PERSPECTIVES

October 2, 2023

Take the train and climb the social ladder

The role of geographical mobility in the fight against inequality in Quebec

YACINE BOUJIJA
Assistant Professor, Institut national de la recherche scientifique, Centre Urbanisation Culture Société

XAVIER ST-DENIS
Assistant Professor, Institut national de la recherche scientifique, Centre Urbanisation Culture Société

MARIE CONNOLLY
Full Professor, Department of Economics, ESG UQAM
CIRANO Researcher and Fellow

Despite the existence of initiatives that foster equal opportunity, the perpetuation of inequality from generation to generation has become more pronounced in Quebec over the last few decades. Young people who have grown up in less privileged environments are more likely to remain at the bottom of the ladder as adults. We know that education is a key factor in social mobility, but a new CIRANO study addresses the question from another angle, that of geographical mobility. Its authors followed the trajectories of more than 1.4 million young people, and show that lack of social mobility has a greater impact on youths who have grown up outside larger cities, and especially those who still live outside them in their early thirties.

Quebec has implemented several mechanisms for promoting equal opportunity. Despite this, a young person from a less privileged background has a higher probability of remaining at the bottom of the income distribution once they have reached adulthood. This phenomenon is one of the manifestations of the reproduction of inequalities from generation to the next, also known as *intergenerational income transmission*. The situation worsened towards the end of the 20th century: young people born at the start of the 1960s into a family at the bottom quintile of the income distribution had a 27% probability of finding themselves in that bottom quintile in adulthood, while this likelihood was 33% for those born in the mid-1980s. It is thus more difficult today to climb the socioeconomic ladder (Connolly and Haeck, forthcoming).

Access to education is a key factor in social mobility. A change of region, too

Several studies have examined the role of socialization and education of children in social mobility. In Canada,

analyses conducted based on data contained in the Longitudinal and International Study of Adults (LISA) show that children from high-income families are more likely to obtain university degrees and, consequently, have higher incomes. Even where major disparities subsist as a function of parents' income and education levels, access to postsecondary education can play an equalizing role. Parents' levels of education weigh more heavily than their income in their children's decision to pursue their studies (Simard-Duplain and St-Denis, 2020; St-Denis and Renée, 2022). Analyses utilizing the Education and Labour Market Longitudinal Platform (ELMLP) and the Longitudinal Administrative Databank (LAD) show that university graduates from less privileged backgrounds differentiate themselves from young people from the same backgrounds through vastly greater upward mobility, across all educational levels (Connolly, Haeck and Raymond-Brousseau, 2022).

The connection between geographical mobility and social mobility is a topic that has rarely been studied in Canada; on the other hand, in the United States, an abundant literature has shed light on the issue. A rapidly expanding body of literature has documented, most notably, the impact of the "Great Migration" of Black Americans towards the Northern states starting in 1915. This was one of the most significant internal migration flows in the history of the United States. Between 1940 and 1970 alone, nearly four million Black migrants left the rural South to go and live in the urban North and West.

Analyses of historical data show that individuals who migrated northward more than doubled their incomes. However, these new arrivals wound up competing with already established Black workers, with the result that the salary gap between Blacks and Whites did not significantly diminish (Boustan, 2016). Other studies have examined the long-term economic and social impacts of the Great Migration on second-generation individuals using longitudinal census data. In terms of education and income, the results show statistically significant — though modest — advantages for Black children of the Great Migration when compared with children whose families stayed in the South. On the other hand, White second-generation migrants got little benefit from northward migration (Alexander *et al.*, 2017).

Finally, other studies have shown that migration occurring within American borders has had more impact on income levels than education. In a cohort of children born between 1895 and 1910, the impact of migration was on average three to four times greater than the impact of one additional year of school. For those children who grew up in the poorest families, the impact was up to 10 times as great as that of education (Ward, 2022).

Another component of the American literature has focused on the impact of so-called "neighbourhood effects" on social mobility, using more recent data. These studies attempt to determine the extent to which children's economic outcomes are shaped by the neighbourhoods they grow up in. The results of these studies demonstrate that when a family migrates to a city or area that offers better opportunities, youth do better on the job market (Chetty and Hendren, 2018, Rothwell et Massey, 2015).

One should, however, not necessarily conclude on the basis of these findings that we should encourage large-scale migration to areas that currently seem to offer better opportunities. First, it is possible that not everyone's relative position will be improved by migration, if we take into consideration general equilibrium effects. As well, the categorization of "areas where opportunities are good" and "areas where opportunities are not good" is imperfect. This type of categorization may be accurate at the present time, but might have much less value when it comes to future migration choices.

Detailed data on nearly 1.4 million young people in Quebec

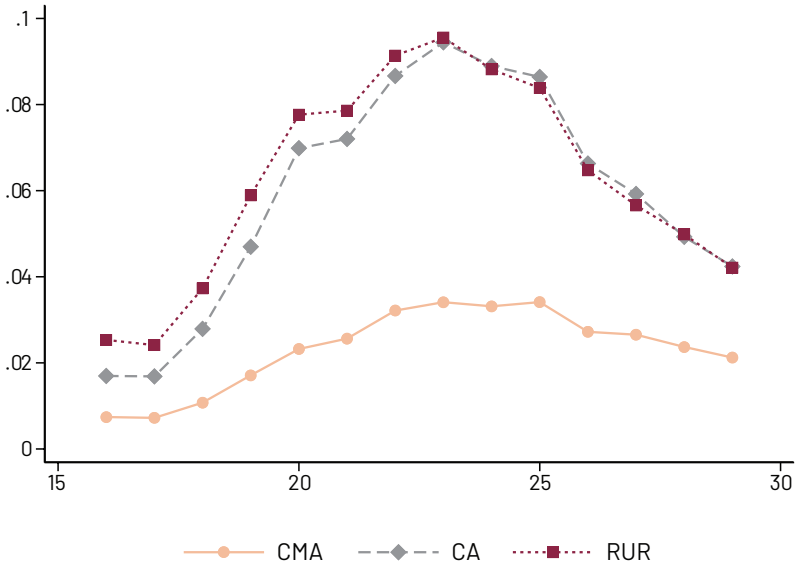
Our study is the first to examine the impact of geographical mobility on intergenerational income transmission in Quebec. To achieve this, we utilized Statistics Canada's Intergenerational Income Database (IID); its longitudinal structure enables us to follow children up to an advanced stage of their adult life. The data come from the Canada Revenue Agency's tax data files. The IID identifies families of individuals born between 1963 and 1985 and provides access to tax information for parents and children over the course of nearly 40 years, from 1978 to 2016. In terms of demographics, this period is marked by a decline in rural population and an exodus from the core neighbourhoods of large cities towards peripheral urban areas.

Four cohorts of young people residing in Quebec at the age of 16 were followed over time: those born between 1967 and 1970, between 1972 and 1975, between 1977 and 1980 and between 1982 and 1985, which amounts to a sample of nearly 1.4 million observations. Since the IID's tax files contain information on place of residence that is updated each year, we can know what type of region the young person grew up in – rural area, Census Agglomeration (CA) or one of the seven Census Metropolitan Areas (CMA), i.e., Montreal, Quebec City, Ottawa-Gatineau (the Quebec portion), Sherbrooke, Saguenay, Trois-Rivières, and Drummondville. We can also know whether an individual subsequently moved to another type of region. A person is said to have "migrated" if they moved to a different Census Division or Census Metropolitan Area between the ages of 16 and 30, a definition which avoids having to label as "migrations" moves within a same municipality.

Many young people migrate to a new region in their early twenties

In general, youth migration to another region stems from two main motivations: studies, in particular postsecondary studies, and employment. What our data show is entirely consistent with these scenarios. At every age, and for every type of region (rural, CA or CMA), we estimated the probability of a first migration, calculated for young people who have not yet done one. We are therefore referring to a probability that *is conditional on the fact of not yet having migrated.*

The likelihood of migration is at its lowest at the age of 16, then increases to reach a peak around the age of 23, then recedes again. Young people who live outside big cities are more likely to migrate, with the figure reaching 9.6 % and 9.5 %, respectively, for young people who are living in rural areas or CAs at age 16, versus only 3.4 % for youth from CMAs.



Probability of a first migration, according to age and type of region

We also examined migratory flows according to parental income and the results are revealing: young people whose parents are in the bottom quartile of the income distribution migrate in greater numbers *before* the age of 21, while those whose parents are in the top quartile migrate later on, between the ages of 23 and 25, which is a period characterized by movement tied to employment or to graduate studies at university. Migrations therefore occur earlier in the lives of young people whose parents' incomes are lower, seeing also as how they are less likely to pursue their studies. Their entry into the labour market, and the associated migrations, occur earlier in their trajectories as young adults.

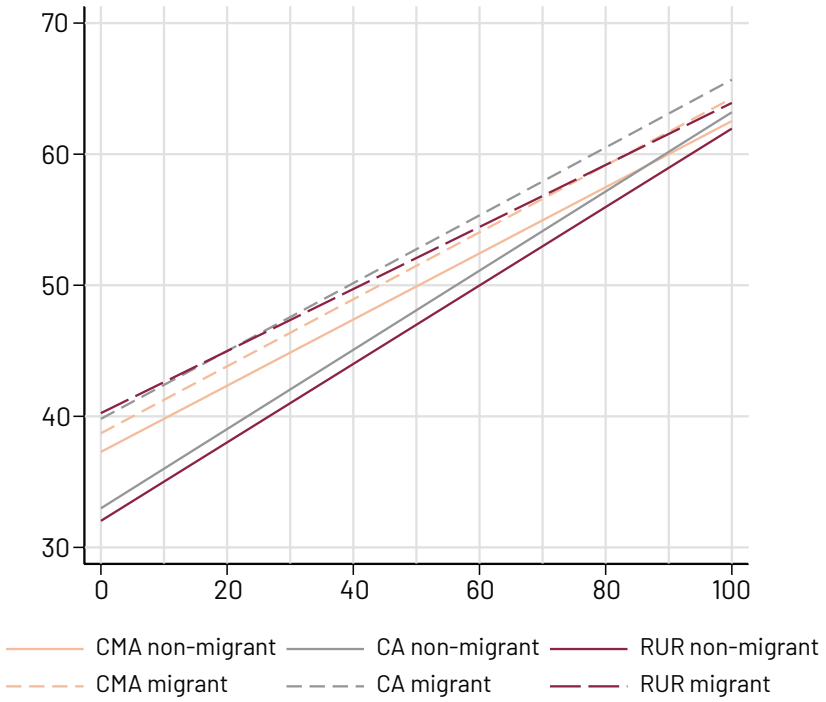
The decline in social mobility can be explained by two phenomena

When it comes to migration, our analyses demonstrate that the decline in social mobility in Quebec results primarily from two phenomena: on the one hand, the decline in socioeconomic status of young people who at age 16 reside outside a major urban centre and who have grown up in a family that is at the bottom of the distribution of income, and secondly, an improvement in the situation of young people from the same regions who have grown up in families at the top of the distribution of income.

Let's see in more detail how we arrived at these conclusions. Our econometric analyses provide estimates of the relationship between geographical mobility and social mobility, or, to put it another way, between the decision to migrate or not and intergenerational transmission of income. In our analyses, parents' income is calculated as being the average of the total income (before tax) of the mother and father when the young person is between 15 and 19 years of age, including employment income, investments, social benefits and transfers. The young person's income is calculated as the average of their total income between the ages of 30 and 36. Once these average incomes are calculated, percentile ranks are assigned to the parental income and the young person's income. Differences in the cost of living among regions are not factored in, since the percentile ranks are calculated across Quebec; this is in accordance with the approach that has generally been adopted in the literature (Connolly, Haeck and Laliberté, 2022).

Our econometric strategy is based on the model known as "rank-rank regression". In our model, the variable to be explained is the percentile rank of the young person's income (that of generation t) and the primary explanatory variable of interest is the percentile rank of the parents' income (that of generation *t-1*). The estimate by ordinary least squares of the model's key parameter yields a measure of the intergenerational income transmission. In order to analyse the influence of migration, we add to the rank-rank regression model a set of "triple interactions" between the young person's income, their region of origin and migratory status to the rank-rank regression model, plus a set of "quadruple interactions" among all of these variables. Therefore, in terms of income level, the advantage that results from migration varies according to the birth cohort, the region one is living in at age 16 and the percentile rank of parental income.

The results of our econometric analyses are illustrated in the two graphs below. The full report includes four graphs, corresponding to each of the four birth cohorts (Boujija *et al.*, 2023). Each straight line indicates the predicted percentile rank of the income of the young person, which is based on the percentile rank of the parents' income. For each of the two birth cohorts, we thus have six straight lines: three regions of origin — rural, CA and CMA — multiplied by two migratory statuses — migrants and non-migrants. A steeper line indicates a higher level of intergenerational income transmission, and thus a lesser degree of socioeconomic mobility.

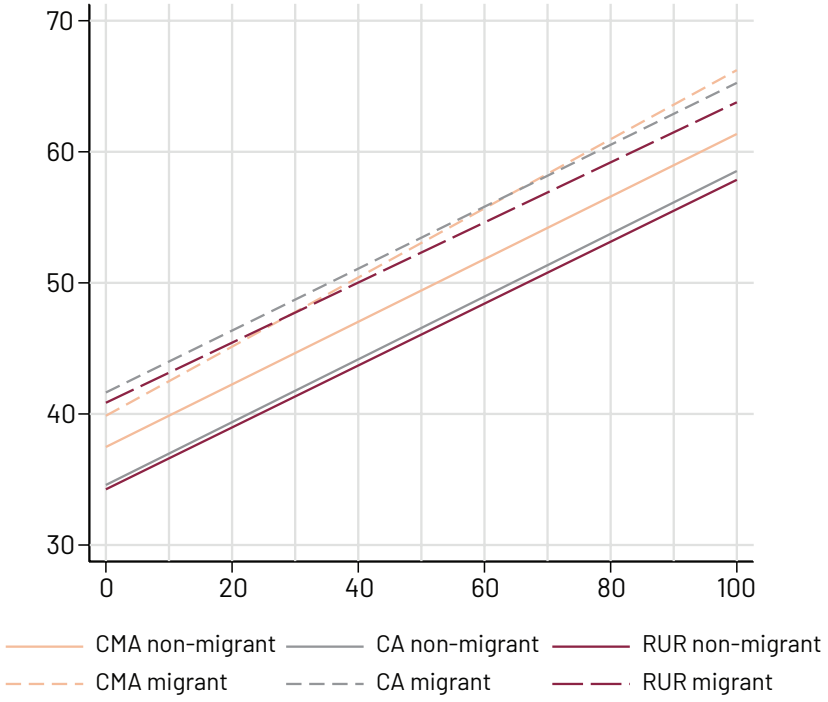


Predicted income rank of young person according to parental income rank and migratory status — 1982-85 birth cohort

Here's how to read the graph for the birth cohort born between 1982 and 1985: when the parents' income is situated at the 60th percentile, for instance, the model predicts that the income of a young person who remains in their region of origin — a "non-migrant" — will wind up at the 52nd percentile for those who grew up in a CMA, at the 51st percentile for those who grew up in a CA and at the 50th percentile for those who grew up in a rural area.

When it comes to the income level attained at an adult age, the advantage that results from migration is demonstrated by the fact that the three dotted lines are all situated above the straight lines, which means that migrants' incomes are greater than non-migrants' for a given level of parental income. However, the straight lines for the migrants and non-migrants are not parallel for children having grown up in a CA or a rural area. That means that the advantage associated with migration is not uniform for all individuals growing up in families with different levels of income, as shown by the variation in the size of the gap between the straight line depicting migrants and that of non-migrants according to parental income.

More specifically, among young people born between 1982 and 1985 and living in a rural area or a CA at the age of 16, the advantage associated with migration is much more significant for those who grew up in a family at the bottom of the distribution of parental income, which is illustrated by the larger gaps between the straight lines for the bottom percentiles of parental income. As we move to the right along the x-axis, the straight lines come nearer to each other and tend to converge at a meeting point. The advantage conferred by migration — in other words, the upward mobility associated with migration — is less for those who grew up in a family situated at the peak of the distribution of parental income when the young person is from a rural region or a CA. The groups which are most disadvantaged are the youth who grew up in a low-income family in a rural area or a CA and who never migrated.



Predicted income rank for a young person according to parental income rank and migratory status — 1967-70 birth cohort

For the cohort of young people born between 1967 and 1970, the straight lines are less steep than for the cohort of young people born between 1982 and 1985, which indicates a greater social mobility within each of these groups. Migration is indeed associated with an advantage in terms of income, but the advantage is less dependent on the parental income distribution than it is for the cohort of young people born between 1982 and 1985. This is demonstrated by the fact that the straight lines are almost parallel. This at least is the case for youths living in a rural region or a CA at age 16.

To sum up, social mobility across generations gradually diminished between the era of the cohort of young people born between 1967 and 1970 and that of young people born between 1982 and 1985, and that decline was greater for young people who came from a rural area, and it was even greater for those who lived in such an area but never migrated. These individuals are clearly disadvantaged when it comes to potential for improving their economic situation relative to what their parents had.

We cannot conclude that there is a cause-and-effect relationship between migration and improvement in one's situation

Our analyses document intergenerational income transmission, but do not allow us to conclude that the difference in mobility according to migratory statuses is *attributable* to migration. The decision to migrate is one that is arrived at on the basis of various factors, some of which are very likely correlated to parental income and the individual's income. It is therefore possible that the advantage associated with migration results from a selection effect on unobserved characteristics in these young people that increases the likelihood of migration and is associated with a higher income.

The empirical evidence with regards to a possible selection effect is not clear. A British study based on historical data has found a strong element of

endogeneity suggesting that the "best" workers from rural areas migrate towards the cities (Long, 2005). On the other hand, another study did not find a selection effect in the case of the 1930s exodus from the Dust Bowl in the United States, as drought and dust storms pushed 2.5 million people to abandon their lands and leave the Great Plains (Long and Siu, 2018). In the absence of an econometric approach which takes this endogeneity into account, we cannot claim to observe a cause-and- effect relationship. The findings drawn from our analyses nonetheless enable us to reach a better understanding of the reality in Quebec.

A better understanding of the obstacles faced by young people in rural areas is vital

In order to promote equal opportunity and build a society in which the circumstances of one's birth do not become an overly dominant determinant of their economic situation once they reach adulthood, we need to address the phenomenon of social mobility — or rather social *immobility* — from various angles. Our analyses suggest that incentivization policies and support for geographical mobility might contribute to increasing social mobility in Quebec. This approach could be part of a strategy to foster upward social mobility to the extent that changing regions seems to be associated with advantages relative to income.

But many questions remain unanswered. Is there a shortage of opportunities within our postsecondary education system? Does the lack of economic diversification in certain rural areas increase the risk of professional instability and precarity? Does this manifest itself in a shortage of well-paid jobs in rural areas, especially in comparison with jobs available outside these areas? Our analyses do not give us answers to those questions and it is absolutely vital to dig deeper on these issues in future studies.

References

Alexander, J. T., Leibbrand, C., Massey, C. & Tolnay, S. (2017). Second-Generation Outcomes of the Great Migration. Demography 54(6), 2249–2271.

Boujija, Y., Connolly, M. & St-Denis, X. (2023). Mobilité géographique et transmission intergénérationnelle du revenu au Québec (2023RP-11, Rapport de projet, CIRANO.) https://cirano.qc.ca/fr/sommaires/2023RP-11

Boustan, L. P. (2016). Competition in the Promised Land: Black Migrants in Northern Cities and Labor Markets. Princeton University Press.

Chetty, R. & Hendren, N. (2018). The Impacts of Neighborhoods on Intergenerational Mobility I: Childhood Exposure Effects. The Quarterly Journal of Economics 133(3), 1107–1162.

Connolly, M. & Haeck, C. (forthcoming). Intergenerational Income Mobility Trends in Canada. Canadian Journal of Economics

Connolly, M., Haeck, C. & Raymond-Brousseau, L. (2022). La mobilité sociale au Québec selon différents parcours universitaires (2022RP-12, Rapport de projets, CIRANO.) https://doi.org/10.54932/NRZM8999

Connolly, M., Haeck, C. & Laliberté, J.W. (2022), Parental Education and the Rising Transmission of Income between Generations, In Raj Chetty, John N. Friedman, Janet C. Gornick, Barry Johnson & Arthur Kennickell, (Réd.), Measuring and Understanding the Distribution and Intra/Inter-Generational Mobility of Income and Wealth (chaptitre 10), National Bureau of Economic Research.

Long, J. (2005). Rural-Urban Migration and Socioeconomic Mobility in Victorian Britain. The Journal of Economic History, 65(1), 1–35.

Long, J. & Siu, H. (2018) Refugees from Dust and Shrinking Land: Tracking the Dust Bowl Migrants. The Journal of Economic History, 78(4), 1001–1033. https://doi.org/10.1017/S0022050718000591.

Rothwell, J. T. & Massey, D. S. (2015). Geographic Effects on Intergenerational Income Mobility. Economic Geography 91(1), 83–106.

St-Denis, X. & Renée, L. (2022). The relative role of parental income and parental education in child educational achievement and socioeconomic status attainment: A decomposition approach. FutureSkills Research Lab.

Simard-Duplain, G. & St-Denis, X. (2020). Exploration of the Role of Education in Intergenerational Income Mobility in Canada: Evidence from the Longitudinal and International Study of Adults. Canadian Public Policy 46(3), 369–96.

Ward, Z. (2022). Internal Migration, Education, and Intergenerational Mobility Evidence from American History. Journal of Human Resources, 57(6), 1981–2011. https://doi.org/10.3368/jhr.58.2.0619-10265R2.

To cite this article

Boujija, Y., Connolly, M., & St-Denis, X. (2023). Take the train and climb the social ladder. The role of geographical mobility in the fight against inequality in Quebec (2023PJ-10, Revue PERSPECTIVES, CIRANO.) https://doi.org/10.54932/UUXO9573

PERSPECTIVES is CIRANO's journal for the dissemination and valorization of research. Written in a format that is accessible to a wider audience, the articles in PERSPECTIVES provide visibility to the work and expertise of CIRANO's research community .As with all CIRANO publications, the articles are based on a rigorously documented analysis by CIRANO researchers and Fellows.

The articles published in PERSPECTIVES are the sole responsibility of their authors.

ISSN 2563-7258 (online version)

Director of the journal:
Nathalie de Marcellis-Warin, Chief executive officer
Chief editor:
Carole Vincent, Director ok knowledge mobilization

www.cirano.qc.ca