IUR_{l,m}$ is local unemployment rate in region l, at time m; $X_{i,m}$ and $Z_{l,m}$ are individual and location l characteristics at time of resettlement, as defined in Equation 1. Finally, λ_l, $\lambda_{c,m}$ are are region and country by year of resettlement fixed effects.[22] $\varepsilon_{i,c,l,m,t}$ is the error term.

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[22]As in this case I am not able to separately identify the year of arrival and years spent in Canada, I estimate the same regressions on the subsample of individuals who immigrated to Canada in the previous 10 or 15 years so that the period of time spent at destination is similar to the one for the main outcomes from the tax records. The results are similar to the ones using the full sample.

4.2.2 Children

When focusing on children, the main outcomes of interest are measured at a relevant point into adulthood—such as for example their educational attainment by 25 years of age, and their labor market outcomes between 25 and 35 years of age.

I estimate the effect of the IUR faced at arrival on children's long-term outcomes using the following specification:

$$y_{i,c,l,m} = \alpha + \beta IUR_{l,m} + \gamma' X_{i,m} + \mu' W_{i,m} + \delta' Z_{l,m} + \lambda_l + \lambda_{c,m} + \lambda_{25} + \varepsilon_{i,c,l,m} \quad (3)$$

where $y_{i,c,l,m}$ is outcome (in adulthood) of individual i from country c, resettled to region l at time m (as a child). $IUR_{l,m}$ is the local unemployment rate in region l, at i's time of arrival m. $X_{i,m}$ are individual characteristics at resettlement (age, gender, years of education, and English knowledge); $W_{i,m}$ are parental characteristics at resettlement (years of education, English knowledge, and skill level); $Z_{l,m}$ are location l characteristics in m (population, immigrant share). λ_l and $\lambda_{c,m}$ are region and country of birth-by-year of resettlement fixed effects, respectively, as in Equation 1 for parents. Finally, λ_{25} is a year-at-25 fixed effects, which absorbs all calendar-year factors influencing individuals when they reach adulthood, such as prevailing macroeconomic conditions and policy environments common to that cohort. $\varepsilon_{i,c,l,m,t}$ is the error term.

5. Results

5.1 Parents

In this section, I examine how the initial local unemployment rate (IUR) faced at resettlement affects the subsequent decade of labor market outcomes for adult Government-Assisted Refugees (GARs). Because the data are tax records, I observe outcomes only for individuals who remain in Canada and file taxes; differential filing or emigration could therefore bias estimates (Borjas and Bratsberg, 1996; Edin et al., 2000; Constant and Massey, 2003)—for example, if refugees most negatively affected by the IUR were more likely to drop out of the sample. I allay this concern in two steps. First, tax-filing rates are very high in this group—98.6% in the year of arrival and 94.3% ten years later—and, crucially, the initial unemployment rate does not affect filing in subsequent years (Panel a of Figure 3). Second, following Blit et al. (2024), I proxy emigration as absence from tax records for at least three consecutive years; by year ten, fewer than 5% of GARs meet this criterion, and the initial unemployment rate has no effect on this outcome (Panel b of Figure 3). Taken together, these facts indicate that the outcomes observed in the tax

records are not driven by selective out-migration.

Figure 4 plots the main results on refugees' employment outcomes. At the extensive margin, immigrating into a local market with higher unemployment has persistent adverse effects. A one percentage-point increase in the IUR leads to a 2.8 percentage-point (pp) decrease in the probability of reporting any employment income in year one (Panel a of Figure 4)—the first full calendar year after resettlement during year zero.[23] This amounts to a 7.4% decrease relative to the year-one mean of 38%. The effect declines over the first three years and then stabilizes at about 1.6% lower probability of employment. At the intensive margin, a higher IUR reduces employment income (Panel b of Figure 4): the decline is steepest in the first three years after arrival and then converges to a decrease of roughly 2.5% that persists through year ten. The number of annual employment contracts[24] is also lower in the first two years after arrival (Figure 5); thereafter, coefficients are close to zero and statistically insignificant. This pattern suggests that the initial drop in total employment income may be partly driven by fewer jobs, whereas the persistent gap in later years is more likely due to lower hours or lower wages. Unfortunately, the tax records lack hours and wage measures, so I cannot separately identify these channels. As discussed in Section 4.1, the initial dynamic pattern also reflects exposure to higher contemporaneous unemployment in the years immediately following arrival; thus, estimates in those years should be interpreted as the bundled effect of the IUR and short-term correlated conditions (following Oreopoulos et al., 2012; Wachter, 2020; Barsbai et al., 2025). I also assess whether the effects of the IUR vary across observable characteristics at arrival. I estimate the main specifications separately by sex, education, and official-language knowledge at arrival; Appendix Figure A4 summarizes the results. I find little heterogeneity by sex or education. By contrast, official-language knowledge matters at the extensive margin (Panel c). In level terms (percentage points), the estimates for the two language groups are broadly comparable in most periods; however, because baseline participation is lower for GARs without official-language knowledge, the implied relative effects are larger for that group. By year ten, a one-percentage-point higher IUR lowers the probability of reporting any employment income by about 1.5 pp among GARs with no official-language knowledge (2.2% relative to their 65.9% mean), whereas the estimate for those with prior knowledge of an official language is close to zero and not statistically significant.

To better understand what drives the effect of the IUR on subsequent earnings, I estimate distributional regressions for employment income (Chernozhukov et al., 2013; Foresi and Peracchi, 1995; Fortin et al., 2011; Koenker et al., 2013). Because the effects in Panel b of Figure 4 are conditional on being employed, they may be subject to sample-selection

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[23]As is common in this type of administrative data, I do not observe employment status.

[24]Estimated on the subsample for which contract data are available, covering 1997–2021.

concerns—especially given the lasting effects of the IUR on the probability of reporting any income. Figure 6 reports results for years 1, 5, and 10; the overall patterns are similar in other years. For each year, I estimate a sequence of regressions of an indicator for whether employment income exceeds increasing thresholds, on the IUR. The first coefficient corresponds to a regression where the dependent variable is an indicator for reporting any employment income in that year; these estimates match those in Panel b of Figure 4 at 1, 5, and 10 years since resettlement. The analysis shows that the IUR primarily affects the lower part of the distribution. In the first year after arrival, refugees assigned to higher-IUR regions are significantly less likely to exceed thresholds up to $48,000, with effects concentrated at the bottom. By years 5 and 10, significant effects remain only for thresholds up to $30,000; above that, estimates are close to zero and not statistically significant.

To probe mechanisms underlying the income effects, I also leverage the linkage between immigrant landing records and the 2016 Census to examine how the local IUR at arrival relates to occupational outcomes (Table 6). Among the 20% subsample linked to the Census,[25] estimates are imprecise. A one percentage-point higher IUR is associated with a -0.5 pp change in the probability of working as a professional or manager (about -3.3% relative to the 14.6% mean). I also consider two proxies for the immigrant composition of jobs and workplaces. First, the probability that the most-used workplace language is neither English nor French (the official languages) rises by 0.6 pp (9.4% relative to the 6.4% mean). Second, an occupation-level immigrant-concentration percentile increases by 0.6 units (0.82% relative to the mean of 69). None of these estimates is statistically distinguishable from zero at conventional levels. While the point estimates are consistent with greater concentration in immigrant-intensive occupations and non-official-language workplaces, the confidence intervals are wide, so I am not able to draw conclusions about occupational sorting as a mechanism.

I complement the analysis of employment income with other labor market outcomes to paint a fuller picture of the effects of the IUR. I find no effect on the probability of reporting any self-employment income (Panel a of Figure 7). For total market income before government transfers and taxes, the results closely mirror those for employment income (Panel b). At the same time, government transfer payments remain persistently higher for Government-Assisted Refugees resettled to regions with higher IUR, consistent with their lower employment probability (Panel c).

Compared with other immigrants—who can choose their initial destination within Canada—refugees experience larger and more persistent adverse effects of initial economic conditions. Figure 8 plots the effect of the IUR for GARs in the main analy-

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[25]I replicate the main labor market results for this subsample and they closely match those for the full sample, albeit with less precision.

sis sample, alongside analogous estimates replicated for immigrants landed in the same time period but under different admission categories: economic immigrants, family immigrants, and privately sponsored refugees.[26] This comparison is purely descriptive: for other immigrants I cannot separately identify the effect of the local IUR from unobserved traits correlated with their location choice. Even so, the figure suggests that while higher initial unemployment also depresses outcomes for other immigrants (albeit to a lesser extent than for GARs), they largely recover over time, whereas refugees in the main sample do not and remain persistently affected by worse initial conditions—especially at the extensive margin.

5.2 Children

After establishing that a higher IUR depresses parents' labor market outcomes, I examine long-run effects on their children once they reach adulthood. This analysis is feasible given the long panel horizon of the Canadian tax data—which allows me to follow families for up to 27 years after arrival—and the wide range of children's ages at arrival.

There are two reasons to expect children to be affected by the initial conditions faced by parents. First, although the initial economic downturn faced by parents is temporary (lasting about four years on average), I show it generates long-lasting effects—at least beyond ten years—on employment probabilities and employment income. Second, a large literature documents that parental shocks can have profound impacts on children's later-life outcomes. Individuals who experience parental job loss in childhood have been shown to reach lower educational attainment (Ruiz-Valenzuela, 2021; Hilger, 2016; Rege et al., 2011) and earnings (Oreopoulos et al., 2008; Uguccioni, 2022).

On the other hand, effects on children may be attenuated by the relatively high intergenerational mobility observed among refugees (Adnan et al., 2023)—and immigrants more broadly (Abramitzky et al., 2021; Connolly et al., 2023; Boustan et al., 2025)—compared to natives. Complementary work also finds that shocks at the parental level can have nuanced implications for the second generation: some studies document null effects of parental exposure to wealth shocks or higher unemployment (Ager et al., 2021; Spencer and Matsuzawa, 2025), whereas Nakamura et al. (2022) show that a large mobility shock induced by a natural disaster, despite harming parents, significantly improved children's educational attainment and earnings in adulthood.

First, I study children's educational attainment by age 25. I select children who reached

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[26]Privately sponsored refugees are individuals approved for resettlement by the IRCC, who are then matched with a Canadian group of residents (a sponsor) that provides financial, settlement, and social support for one year after arrival in Canada. They account for roughly half of resettled refugees in the country.

age 25 by 2016 in the subsample linked to the Census and estimate the effect of the local IUR at family resettlement on the probability of holding a bachelor's degree. I find no statistically significant effect (Column 1 of Table 7). The point estimate is small—an additional 1-pp higher IUR is associated with a 0.5-pp increase in the probability of holding a bachelor's degree—and imprecise. I can rule out decreases larger than about 2.8 pp in the probability of attaining a bachelor's degree or higher.

Next, I examine children's labor market outcomes measured between ages 25 and 35—after most individuals have completed schooling—focusing on the probability of any employment income, average employment, and total income. I do not find systematic effects of the IUR on adult income. For employment (any employment income), the estimate is a small, statistically insignificant 0.4 pp (about 0.45% relative to the mean). Specifically, I can rule out negative effects larger than 0.38 pp and positive effects larger than 1.18 pp at the 95% level.[27] The effect on total income is also close to zero: a 1-pp higher IUR is associated with 0.1% lower total income in adulthood—an effect which is economically tiny and statistically indistinguishable from zero—and I can rule out decreases larger than 2.1% on this margin. For employment income, I estimate a statistically insignificant +2.1% effect; this allows me to rule out decreases larger than about 0.7% and increases larger than about 5.0%.

Finally, I study social outcomes—whether the language spoken at home is an official language, citizenship acquisition, and intermarriage. I find no statistically significant effects of worse economic conditions at arrival on these outcomes in adulthood (Columns 5–8 of Table 7). For citizenship, the estimate is a precise null of -0.8 pp (about -0.8% relative to the mean). Estimated effects on official-language use and intermarriage are also statistically insignificant, albeit less precisely estimated.

Taken together, these results indicate no sizable average intergenerational effects of the IUR faced by GAR families at arrival. To understand why adverse parental impacts do not translate into losses for children, I next examine two post-arrival adjustment margins—parental human-capital investment and secondary migration—that could mitigate the intergenerational transmission of worse initial local conditions.

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[27]I estimate a parental effect in the first year after resettlement between 3.56 pp and 2.06 pp per 1-pp higher IUR, and a children's effect between 0.38 pp and +1.18 pp. The implied transmission rate is about 14.2%, with a 95% CI of [42%, +14%], indicating opposite-signed and imprecisely estimated pass-through. I compute the transmission-rate standard error via the delta method assuming zero covariance between the parent and child coefficients. Because the same families contribute to both regressions, the two estimates are likely positively correlated. With $\beta_{parent} < 0$ and $\beta_{child} > 0$, ignoring a positive covariance understates the variance, making the reported CI too narrow.

5.3 Mechanisms

To shed light on the dynamics behind the results above, I study two adjustment margins available to refugees: (i) investment in local human capital and (ii) secondary migration. Worse initial labor market conditions can lower the opportunity cost of schooling and trigger relocation away from high-IUR areas. Using administrative data (tuition tax credits; moves across CMAs/provinces), I measure these behaviors and relate them to subsequent outcomes. Both margins respond to the IUR, and correlational evidence suggest they may mitigate the intergenerational transmission of worse initial local conditions.

5.3.1 Human capital investment

I first examine how the IUR affects investment in human capital. Being assigned to a region with higher IUR reduces initial employment, with adverse long-run consequences for labor market outcomes. At the same time, limited employment opportunities reduce the opportunity cost of time, potentially encouraging post-arrival investments in local human capital—activities that are typically time-intensive for recent immigrants. Such investments can carry substantial positive impacts on immigrants' long-term outcomes. In Germany, Battisti et al. (2022) show that immigrants facing fewer early employment opportunities (due to smaller co-ethnic networks) invest more in human capital, subsequently catch up in employment probability, and even surpass immigrants with larger initial co-ethnic networks in wages and match quality.[28] By contrast, Barsbai et al. (2025) do not find an effect of the IUR on family immigrants' tertiary enrollment.

I proxy refugees' educational investment using the probability of claiming a tuition tax credit on their returns (federal and, where applicable, provincial).[29] This measure does not capture all forms of human-capital investment (e.g., informal training or programs not eligible for a credit), but it covers an important margin of intensive, credential-oriented education that may be particularly relevant for improving immigrant labor market prospects. Indeed, I find that refugees are more likely to invest in post-secondary education when local labor market conditions are worse (Figure 9). The effect peaks around year five after resettlement: a one–percentage-point increase in the IUR raises the probability of claiming a tuition-related credit by about 0.4 pp, corresponding to a 9% increase relative to the 4.1% baseline mean.

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[28]A large literature documents that schooling and training are counter-cyclical, consistent with an opportunity-cost mechanism; see, among others, Betts and McFarland (1995), Black et al. (2005), Atkin (2016), and Charles et al. (2018).

[29]At the federal level, the separate education/textbook credits were eliminated in 2017; the *tuition* tax credit remains. Provincial provisions vary.

5.3.2 Secondary migration

Next, I examine secondary migration (i.e., moving from the initially assigned CMA/province to another) as a potential response to the IUR. Prior work shows that immigrants relocate more in response to local labor market shocks than comparable natives (Cadena and Kovak, 2016). Whether refugees use this adjustment margin—and how it shapes subsequent outcomes—is particularly relevant given the prevalence of policies that constrain refugee mobility at destination or create incentives to remain in the assigned location. Canada is an interesting setting in this regard: resettled refugees receive permanent residency at landing and are free to move immediately; moreover, the data record both the initially assigned location and the annual residential location at fine geographic detail (down to the municipality level).

I measure secondary migration as reporting, in the tax records, a residential address in a different Census Metropolitan Area (CMA)—or, alternatively, a different province—than the one assigned at arrival. Consistent with prior evidence, GARs have the highest secondary-migration rates in Canada (Kaida et al., 2020). Relocation is most common soon after resettlement (Figure 10): by the end of the initial resettlement year, 25.9% of GARs in the final sample had left their assigned CMA (15.6% had left the assigned province). By year 5, these shares rise to 37.6% (23.9%).[30] In line with the broader literature, secondary movements are responsive to local conditions: refugees are more likely to move across CMAs when initially placed in higher-IUR regions (Figure 11). Specifically, being resettled to a region with a one–percentage-point higher IUR increases the probability of relocating in the first year by about 0.6 percentage points (approximately 6% relative to the year-1 mean). Conditional on moving, refugees select destinations with lower unemployment rates, on average (Appendix Table B1).[31]

To further document this margin, I split the sample by whether refugees had left their originally assigned CMA by year 5 and estimate the effects of the initial IUR on labor-market outcomes within each group (Figure 12). Moving is, of course, endogenous, and differences across movers and stayers may partly reflect unobservable characteristics.[32] With that caveat, the results suggest that secondary migration is associated with better labor market trajectories, faster convergence after the initial adverse effects, an absence of persistent losses among movers.

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[30]For comparison, one-year relocation rates among natives in the 2016 Census were 2.8% across CMAs and 0.8% across provinces.

[31]Appendix Tables B2 and B3 list the most common CMAs of origin and destination among movers. CMAs most often left are in the Atlantic provinces and Saskatchewan; large urban centres in Ontario, Alberta, and British Columbia are the most common destinations.

[32]Appendix Table B4 shows that movers are significantly younger and more likely to have come directly from their country of birth; they also appear to have lower educational attainment at arrival, although those estimates are less precise.

Finally, I explore whether parental adjustments are associated with children's adult outcomes. As discussed in Section 4.2.2, on average, the initial IUR has no detectable effect on children's labor market outcomes in adulthood. Stratifying by parental behavior, however, reveals suggestive patterns (Appendix Table B5). Among families that relocated to a different CMA within ten years of arrival, a one–percentage-point higher IUR is associated with a 0.053 increase in log earnings (5.4%) in adulthood, whereas the estimate for non-movers is close to zero and imprecise. Similarly, among children whose parents claimed a tuition tax credit after arrival, the probability of reporting any employment income between ages 25–35 rises by about 1.1 percentage points (1.2% of the 0.910 mean); the corresponding estimate for others is near zero. Because moving and parental education are themselves outcomes shaped by the IUR, these comparisons are correlational. I view them as consistent with a mitigation channel in which worse initial conditions trigger secondary migration to higher-opportunity areas and/or greater parental skill investment, which benefits children—even as the average effect is zero. These findings parallel evidence from Nakamura et al. (2022), who show that displacement shocks, though detrimental for parents, can improve children's long-run outcomes by changing their location and opportunity set. While my context involves negative local labor market conditions rather than displacement, the underlying mechanism—parental responses that open up better opportunities for children—appears similar.

5.4 Effect on public finances

Understanding how initial economic conditions affect subsequent refugee outcomes is crucial for assessing both integration trajectories and fiscal impacts. From a public finance perspective, these conditions shape refugees' net contribution to government revenues over time. To quantify this, I define individual i's net contribution in year t as:

$$\text{NC}_{it} = \text{Taxes}_{it}^{\text{federal+provincial}} - \text{Transfers}_{it},$$

where transfer payments include cash and refundable credits (e.g., Employment Insurance, child and family benefits, GST/HST credits, and other refundable tax credits), but exclude in-kind services that are not observed in tax data.[33]

Negative average net contributions in the early years are expected: Government-Assisted Refugees are among the most vulnerable immigrants and are not selected based on their short-term economic potential. On average, GARs net contributions rise with years spent in Canada but remain negative during the first decade after arrival (Panel a of Figure 13).

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[33]All dollar amounts are expressed in constant 2002 CAD using the national CPI.

To isolate the role of initial conditions, I residualize the initial unemployment rate (IUR) as follows:

$$\widetilde{IUR}_{l,m} \;=\; IUR_{l,m} \;-\; \widehat{\lambda}_l \;-\; \widehat{\lambda}_{c,m},$$

where λ_l are region fixed effects and $\lambda_{c,m}$ are country of birth-by-year if resettlement fixed effects, as in the baseline specification (Eq. 1). I then assign each refugee to quartiles of $\widetilde{IUR}_{l,m}$. This procedure removes persistent regional differences and country-level time trends, leaving within-region, within-cohort transitory variation at arrival that is consistent with the empirical strategy.

Panel b of Figure 13 shows that GARs assigned to regions with lower residual IUR exhibit higher net contributions by year 10 than those assigned to higher residual IUR regions. By year 10, differences are driven entirely by the top quartile of $\widetilde{IUR}_{l,m}$, while outcomes for the second and third quartiles are similar to those in the lowest quartile. Individuals in the top quartile receive about \$1,000 more per person annually than those in the bottom quartile— a substantial 22% difference.

6. Robustness

The validity of the main estimates may be affected by three potential issues: (i) whether refugee assignment to destinations is fully independent of local labor market conditions; (ii) whether the baseline unemployment rate accurately reflects the labor market opportunities faced by GARs; and (iii) whether the regression specification raises concerns about serial correlation across different year-since-resettlement observations within the same cohort, which could affect inference. I address each of these with targeted robustness checks, which I present in sequence.

6.1 Assignment of Refugees to Destinations

The first concern pertains to whether the assignment of GARs to resettlement locations is truly independent of local labor market conditions at the time of arrival. Although the IRCC does not use refugees' preferences as a primary assignment criterion, GARs are allowed to express preferences—mainly for locations where family members already reside—which may be accommodated in exceptional cases. The exclusion of GARs resettled through special programs should alleviate this worry, as such exceptions are particularly important in some of these programs.[34] To further mitigate this concern, I re-estimate the main results excluding refugees initially resettled in Toronto and Vancouver. These

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[34]For example, the *One Year Window of Opportunity* program allows resettled refugees to reunite with immediate family members were unable to accompany them at the time of initial travel to Canada.

two regions hosted the majority of immigrants during this period—accounting for 73% of arrivals—and consistently received the largest secondary migration flows, making them the most likely destinations where preferences could have been taken into account. Excluding these locations removes roughly one third of the GAR sample, yet the results remain virtually unchanged (Appendix Figure A5).

6.2 Definition of the Unemployment Rate

A second concern relates to the construction of the unemployment rate faced by refugees at arrival. My baseline measure uses the overall unemployment rate in the region of arrival (EIER). While these regions are explicitly defined as the relevant geography to measure labor market conditions and administer labor market policies—such as Employment Insurance—they often cover large territories (Figure 1) that may not align with how refugees perceive local opportunities. Additionally, because GARs are negatively selected relative to natives and other immigrants—arriving with low education, limited language skills, and little transferable work experience—their employment opportunities might be concentrated in a narrower range of occupations than those captured by the overall unemployment rate.

I address these issues with two alternative measures of the IUR. First, I construct unemployment rates at the Census Metropolitan Area (CMA) and Census Agglomeration (CA) level,[35] which correspond more closely to commuting zones in the U.S. context and may better capture refugees' perceived labor markets.[36] The resulting estimates are very similar to the benchmark specification (Appendix Figure A6). Second, I use the unemployment rate among low-educated workers at the regional level, to better reflect the subset of the labor market relevant for most GARs. Again, the results closely mirror those obtained with the overall unemployment rate (Appendix Figure A7).

6.3 Regression Specification and Serial Correlation

A final concern relates to my regression specification. To capture the dynamic effect of the IUR in the decade following resettlement, my baseline uses a pooled regression with event-time dummies for each year since arrival. Because the same refugee cohorts are observed repeatedly, residuals may be serially correlated (Bertrand et al., 2004). In the main specification, I address this by clustering standard errors at the region-by-year of

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[35]CMAs and CAs both identify urban areas. A CMA has an urban core of at least 50,000 people, while a CA has a core of at least 10,000; both include adjacent municipalities integrated with the core.

[36]Because CMAs/CAs are often smaller than EIERs, Labour Force Survey data are not always representative at this level. I therefore rely on unemployment rates from the Census (every five years) and interpolate annual values using provincial trends in intercensal years.

resettlement level. As an additional robustness check, I re-estimate the main results using separate regressions for each year since arrival. These estimates are only marginally less precise, and remain highly consistent with the pooled results (Appendix Figure A8).

7. Conclusion

This paper examines how the initial local economic conditions faced by government-assisted refugees upon arrival shape their long-term integration trajectories and their children's outcomes. Using Canadian administrative data linking refugees' characteristics at arrival to their yearly tax records for parents and children, I find that initial conditions matter substantially for the first generation. Refugees resettled in regions with higher unemployment rates experience persistently lower employment and earnings over the following decade, even after local labor market conditions have improved. By contrast, the intergenerational transmission of these shocks appears limited: children of refugees exposed to weaker initial local labor markets show no sizable differences in adult educational attainment, employment, or income outcomes.

From a policy perspective, these findings underscore the importance of early placement conditions for economic integration, particularly for refugees resettled as adults. At the same time, the results suggest that initial disadvantages need not persist if adequate opportunities for adjustment exist. Policies that restrict secondary migration or limit access to education and training—such as constraints on mobility or student registration during the first years after arrival—can hinder key margins of adjustment that help refugees recover from initial adverse conditions.

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8. Figures

Figure 1: Employment insurance economic regions (EIER)
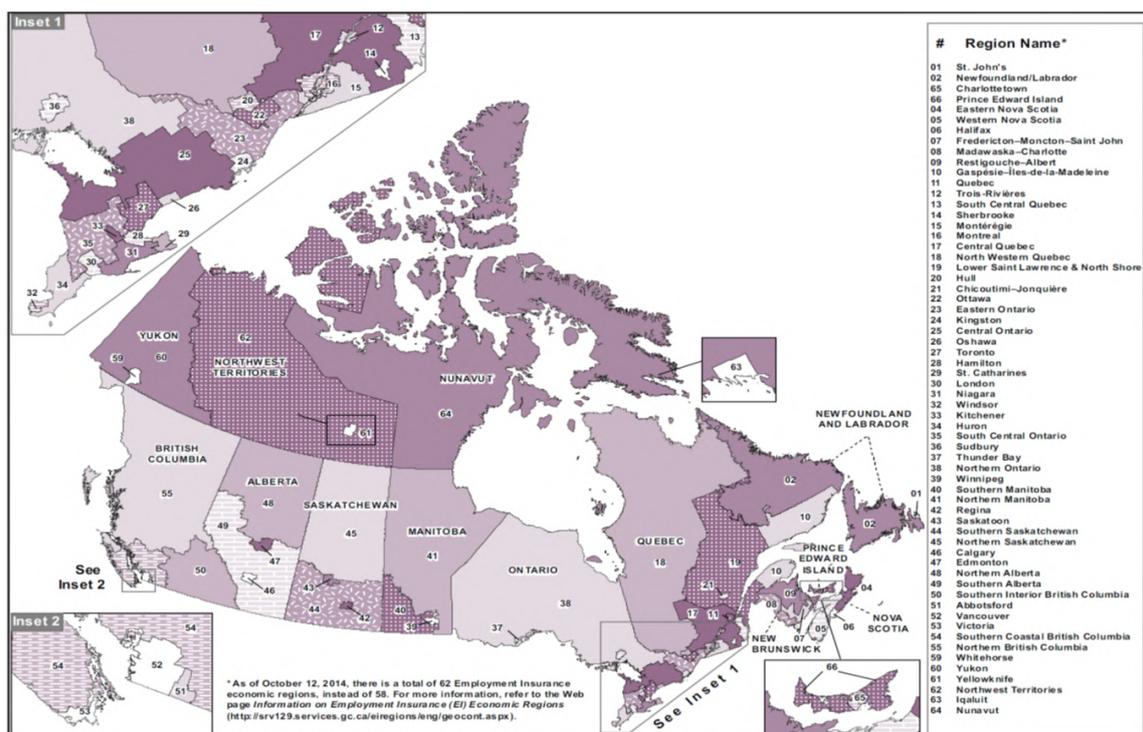
Notes: This map shows the employment insurance economic regions as defined by the Canadian federal government. The map is referenced in Section 3.2.

Figure 2: Destination locations of Government-Assisted Refugees
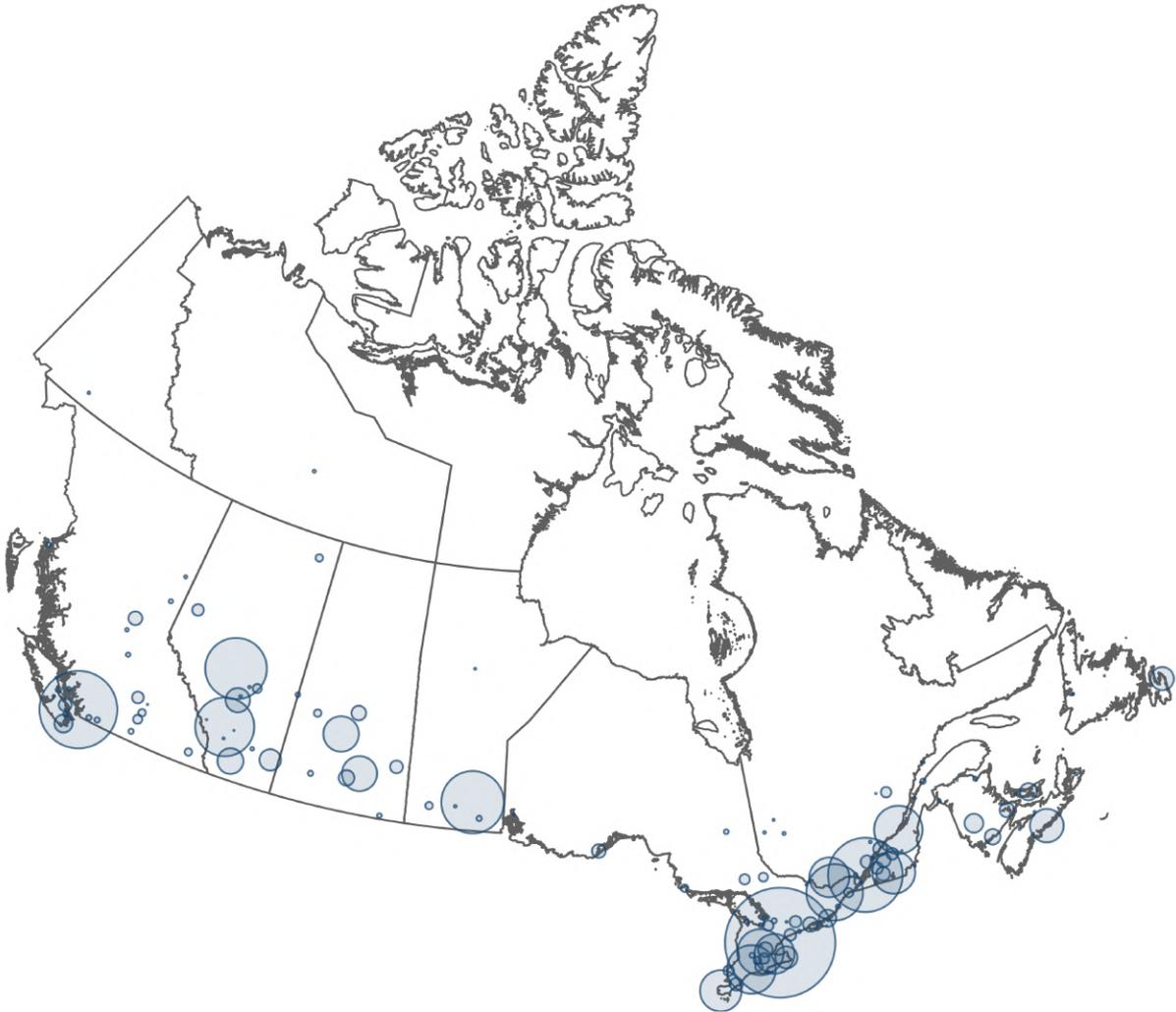
Notes: This map shows the Census Metropolitan Areas (CMAs) and Census Agglomerations (CAs) designated as destinations for Government-Assisted Refugees resettled to Canada between 1982 and 2021. Each circle corresponds to a destination, with size proportional to the number of refugees resettled there under the program. The map looks very similar when restricting the sample to destinations included in the analytical sample. The map is referenced in Section 4.1.

Figure 3: Tax filing and emigration

(a) Tax filer
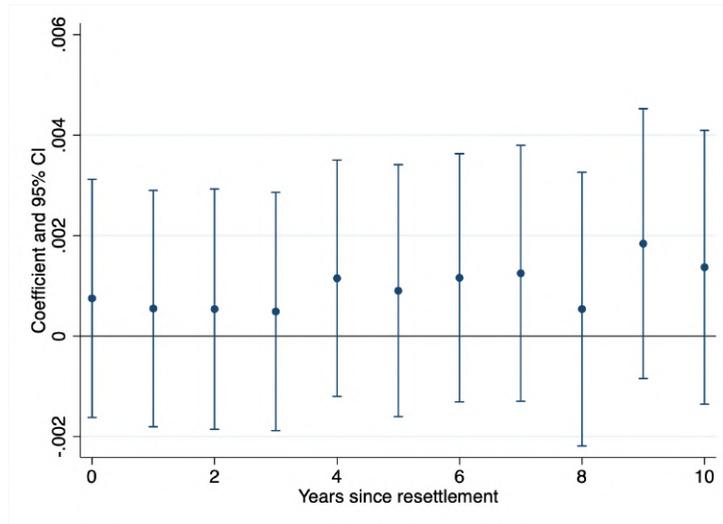
(b) Emigrated
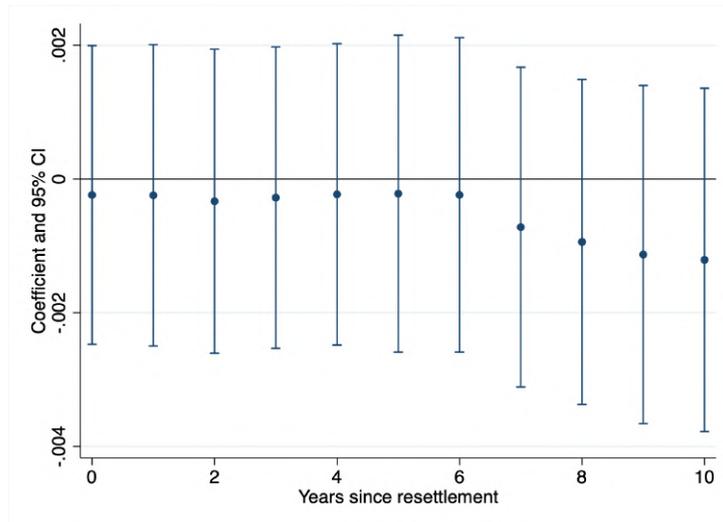
Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on two outcomes over the subsequent ten years: tax filing (Panel a) and emigration (Panel b). Tax filing is an indicator for whether the individual filed an income tax return in a given year, which is required to appear in Statistics Canada tax records. Emigration is defined as not filing taxes for at least three consecutive years (Blit et al., 2024). Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 5.1.

Figure 4: Employment and earnings

(a) Any employment income
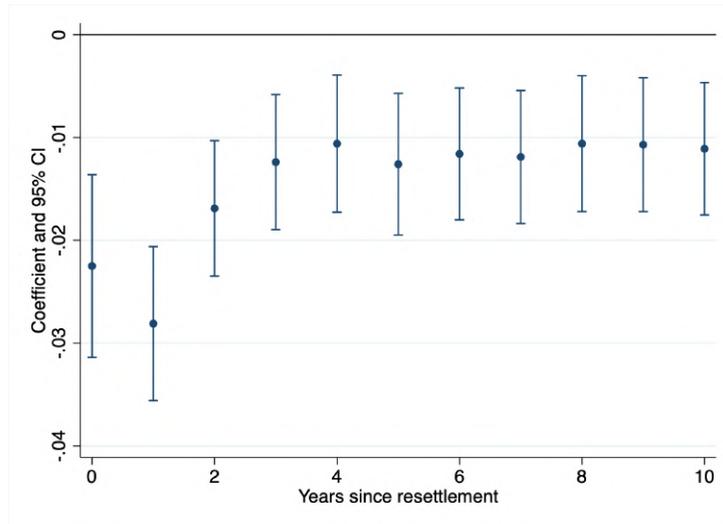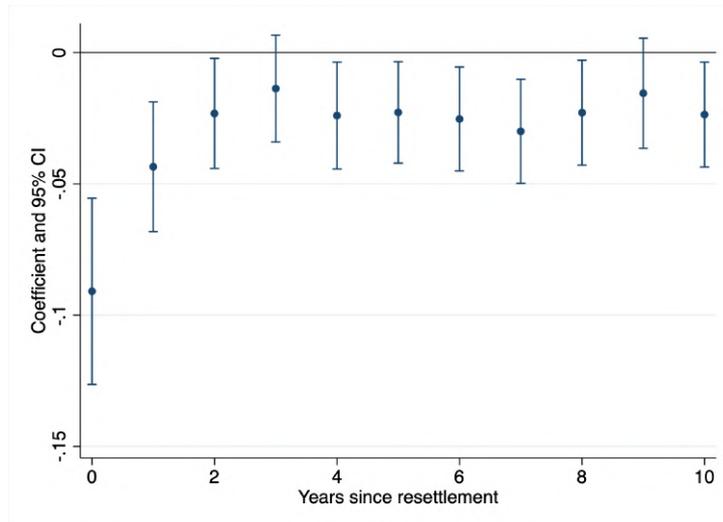
(b) Employment income (log)

Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on two outcomes over the subsequent ten years: an indicator for any employment income (Panel a) and the log of employment income (Panel b). Any employment income equals one if refugees reported positive employment income in their annual tax return. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 5.1.

Figure 5: Number of employment contracts (log)
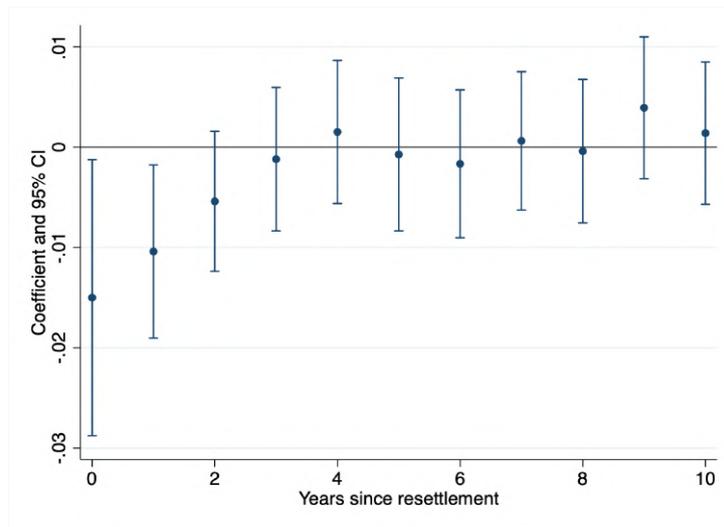
Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on the log of the number of employment contracts held in each year. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 5.1.

Figure 6: Employment income: Distributional regressions

(a) Year 1 after arrival
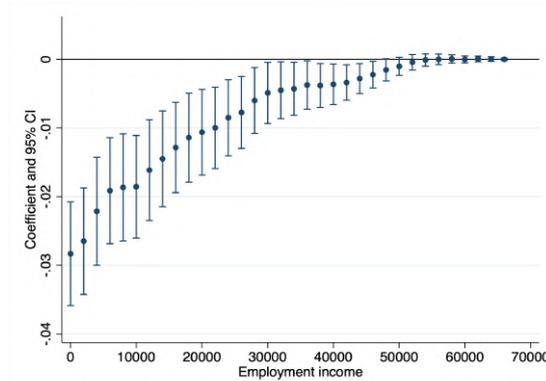
(b) Year 5 after arrival
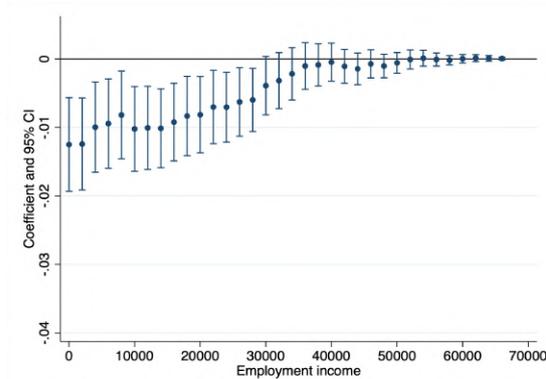
(c) Year 10 after arrival
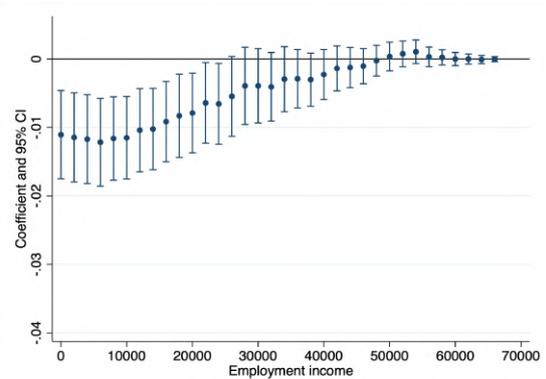
Notes: This figure reports distributional-regression estimates (Chernozhukov et al., 2013) of the effect of the local IUR at arrival on the distribution of employment income at years 1, 5, and 10 after resettlement (Panels a–c). For each panel, I estimate a sequence of regressions where the dependent variable is an indicator for whether employment income is higher than subsequent thresholds (at $2,000 increments). All specifications mirror Eq.1, including region fixed effects, country of birth-by-year of resettlement fixed effects, and controls for individual and region characteristics measured at arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 5.1.

Figure 7: Other labor market outcomes
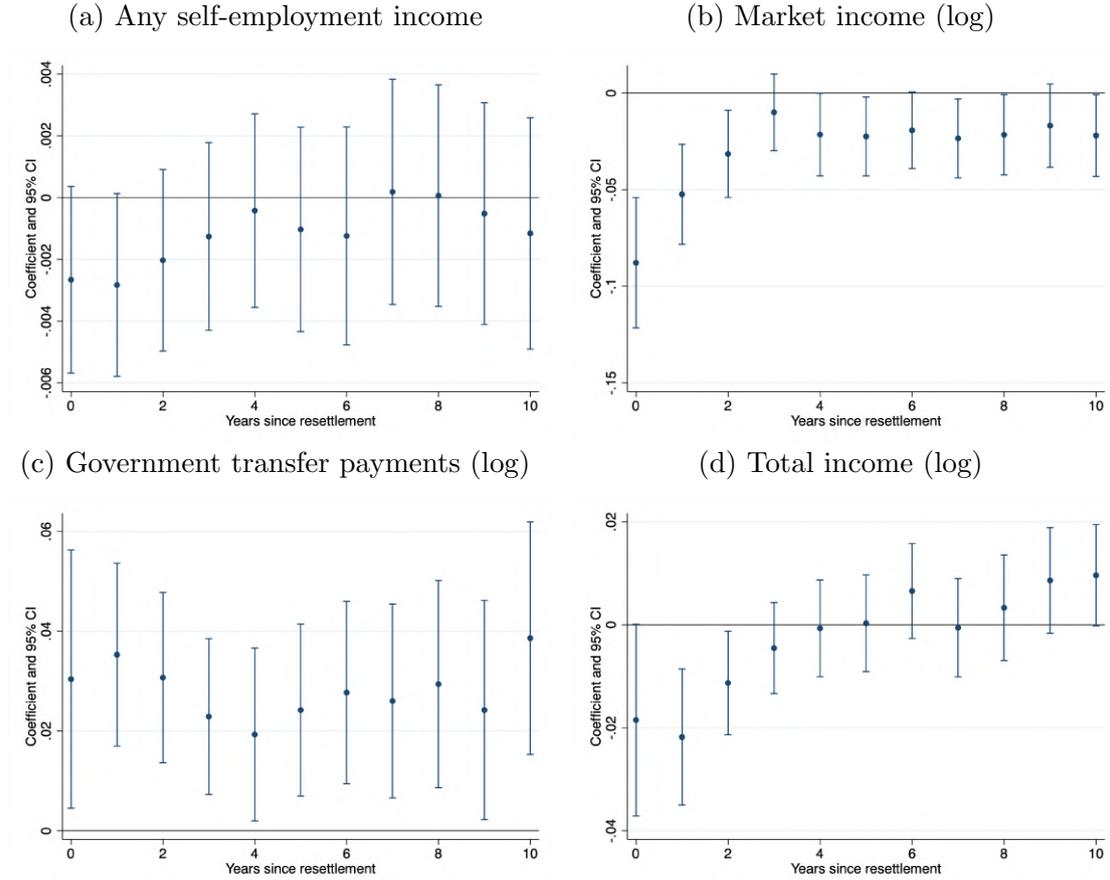
(a) Any self-employment income

(b) Market income (log)

(c) Government transfer payments (log)

(d) Total income (log)

Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on four outcomes over the subsequent ten years: an indicator for reporting any self-employment income (Panel 7a), the log of market income (Panel 7b), the log of government transfer payments (Panel 7c), and the log of total income (Panel 7d). Any self-employment income equals one if refugees reported positive net self-employment income in their annual tax return. Market income refers to total income from market activities before government transfers and taxes, including earnings from employment, net self-employment and investment income, and private retirement income. Government transfers include all payments received from the federal and relevant provincial governments, such as pensions, employment insurance, family and child benefits, and refundable tax credits. Total income refers to total income before taxes, including income from market activities as well as government transfers. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 5.1.

Figure 8: Employment and income: Other immigrants

(a) Any employment income
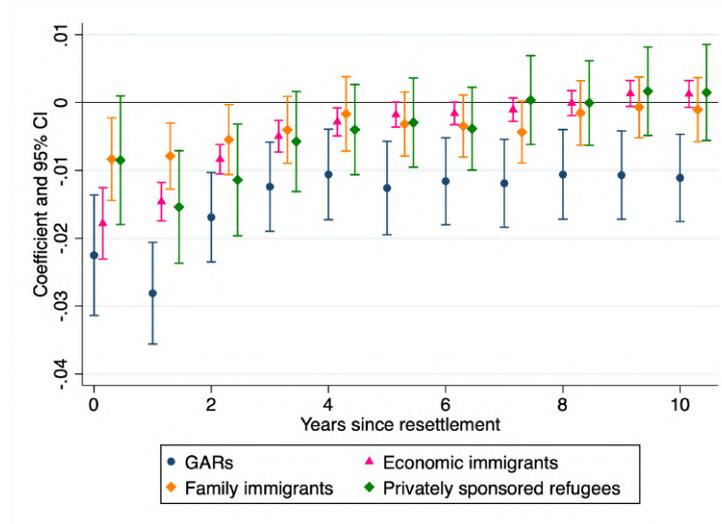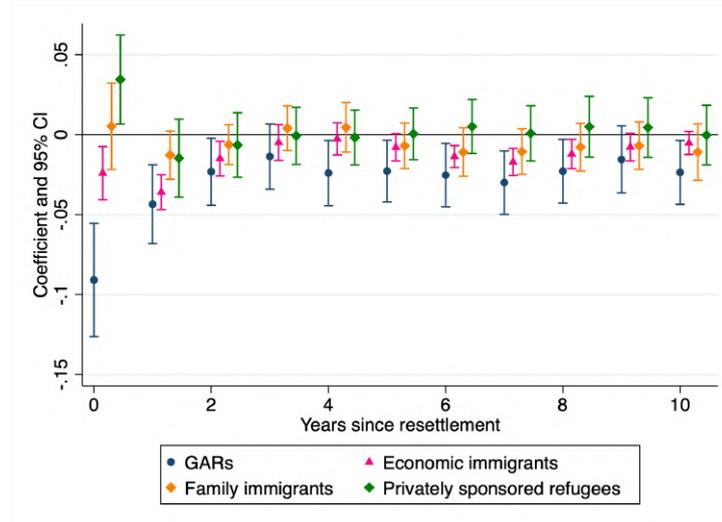
(b) Employment income (log)

Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by immigrants at arrival on two outcomes over the subsequent ten years: any employment income (Panel a) and the log of market income (Panel b). Any employment income equals one if refugees reported positive employment income in their annual tax return. Market income includes earnings from employment, net self-employment and investment income, and private retirement income, all before government transfers and taxes. Estimates are reported for the main sample of Government-Assisted Refugees (GARs) and, for comparison, for economic immigrants, family immigrants, and privately sponsored refugees selected using the same age and landing-year restrictions. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 5.1.

Figure 9: Education-related deductions
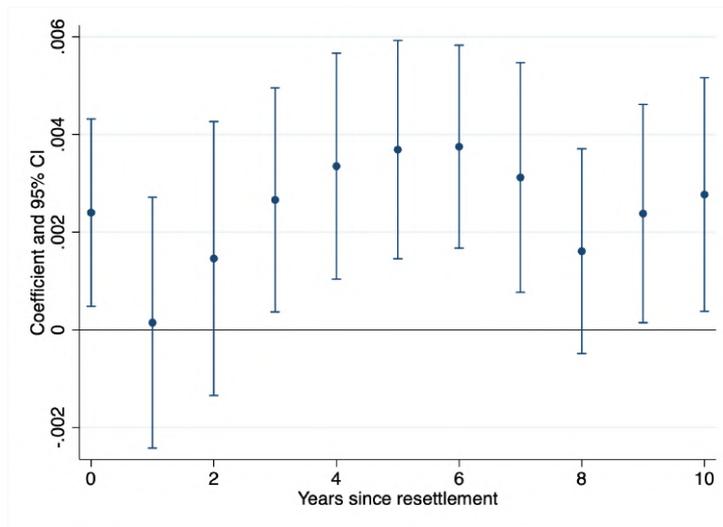
Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on an indicator for whether they claimed any education-related deductions in their income tax return over the subsequent ten years. Education deductions include tuition fees and related federal credits (education and textbook amounts, where applicable), for post-secondary and certified vocational/occupational training programs. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 5.3.

Figure 10: Stayers at assigned destination
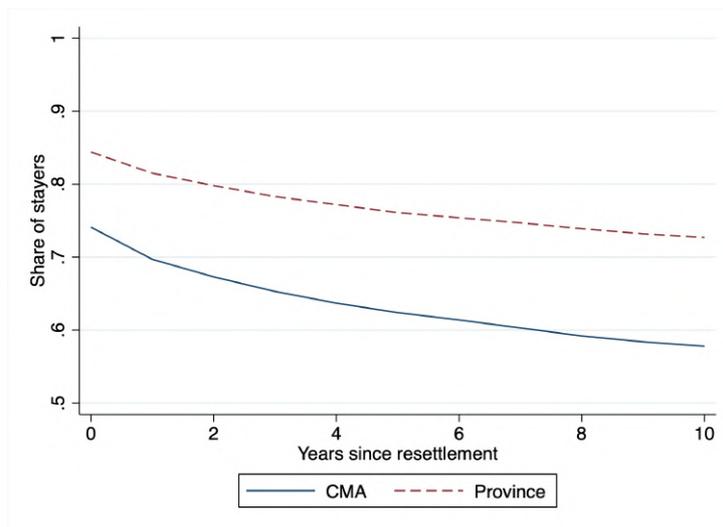
Notes: This figure plots the share of refugee parents in the main sample who stayed in the assigned destination, by years since resettlement. The share of stayers is plotted with regards to destination Province and destination Census Metropolitan Area. The figure is referenced in Section 5.3.

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Figure 11: Relocation within Canada
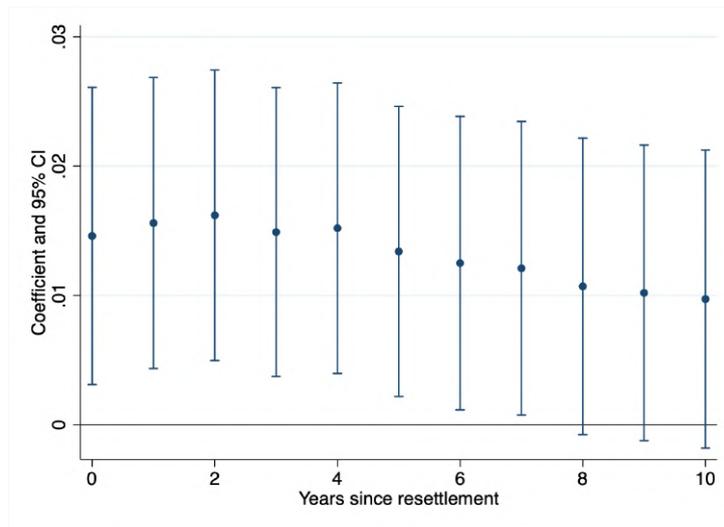
Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on an indicator for moving across Census Metropolitan Areas (CMAs) over the subsequent ten years, based on changes in the residential address reported in annual tax files relative to the previous year. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 5.3.

Figure 12: Employment and income, by relocation choice

(a) Any employment income
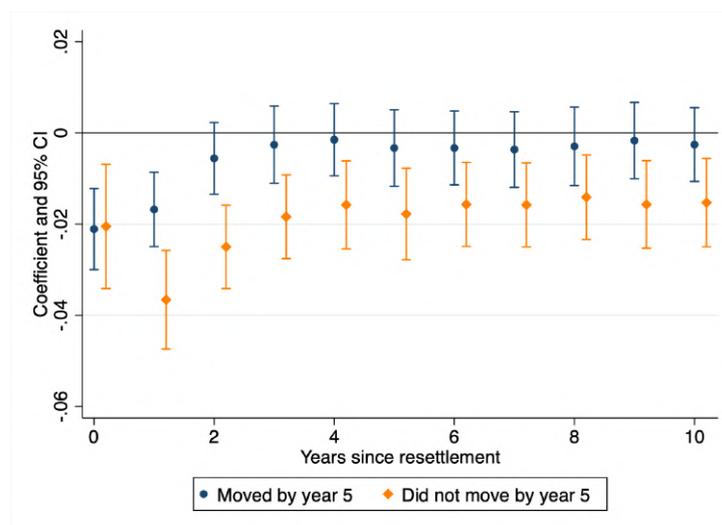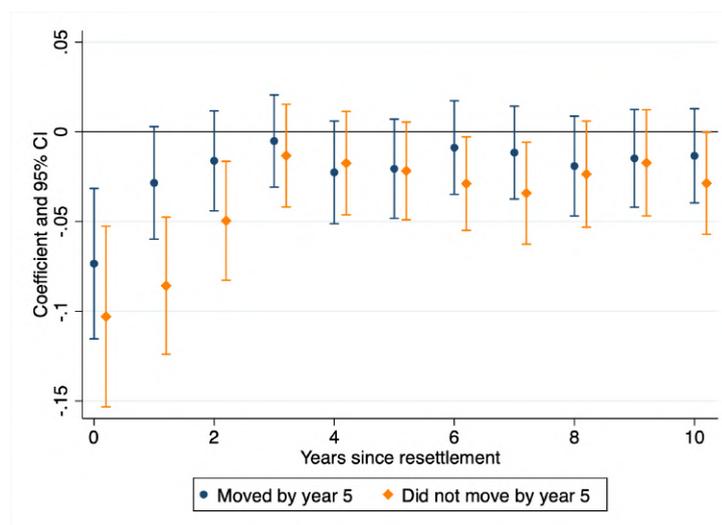
(b) Employment income (log)

Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on two outcomes over the subsequent ten years, by relocation status at year five: any employment income (Panel a) and the log of market income (Panel b). Any employment income equals one if refugees reported positive employment income in their annual tax return. Market income includes earnings from employment, net self-employment and investment income, and private retirement income, all before government transfers and taxes. Estimates are shown separately for refugees who moved from their initially assigned location within five years of arrival and for those who did not. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 5.3.

Figure 13: Net fiscal contribution

(a) Overall average
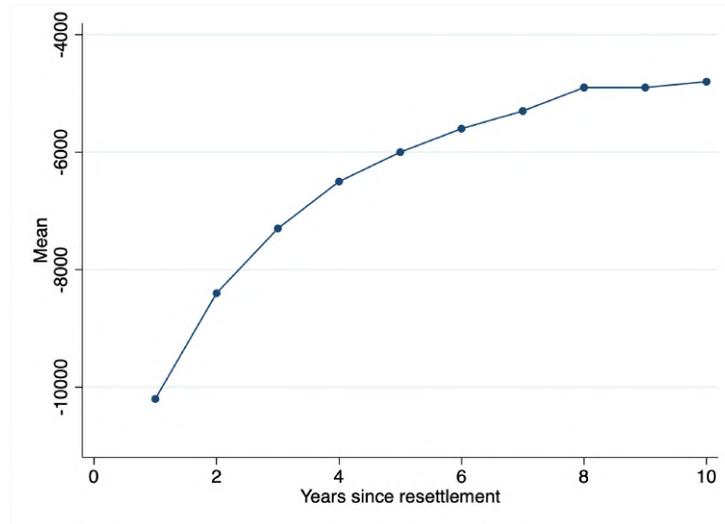
(b) Average net contribution, by quartile
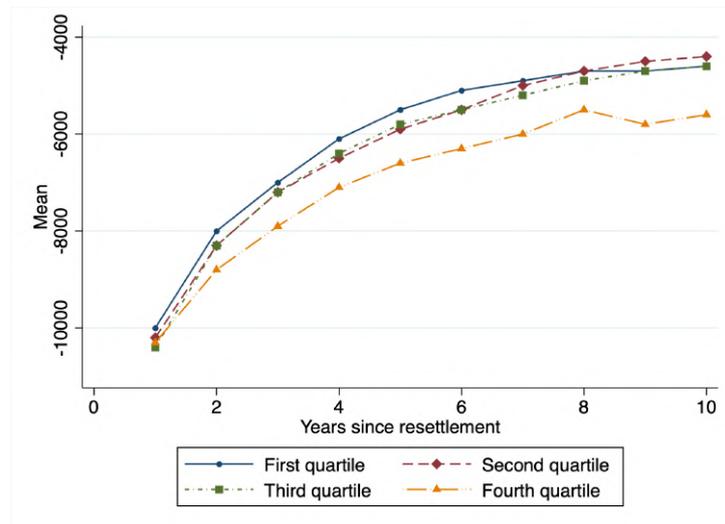
Notes: This figure plots the average net fiscal contribution of refugee parents, by year since re-settlement. The net fiscal contribution is calculated as the sum of federal and provincial taxes, minus total government transfer payments received and is expressed in constant 2002 CAD. Panel a reports the overall average net fiscal contribution by year since resettlement. In Panel b, the average net fiscal contribution is plotted by quartiles, where quartiles are based on residuals from a regression of the IUR faced by refugees as resettlement on destination region and country of birth-by-year of resettlement fixed effects. The figure is referenced in Section 5.4.

9. Tables

Table 1: Descriptive statistics: Parents and children

Panel A. Parents (N = 15,000*)		Panel B. Children (N = 21,000*)	
Female	55.0%	Female	47.7%
Age at arrival (mean)	34.4	Age at arrival (mean)	8.2
Single parent	24.4%	Knowledge of English	12.0%
Knowledge of English	24.5%	Years of education (mean)	2.1
Years of education (mean)	10.6	*Age at arrival groups*	
Last country ≠ country of birth	32.2%	Age 0–5	34.0%
Education level		Age 6–12	42.8%
No education	9.4%	Age 13–17	23.2%
Some education, up to secondary	51.8%		
More than secondary, no bachelor	24.2%		
Bachelor and above	14.6%		
Occupational skill			
Low occupational skill level†	74.1%		

Notes: The table reports summary statistics for the final sample of parents (Panel a) and the final sample of children (Panel b). The Table is referenced in Section 3.3.

* Sample sizes are rounded to the nearest 1,000 in compliance with Statistics Canada vetting restrictions.

† Information on skill level should be interpreted with caution as refugees are not required to provide it when applying for permanent residency. The figure reported is for the subsample of refugees who declared this information.

Table 2: Origins and settlement locations

Main countries of birth		Destination province	
Bosnia and Herzegovina	15.8%	Newfoundland and Labrador	1.8%
Yugoslavia	14.8%	Prince Edward Island	1.1%
Afghanistan	14.2%	Nova Scotia	0.03%
Iraq	11.8%	New Brunswick	3.3%
Sudan	10.2%	Ontario	48.5%
Iran	8.3%	Manitoba	7.9%
Somalia	4.1%	Saskatchewan	7.7%
Dem. Rep. of the Congo	3.3%	Alberta	14.7%
Ethiopia	2.8%	British Columbia	15.0%
Myanmar	2.3%		
Liberia	1.5%		
Croatia	1.4%		
Burundi	0.9%		
Eritrea	0.9%		
Sierra Leone	0.7%		

World area of birth		Landing year	
Africa and the Middle East	47.0%	1995—1999	41.3%
Europe	33.0%	2000—2004	28.8%
Oceania and other Asia	18.0%	2005—2011	29.9%
Southern Asia	0.9%		
South and Central America	0.9%		
Others (Eastern Asia, US, misc.)	0.2%		

Notes: The table reports the main countries and world areas of birth for the final sample. It also reports the share of refugees by destination province assigned by the IRCC and by period of landing. The Table is referenced in Section 3.3.

Table 3: Selection of locations for GAR resettlement

	(1) Destination CMA	(2) Destination CMA	(3) Destination CMA	(4) Destination CMA
Local unemployment rate	-0.059*** (0.003)			
Total population		4.61e-08*** (3.84e-09)		
Immigrant share			0.857*** (0.055)	
# previously resettled GAR				9.96e-07*** (4.81e-08)
Year FE	Yes	Yes	Yes	Yes

Notes: This table shows how the locations which GARs are resettled to are not a random subset of Canadian CMAs/CAs. I run a regression at the CMA/CA-year level, where the dependent variable is an indicator for whether that location was indicated as the destination CMA for a Government-Assisted Refugee by the IRCC. In each column, I present a estimates for different regressions where the independent variables are the local unemployment rate, total population, immigrant share, and the number of GAR previously resettled to the same location, respectively. Each regression also includes year fixed effects. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Associations between unemployment measures and parents' characteristics

	(1) Age	(2) Female	(3) Single parent	(4) Diff. country of residence	(5) English knowledge	(6) Years of education	(7) No education	(8) Secondary or less	(9) More than sec. (no bachelor)	(10) Bachelor or higher	(11) Low skilled†
					Panel A						
IUR	0.033	0.001	-0.007	-0.003	0.004	-0.039	0.001	0.002	-0.004	0.002	0.002
	(0.057)	(0.002)	(0.005)	(0.004)	(0.003)	(0.035)	(0.002)	(0.004)	(0.003)	(0.003)	(0.002)
					Panel B						
IUR among low-educated	0.049	0.001	-0.004	-0.004	0.001	-0.033	0.001	-0.0003	-0.00161	0.001	0.001
	(0.034)	(0.001)	(0.003)	(0.003)	(0.002)	(0.023)	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)
					Panel C						
ΔIUR_{1year}	0.412	-0.027	0.011	0.007	0.032	0.411	-0.049*	0.036	0.025	-0.012	0.001
	(0.674)	(0.023)	(0.057)	(0.038)	(0.040)	(0.406)	(0.026)	(0.047)	(0.038)	(0.034)	(0.019)
					Panel D						
ΔIUR_{2years}	0.432	-0.033*	-0.006	0.059**	0.016	0.060	-0.022	0.055	0.006	-0.039	0.003
	(0.567)	(0.017)	(0.045)	(0.028)	(0.029)	(0.331)	(0.021)	(0.039)	(0.027)	(0.024)	(0.013)
					Panel E						
ΔIUR_{3years}	0.255	-0.020	-0.029	-0.001	-0.006	-0.168	-0.005	0.030	0.018	-0.043**	0.019*
	(0.518)	(0.018)	(0.041)	(0.030)	(0.029)	(0.328)	(0.020)	(0.032)	(0.023)	(0.022)	(0.011)
					Panel F						
ΔIUR_{4years}	0.568	-0.030	-0.056	-0.021	0.011	-0.175	0.022	-0.018	0.006	-0.010	0.008
	(0.500)	(0.019)	(0.044)	(0.031)	(0.029)	(0.323)	(0.021)	(0.032)	(0.026)	(0.023)	(0.010)
					Panel G						
ΔIUR_{5years}	0.757	-0.028	-0.038	-0.033	0.009	-0.202	0.023	-0.006	0.002	-0.018	-0.006
	(0.562)	(0.022)	(0.048)	(0.038)	(0.034)	(0.364)	(0.022)	(0.037)	(0.026)	(0.028)	(0.010)
N.Obs.	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Mean dep. var.	34.4	0.550	0.244	0.322	0.245	10.6	0.094	0.518	0.242	0.146	0.741
Destination region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country of birth × Year of resettlement FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Each row reports coefficients from a separate regression (Panels A–G) on the final sample of parents. The dependent variables are parental characteristics at arrival (columns). Each panel reports the regression of the corresponding parental characteristic on a different independent variable: the initial unemployment rate in the destination region (IUR), the initial unemployment rate among low-educated workers, and 1- to 5-year changes in the IUR. All regressions include destination region fixed effects, as well as country of birth-by-year of resettlement fixed effects. Robust standard errors clustered at the region-by-year of resettlement are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Sample sizes and dependent variable means are rounded in compliance with Statistics Canada vetting restrictions. The Table is referenced in Section 4.1.
† Information on skill level should be interpreted with caution as refugees are not required to provide it when applying for permanent residency. The figure reported is for the subsample of refugees who declared this information.

Table 5: Associations between unemployment measures and children's characteristics

	(1) Female	(2) Age	(3) English knowledge	(4) Years of education	(5) Any education	(6) English knowledge	(7) Years of education
			Panel A				
IUR	-0.003	0.005	0.001	-0.004	-0.003	0.001	-0.006
	(0.003)	(0.033)	(0.003)	(0.022)	(0.004)	(0.003)	(0.015)
			Panel B				
IUR among low-educated	-0.002	0.009	-0.001	-0.006	-0.002	-0.001	-0.011
	(0.002)	(0.020)	(0.002)	(0.013)	(0.002)	(0.002)	(0.009)
			Panel C				
ΔIUR_{1year}	-0.071*	0.450	0.039	0.206	0.048	-0.006	0.057
	(0.043)	(0.371)	(0.037)	(0.246)	(0.043)	(0.192)	(0.039)
			Panel D				
ΔIUR_{2years}	-0.032	-0.046	-0.011	0.103	0.018	-0.010	0.124
	(0.034)	(0.279)	(0.028)	(0.178)	(0.033)	(0.027)	(0.144)
			Panel E				
ΔIUR_{3years}	-0.019	-0.193	-0.010	-0.061	-0.001	-0.007	0.025
	(0.030)	(0.237)	(0.027)	(0.150)	(0.030)	(0.026)	(0.120)
			Panel F				
ΔIUR_{4years}	-0.019	-0.323	-0.019	-0.243	-0.046	-0.015	-0.105
	(0.028)	(0.247)	(0.026)	(0.150)	(0.031)	(0.026)	(0.120)
			Panel G				
ΔIUR_{5years}	-0.012	-0.161	0.011	-0.191	-0.064	0.014	-0.121
	(0.028)	(0.290)	(0.033)	(0.202)	(0.040)	(0.033)	(0.160)
N.Obs.	21,000	21,000	21,000	21,000	21,000	21,000	21,000
Mean dep. var.	0.477	8.2	0.120	2.1	0.665	8.2	0.120
Destination region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country of birth × Year of resettlement FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age at resettlement	No	No	No	No	No	Yes	Yes

Notes: Each row reports coefficients from a separate regression (Panels A–G) on the final sample of children. The dependent variables are children's characteristics at arrival (columns). Each panel reports the regression of the corresponding child characteristic on a different independent variable: the initial unemployment rate in the destination region (IUR), the initial unemployment rate among low-educated workers, and 1- to 5-year changes in the IUR. All regressions include destination region fixed effects, as well as country of birth-by-year of resettlement fixed effects. Columns 6 and 7 also control for age at resettlement. Robust standard errors clustered at the region-by-year of resettlement are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Sample sizes and dependent variable means are rounded in compliance with Statistics Canada vetting restrictions. The Table is referenced in Section 4.1.

Table 6: Parental outcomes from 2016 Census

	(1) Works as professional/ manager	(2) Work language is not English nor French	(3) Occupational immigrant percentile
IUR	-0.005	0.006	0.568
	(0.008)	(0.006)	(0.520)
N.Obs.	2,000	2,000	2,000
Mean dep. var.	0.146	0.064	69.0
Country of birth FE× Year of resettlement FE	Yes	Yes	Yes
Destination region FE	Yes	Yes	Yes
Destination controls	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes

Notes: The table reports the estimated coefficients β from Eq.2. The dependent variables are parents' characteristics (columns). The main independent variable is the IUR in the destination region of refugees. Robust standard errors clustered at the region-by-year of resettlement level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Sample sizes and dependent variable means are rounded in compliance with Statistics Canada vetting restrictions. The Table is referenced in Section 4.2.1.

Table 7: Children's outcomes

	(1) Bachelor and above	(2) Any empl. income	(3) Total income (log)	(4) Empl. income (log)	(5) Home language not English or French	(6) Citizen	(7) Intermarriage (same country)	(8) Intermarriage (other immigrant)
IUR	0.005	0.004	-0.001	0.021	0.005	-0.008	0.007	0.010
	(0.017)	(0.004)	(0.010)	(0.014)	(0.021)	(0.009)	(0.012)	(0.0132)
N.Obs.	1,000	9,000	9,000	8,000	1,000	1,000	2,000	2,000
Mean dep. var.	0.310	0.886	—	—	0.534	0.956	0.380	0.678
Country of birth×								
Year of resettlement FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Destination region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year at 25 FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Destination controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table reports the estimated coefficients β from Eq.3. The dependent variables are children's outcomes in adulthood (columns). Column 1 reports estimates for the probability of holding a Bachelor or more by age 25. Columns 2-4 report labor market outcomes at ages 25-35: an indicator for reporting any employment income, the log of total income and the log of employment income. Columns 5-8 report outcomes related to social integration, including an indicator for whether the main language spoken at home is different from English or French, an indicator for citizenship acquisition by age 25, and intermarriage (conditional on marriage) by age 30. Educational attainment, language spoken at home and citizenship are recorded in the 2016 Census; labor market outcomes and intermarriage are constructed from yearly tax records. The main independent variable is the *IUR* in the destination region of refugees. Robust standard errors clustered at the region-by-year of resettlement level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Sample sizes and dependent variable means are rounded in compliance with Statistics Canada vetting restrictions. The Table is referenced in Section 5.2.

Appendix A: Additional Figures

Figure A1: Destination locations of other immigrants

Notes: This map shows the Census Metropolitan Areas (CMAs) and Census Agglomerations (CAs) indicated as intended destinations by immigrants—excluding Government-Assisted Refugees—who moved to Canada between 1982 and 2021, as reported in their Permanent Residency applications. Each circle corresponds to a destination, with size proportional to the number of immigrants selecting that location. The map is referenced in Section 4.1.

Figure A2: Employment and income, using preceding years

(a) Any employment income
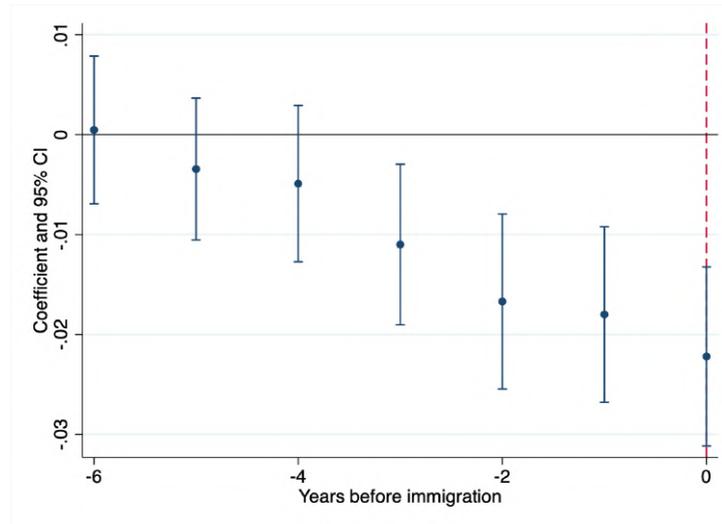
(b) Employment income (log)
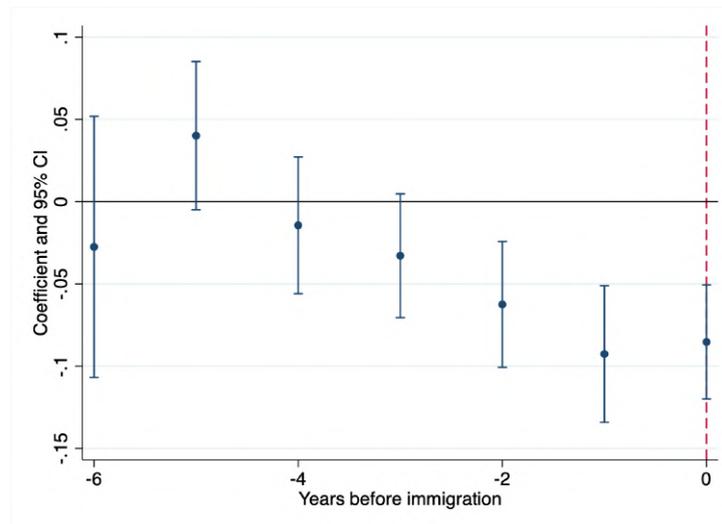
Notes: This figure reports coefficients from separate regressions in which the dependent variable is the refugee outcome at arrival—(i) an indicator for any employment income (Panel a) and (ii) the log of employment income (Panel b). The main independent variable is the unemployment rate in the assigned destination region measured at arrival ($k = 0$) and in the k years preceding arrival ($k = -1, \ldots, -6$), estimated one k at a time. All specifications mirror Eq. 1: they include destination-region fixed effects and country of birth-by-year of resettlement fixed effects, and control for individual and region characteristics. Robust standard errors are clustered at the region-by-year level. The figure is referenced in Section 4.1.

Figure A3: Persistence of the initial unemployment rate
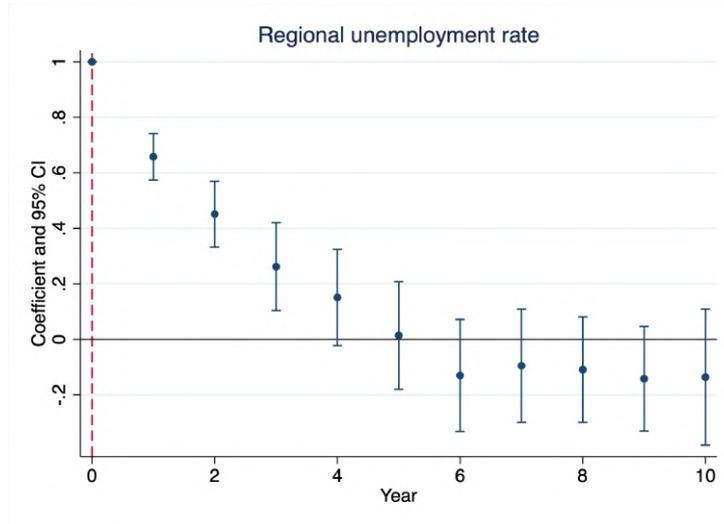
Notes: This figure documents the persistence of local unemployment rates. It plots coefficients and 95% confidence intervals from a sequence of regressions in which the dependent variable is the regional unemployment rate in year t and the independent variable is the same region's unemployment rate in year $t + k$, for $k \in [0, +10]$ (estimated one k at a time). All specifications include region and year fixed effects, and robust standard errors are clustered at the region level. The point at $k = 0$ shows the contemporaneous association. The figure is referenced in Section 4.1.

Figure A4: Employment and income, heterogeneity
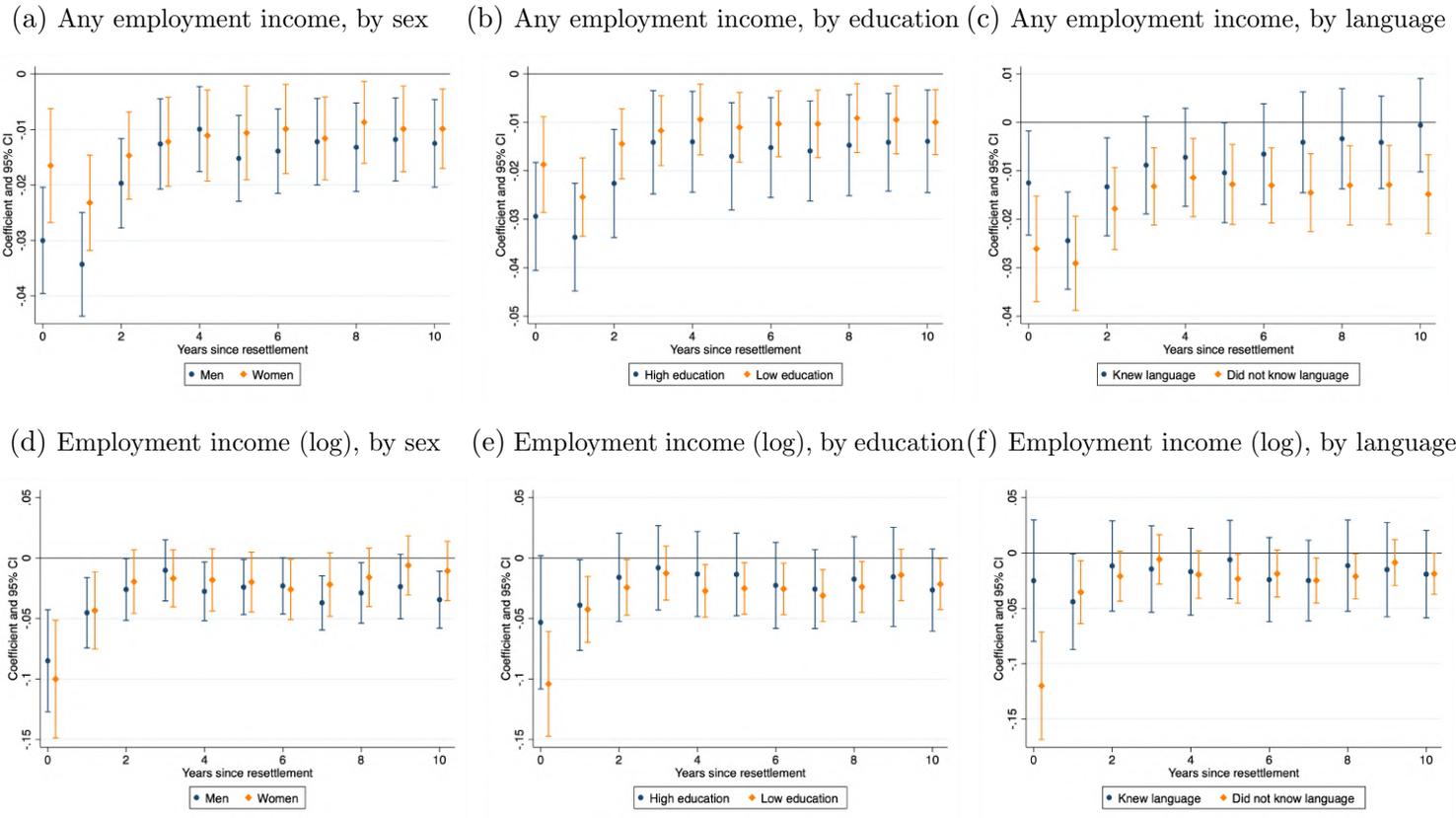
(a) Any employment income, by sex (b) Any employment income, by education (c) Any employment income, by language

(d) Employment income (log), by sex (e) Employment income (log), by education (f) Employment income (log), by language

Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on two outcomes over the subsequent ten years: an indicator for any employment income (Panels a-c) and the log of employment income (Panels d-f). Effects are reported for different subsets of the main sample: by sex (Panels a and d), by education at arrival (Panels b and e), and by language knowledge at arrival (Panels c and f). Any employment income equals one if refugees reported positive employment income in their annual tax return. High education includes secondary education and above. Language knowledge refers to any knowledge of English or French at the time of resettlement. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 5.1.

Figure A5: Employment and income, excluding largest destination locations

(a) Any employment income
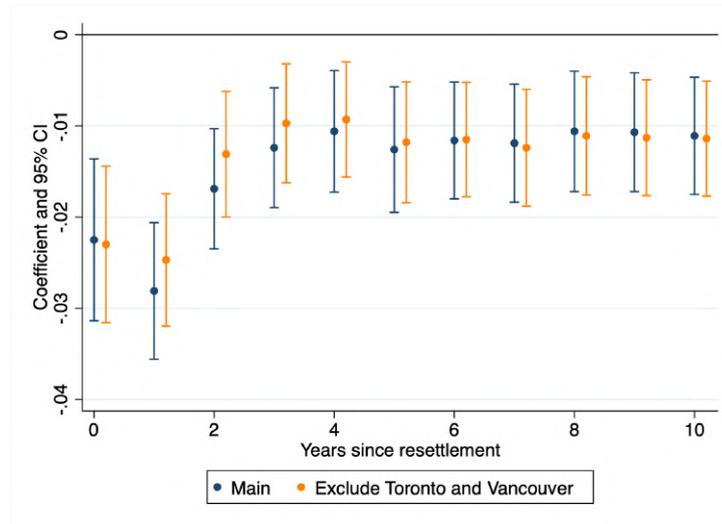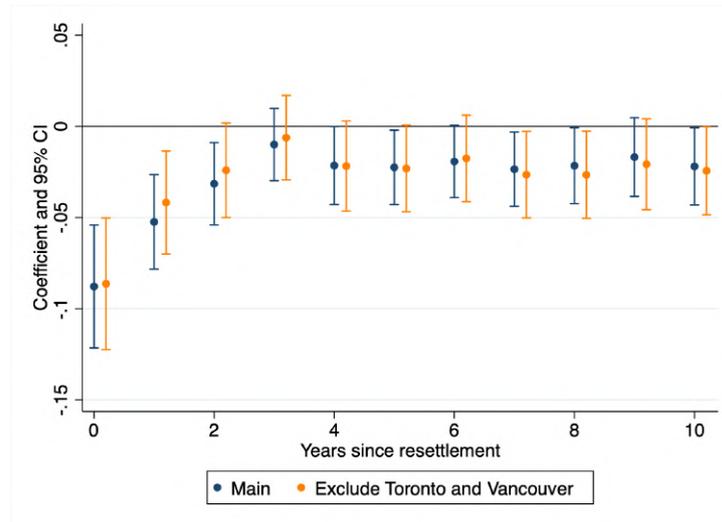
(b) Employment income (log)

Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on two outcomes: any employment income (Panel a) and the log of market income (Panel b). For each outcome, the figure reports the main estimates (as in Figure 4) and, for comparison, estimates excluding refugees resettled to the largest regions in the sample—Toronto and Vancouver. Any employment income equals one if refugees reported positive employment income in their annual tax return. Market income includes earnings from employment, net self-employment and investment income, and private retirement income, all before government transfers and taxes. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 6.

Figure A6: Employment and income, IUR at the CMA level

(a) Any employment income
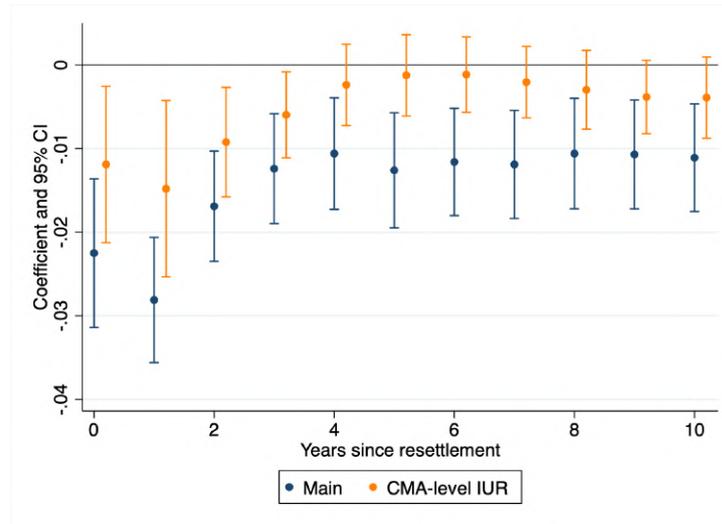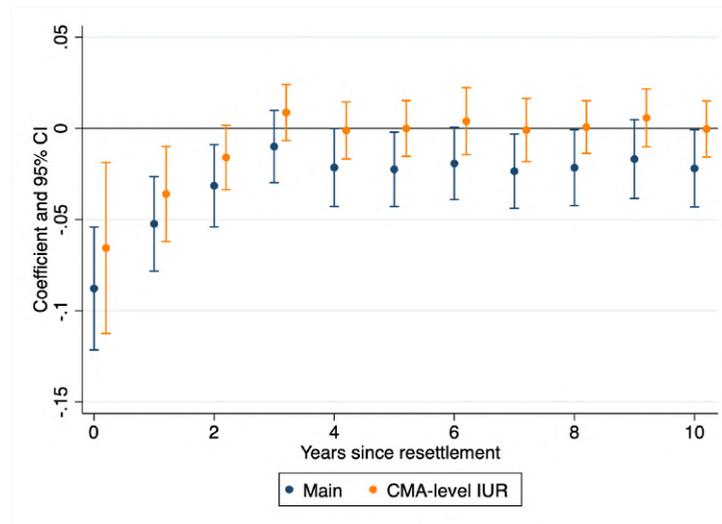
(b) Employment income (log)

Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on two outcomes: any employment income (Panel a) and the log of market income (Panel b). For each outcome, the figure reports the main estimates (as in Figure 4) and, for comparison, estimates where the IUR is measured at the Census Metropolitan Area (CMA) level rather than at the Employment Insurance Economic Region (EIER) level. CMA-level unemployment rates are drawn from the Census (every five years) and interpolated using provincial trends in non-Census years. Any employment income equals one if refugees reported positive employment income in their annual tax return. Market income includes earnings from employment, net self-employment and investment income, and private retirement income, all before government transfers and taxes. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level, defined by EIERs in the main specification and by CMAs in the alternative results. The figure is referenced in Section 6.

Figure A7: Employment and income, low-educated IUR

(a) Any employment income
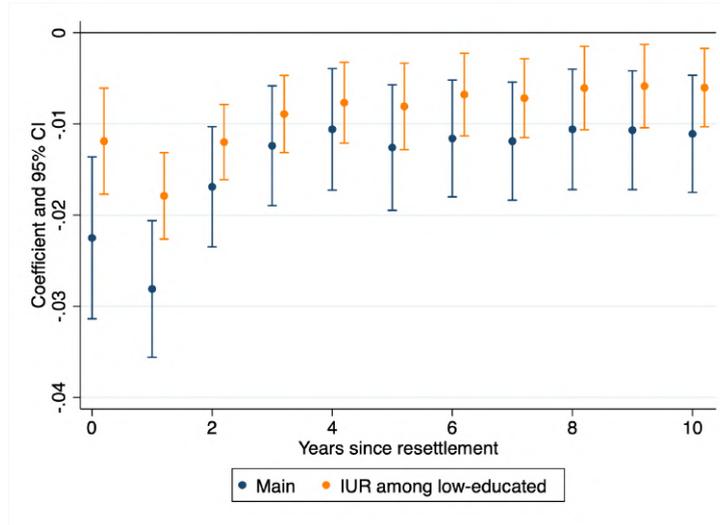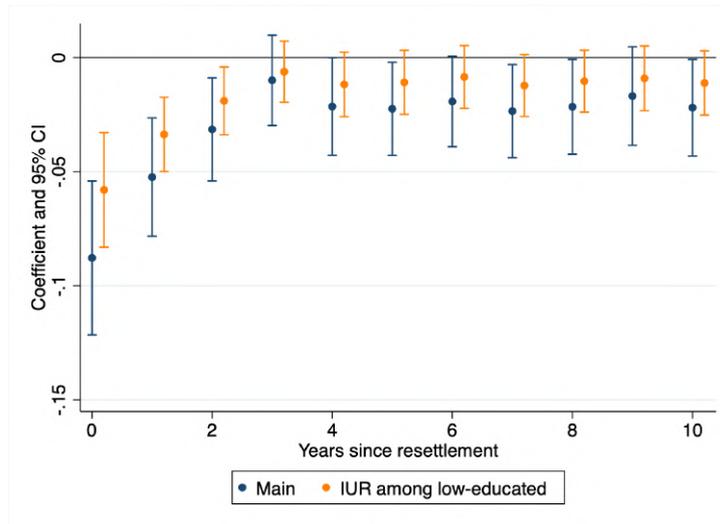
(b) Employment income (log)

Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on two outcomes: any employment income (Panel a) and the log of market income (Panel b). For each outcome, the figure reports the main estimates (as in Figure 4) and, for comparison, estimates from regressions where the IUR is measured as the local unemployment rate among low-educated workers (defined as those with no post-secondary education). Any employment income equals one if refugees reported positive employment income in their annual tax return. Market income includes earnings from employment, net self-employment and investment income, and private retirement income, all before government transfers and taxes. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 6.

Figure A8: Employment and income, single regression by year since arrival

(a) Any employment income
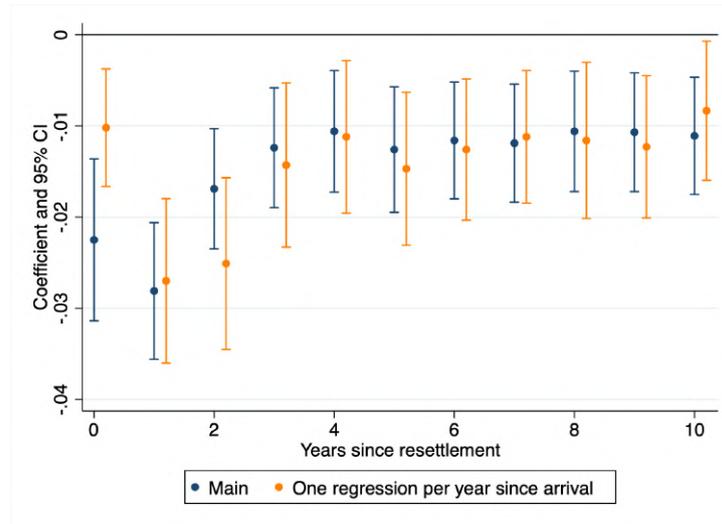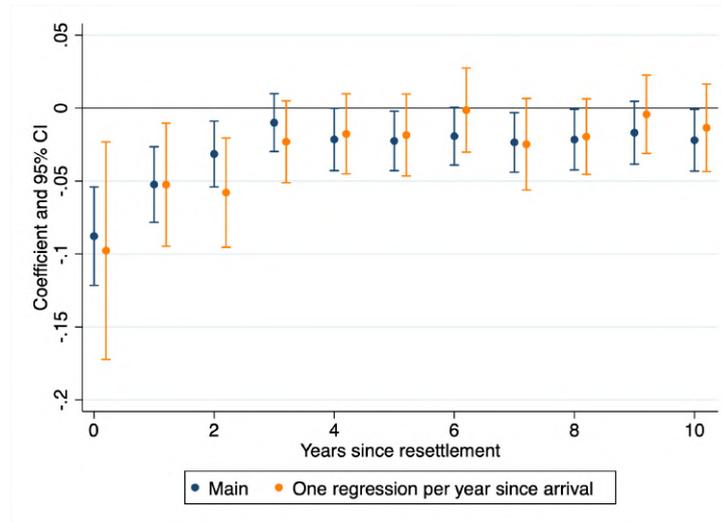
(b) Employment income (log)

Notes: This figure plots the estimated coefficients $\beta_{(t-m)}$ from Eq.1. It shows the effect of the local IUR faced by refugees at arrival on two outcomes: any employment income (Panel a) and the log of market income (Panel b). For each outcome, the figure reports the main estimates (as in Figure 4) and, for comparison, estimates from regressions where each coefficient $\beta_{(t-m)}$ is obtained from a separate regression for that year since resettlement, rather than from a single regression including all years jointly. Any employment income equals one if refugees reported positive employment income in their annual tax return. Market income includes earnings from employment, net self-employment and investment income, and private retirement income, all before government transfers and taxes. Coefficients for year 0 ($t = m$) should be interpreted with caution, as refugees spent varying portions of that year in Canada depending on their month of arrival. Robust standard errors are clustered at the region-by-year of resettlement level. The figure is referenced in Section 6.

Appendix B: Additional Tables

Table B1: Characteristics of origin and destination CMAs

	(1) Did not move by year 0	(2) Moved by year 0	(3) Did not move by year 5	(4) Moved by year 5
Panel A: Origin CMAs				
Unemployment rate (mean)	8.5%	8.8%	8.5%	8.8%
Total population (mean)	1,769,000	1,547,000	1,895,000	1,410,000
Immigrant share (mean)	27.2%	22.4%	28.5%	21.9%
Panel B: Destination CMAs				
Unemployment rate (mean)	8.5%	8.3%	8.1%	7.9%
Total population (mean)	1,769,000	1,570,000	2,051,000	1,764,000
Immigrant share (mean)	27.2%	25.8%	29.6%	27.0%

Notes: The table reports the average characteristics of the origin and destination Census Metropolitan Areas (CMAs) for refugees who relocated and for those who did not relocate. Columns 1 and 2 report characteristics for refugee movers and non-movers, as defined by their residential location at the end of the resettlement year. Columns 3 and 4 report characteristics for refugee movers and non-movers, as defined by their residential location at the end of year five after resettlement. Panel a reports summary statistics on the CMAs of origin, i.e. the CMAs assigned by the IRCC, in the year of resettlement. Panel b reports summary statistics on the CMAs of destination—in columns 1 and 2 these statistics refer to the year of resettlement, while in columns 3 and 4 they refer to year 5 after resettlement. I report the average unemployment rate in the region of the CMA, as well as the total population and immigrant share in the CMA. The Table is referenced in Section 5.3.

Table B2: Movers: most common origin CMAs

Moved by year 0	*Moved by year 5*
Panel A: CMAs with highest leaving rates	
Fredericton (NB)	Charlottetown (PEI)
Charlottetown (PEI)	St. John's (NL)
Saint John (NB)	Saint John (NB)
St John's (NL)	Prince Albert (SK)
Prince Albert (SK)	Fredericton (NB)
Panel B: CMAs with lowest leaving rates	
Vancouver (BC)	Vancouver (BC)
Edmonton (AB)	Edmonton (AB)
Calgary (AB)	Calgary (AB)
Hamilton (ON)	Kitchener-Cambridge-Waterloo (ON)
Ottawa-Gatineau (ON)	Ottawa-Gatineau (ON)

Notes: Panel a in the table lists the CMAs with the highest leaving rates among refugees who were assigned to be resettled there by the IRCC, conditional on at least 50 refugees in the final sample having been assigned there. Panel b in the table lists the CMAs with the lowest leaving rates among refugees who were assigned to be resettled there by the IRCC, conditional on at least 50 refugees in the final sample having been assigned there. The Table is referenced in Section 5.3.

Table B3: Movers: most common destination CMAs

Moved by year 0	Moved by year 5
Toronto (ON)	Toronto (ON)
Hamilton (ON)	Calgary (AB)
Calgary (AB)	Hamilton (ON)
Kitchener-Cambridge-Waterloo (ON)	Kitchener-Cambridge-Waterloo (ON)
Vancouver (BC)	Edmonton (AB)
Edmonton (AB)	Vancouver (BC)
London (ON)	Windsor (ON)
Windsor (ON)	Ottawa-Gatineau (ON)
Ottawa-Gatineau (ON)	London (ON)
Winnipeg (MN)	Winnipeg (MN)

Notes: The table lists the CMAs to which most refugees moved to, conditional on relocating from their initially assigned location. The Table is referenced in Section 5.3.

Table B4: Movers characteristics

	(1) Moved CMA by Year 5	(2) Moved CMA by Year 5	(3) Moved CMA by Year 5	(4) Moved CMA by Year 5	(5) Moved CMA by Year 5	(6) Moved CMA by Year 5	(7) Moved CMA by Year 5	(8) Moved CMA by Year 5	(9) Moved CMA by Year 5	(10) Moved CMA by Year 5	(11) Moved CMA by Year 5
Female	-0.0053 (0.0041)										
Age		-0.0030*** (0.0007)									
Years of education			-0.0017 (0.0011)								
No education				0.0176 (0.0164)							
Secondary or less					0.0157* (0.0087)						
More than secondary (no bach.)						-0.0114 (0.0096)					
Bachelor or higher							-0.0250* (0.0129)				
New workers								0.0037 (0.0073)			
Low skilled									-0.0025 (0.0131)		
Relevant language										0.0117 (0.0114)	
Last country of residence different from country of birth											-0.0285** (0.0143)
N.Obs.	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Mean dep. var.	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376
Country of birth FE × Year of landing FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Destination region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table reports the estimated coefficients β from a set of equations analogous to Eq.1. Each row presents the results from a separate regression, where the main independent variable is a different characteristic of the refugee. The dependent variable is an indicator for whether the refugees relocated to a CMA different from the one assigned by the IRCC by year 5 after resettlement. Robust standard errors clustered at the region-by-year of resettlement level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Sample sizes and dependent variable means are rounded in compliance with Statistics Canada vetting restrictions. The Table is referenced in Section 5.3.

Table B5: Children's outcomes by parents' secondary migration and education-investment behavior

	Any employment income				Employment income (log)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Ever moved CMA	Never moved CMA	Ever claimed education deduction	Never claimed education deduction	Ever moved CMA	Never moved CMA	Ever claimed education deduction	Never claimed education deduction
IUR	0.004	0.006	0.011*	-0.004	0.053**	0.010	0.033	-0.005
	(0.006)	(0.006)	(0.006)	(0.006)	(0.022)	(0.020)	(0.021)	(0.022)
N.Obs.	4,000	5,000	4,000	5,000	4,000	5,000	4,000	5,000
Mean dep. var.	0.873	0.893	0.910	0.864	—	—	—	—
Country of birth FE×								
Year of resettlement FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year at 25 FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Destination EIER FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Destination CMA controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table reports the estimated coefficients β from Eq.3. The dependent variables are children labor market outcomes at ages 25-35: an indicator for whether they report any employment income (columns 1-4) and the log of employment income (columns 5-8). The main independent variable is the IUR in the destination region of refugees. Children outcomes are reported for different subsamples, defined based on parental behavior in the decade after resettlement. In columns 1-2 and 5-6 the children sample is split based on whether the family moved from the originally assigned CMA in the ten years after arrival. In columns 3-4 and 7-8 the children sample is split based on whether parents ever claimed an education deduction (for themselves) in the ten years after arrival. Robust standard errors clustered at the region-by-year of resettlement level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Sample sizes and dependent variable means are rounded in compliance with Statistics Canada vetting restrictions. The Table is referenced in Section 5.3.