

WORKING PAPER N° IDB-WP-01620

The Geography of Intergenerational Mobility in Latin America and the Caribbean

Ercio Muñoz

Inter-American Development Bank
Gender and Diversity Division

July 2024



The Geography of Intergenerational Mobility in Latin America and the Caribbean

Ercio Muñoz

Inter-American Development Bank
Gender and Diversity Division

July 2024



Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library
Muñoz, Ercio.

The geography of intergenerational mobility in Latin America and the
Caribbean / Ercio Muñoz.

p. cm. — (IDB Working Paper Series ; 1620)

Includes bibliographical references.

1. Education-Economic aspects-Latin America. 2. Education-Social aspects-
Latin America. 3. Education-Economic aspects-Caribbean Area. 4. Education-
Social aspects-Caribbean Area. 5. Economic development-Effect of education
on-Latin America. 6. Economic development-Effect of education on-
Caribbean Area. I. Inter-American Development Bank. Gender and Diversity
Division. II. Title. III. Series.

IDB-WP-1620

JEL codes: D63, I24, J62.

Keywords: Socioeconomic mobility, Education, Latin America and the
Caribbean.

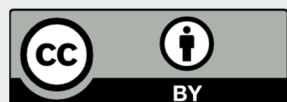
<http://www.iadb.org>

Copyright © 2024 Inter-American Development Bank ("IDB"). This work is subject to a Creative Commons license CC BY 3.0 IGO (<https://creativecommons.org/licenses/by/3.0/igo/legalcode>). The terms and conditions indicated in the URL link must be met and the respective recognition must be granted to the IDB.

Further to section 8 of the above license, any mediation relating to disputes arising under such license shall be conducted in accordance with the WIPO Mediation Rules. Any dispute related to the use of the works of the IDB that cannot be settled amicably shall be submitted to arbitration pursuant to the United Nations Commission on International Trade Law (UNCITRAL) rules. The use of the IDB's name for any purpose other than for attribution, and the use of IDB's logo shall be subject to a separate written license agreement between the IDB and the user and is not authorized as part of this license.

Note that the URL link includes terms and conditions that are an integral part of this license.

The opinions expressed in this work are those of the authors and do not necessarily reflect the views of the Inter-American Development Bank, its Board of Directors, or the countries they represent.



*The Geography of Intergenerational Mobility in Latin America and the Caribbean**

Ercio Muñoz[†]

Abstract

This paper estimates intergenerational mobility in education using data from 91 censuses in 24 countries in Latin America and the Caribbean spanning over half a century. It measures upward mobility as the likelihood that individuals will complete one educational stage more than their parents (primary education for those whose parents did not finish primary school, or secondary education for those whose parents did not complete secondary school). It measures downward mobility as the likelihood that an individual will fail to complete a level of education (primary or secondary) that their parents did attain. In addition, the paper explores the geography of educational intergenerational mobility using nearly 400 “provinces” and more than 6,000 “districts,” finding substantial cross-country and within-country heterogeneity. It documents a decline in the mobility gap between urban and rural populations and small differences by gender. It also finds that upward mobility is increasing and downward mobility is decreasing over time. Within countries, the level of mobility correlates closely to the share of the preceding generation that completed primary school. In addition, upward mobility is negatively correlated with distance to the capital and the share of the workforce employed in agriculture, but is positively correlated with the share of the workforce employed in industry. The opposite is true of downward mobility.

JEL-Codes: D63, I24, J62.

Keywords: *Socioeconomic mobility, Education, Latin America and the Caribbean.*

*I thank Bennett Callaghan, Miles Corak, Christos Giannikos, Marco Ranaldi, Nuria Rodriguez-Planas, Roy van der Weide, and Wim Vijverberg, and several seminar/conference participants for their helpful comments, as well as Pablo Vargas and Joaquin Prieto for their outstanding research assistance. I am deeply grateful for the financial support of the Center for Latin American, Caribbean and Latino Studies at CUNY and the Mario Capelloni dissertation fellowship from CUNY. The views expressed in this paper are those of the author and should not be attributed to the Inter-American Development Bank.

[†]Email: erciom@iadb.org. Inter-American Development Bank, 1300 New York Avenue NW, Washington, D.C. 20577, United States.

I Introduction

Measuring intergenerational mobility (IGM) at a geographically disaggregated level can shed light on localized patterns and drivers of IGM, as argued in [Narayan et al. \(2018\)](#) and shown in the seminal work of [Chetty, Hendren, Kline, and Saez \(2014\)](#) for the United States. This type of analysis has not yet been conducted in the countries of Latin America and the Caribbean (LAC) due to the inadequacy of most survey data for this purpose. This work aims to fill that gap in the literature by generating estimates of IGM in education at smaller geographical levels.

In this paper, I estimate intergenerational mobility in education for countries in LAC at the national and subnational level using data from 91 censuses. The analysis covers 24 countries and spans over half a century (from 1960 to 2012). I follow the empirical approach of [Alesina, Hohmann, Michalopoulos, and Papaioannou \(2021\)](#), which relies on samples of coresidents (i.e., children living with their parents or older relatives) and allows me to create indicators that are highly comparable to those recently estimated for 27 countries in Africa, a region that, like LAC, has high income inequality levels (see [Alvaredo & Gasparini, 2015](#)), despite its lower levels of income and higher poverty rates.¹ This approach focuses on the most disadvantaged population in terms of educational attainment (a large share of parents in the sample attained less than primary education) and minimizes the potential impact of coresidence bias, since low levels of educational completion can be measured with a high degree of confidence between ages 14 and 18 (see [Munoz & Siravegna, 2023](#)).

Estimates of upward mobility, measured as a person’s likelihood of finishing primary education when their parents failed to finish primary school, show wide cross-country heterogeneity. The same is true of estimates of downward mobility, measured as the likelihood of a person failing to complete primary school when their parents did attain that level of education. In LAC, the distance between the most and least upwardly mobile countries is similar to what has been recently documented in Africa, although the least mobile countries in Africa are less mobile than the least mobile country in LAC. I find only small differences in mobility by gender, but I document a decline in the mobility gap between urban and rural populations. Upward mobility is increasing over time, while downward mobility is decreasing.

At the sub-national level, mobility is heterogeneous across districts/provinces. Some countries show lower levels of mobility in the northern regions (e.g., Brazil), whereas the opposite is true for Mexico. However, there is much less variability in countries with fewer

¹An important stylized fact in the literature on IGM is its negative association with income inequality (see [Corak, 2013](#)). Hence, one could expect IGM levels in LAC to be similar to those in Africa.

regions and smaller populations. Mobility at the sub-national level is highly positively correlated to the share of the preceding generation that completed primary school, which suggests that the factors affecting educational attainment are persistent. In addition, geographical correlates do not appear to be highly associated with mobility, with the exception of distance to the capital. Similarly, some proxies of economic development, like share of the workforce employed in industry and agriculture at the beginning of the sample period, seem to be associated with mobility at the district level.

I.1 Related literature

There is a growing body of literature on the association between parents' and adult children's socioeconomic outcomes, which can be referred to as intergenerational mobility. At the theoretical level, the workhorse model for thinking about the mechanisms of transmission of advantage between generations was developed by [Becker and Tomes \(1979, 1986\)](#). The empirical literature has measured IGM using a variety of indicators (see [Deutscher & Mazumder, 2023](#), for a synthesis of approaches) that capture different aspects of the phenomena. Similarly, IGM has been studied using a range of outcomes, including income and education.

Research on IGM in income has mainly focused on developed countries (see [Black & Devereux, 2011](#), for a survey). Early estimates mostly centered on the United States (e.g., [Solon, 1992](#)) and, later, on how the United States compares to other developed countries (e.g., [Bjorklund & Jantti, 1997](#)). Given the challenges associated with finding suitable data sets, estimates of income mobility for developing countries are scarce and have only recently started to increase (see [Emran & Shilpi, 2021](#), for recent surveys focused on developing countries). Recent papers on IGM in income have focused on documenting patterns at the sub-national level. In a seminal work, [Chetty et al. \(2014\)](#) shows substantial variation in income mobility across commuting zones in the United States. Several others show geographical patterns for other countries (for example, [Corak, 2020](#); [Cortés Orihuela et al., 2023](#); [G.C. Britto, Fonseca, Pinotti, Sampaio, & Warwar, 2022](#); [Güell, Pellizzari, Pica, & Rodríguez Mora, 2018](#)).

Research on IGM in education has been more global, in part because of better data availability (see [Torche, 2021](#), for recent surveys focused on developing countries). [Hertz et al. \(2007\)](#) documented mobility for 52 countries, including seven in Latin America, and concluded that this region has the highest level of persistence, while Nordic countries have the lowest. More recently, [Van der Weide, Lakner, Mahler, Narayan, and Gupta \(2024\)](#) created a new database with estimates for 153 countries (18 from LAC) using survey data. Apart

from these two papers with global coverage that include LAC, other early contributions were [Dahan and Gaviria \(2001\)](#), which estimated sibling correlations in schooling for 16 countries, and [Neidhöfer, Serrano, and Gasparini \(2018\)](#), which documented IGM for 18 countries. Moreover, researchers have used estimates from LAC to study the relationship between inequality and IGM ([Neidhöfer, 2019](#)), as well as the impact of IGM on economic development ([Neidhöfer, Gasparini, Ciaschi, Gasparini, & Serrano, 2024](#)).

A recent wave of papers have analyzed IGM in education at the sub-national level, mostly with census data. For instance, [Card, Domnisoru, and Taylor \(2022\)](#), [Derenoncourt \(2022\)](#), [Hilger \(2016\)](#), and [Feigenbaum \(2018\)](#), among others, use coresident samples from census data to study different aspects of upward mobility in the U.S.; [Asher, Novosad, and Rafkin \(2023\)](#) study mobility among different marginalized groups and analyze geographic differences in India; [Van der Weide, Ferreira de Souza, and Barbosa \(2020\)](#) study mobility at the sub-national level in Brazil; [Neidhöfer et al. \(2024\)](#) compute educational mobility for 52 subnational divisions in 10 countries of Latin America to estimate its impact on regional economic indicators; and [Alesina et al. \(2021\)](#) and [Alesina, Hohmann, Michalopoulos, and Papaioannou \(2023\)](#) study patterns of IGM in Africa using census data, applying methods similar to those used in this paper.

This paper contributes to this literature in several ways. First, it complements previous studies by estimating a new indicator that is focused on the most disadvantaged segment of the population in terms of educational attainment. Second, the paper improves the country coverage with at least six additional countries that account for 62% of the population in the Caribbean region, for which, to the best of my knowledge, no estimates of intergenerational mobility were available so far. Third, it exploits census data, which contains large samples and provides high cross-country comparability, to study IGM in LAC. In addition, it uses the same approach as recent estimates for Africa to improve the current cross-regional comparability.² Fourth, the paper provides novel evidence on changes in mobility gaps by gender and urban/rural population. Fifth, this study is the first to map IGM in education at a highly disaggregated regional level for almost the entire population of LAC. Lastly, the paper explores how IGM is associated with a set of correlates at the sub-national level.

The paper is organized as follows. Section II describes the data and methodology. Section III reports the main descriptive results at the country level. Section IV explores the geography of mobility and looks at correlates of IGM. Section V concludes with final remarks.

²[Hertz et al. \(2007\)](#) allowed this type of comparison but included only seven countries from Latin America and four from Africa. More recently, [Narayan et al. \(2018\)](#) and [Van der Weide et al. \(2024\)](#) allow regional comparisons but pool together estimates from different types of surveys (e.g., opinion surveys and household surveys) and mix these estimates with retrospective information and coresident samples, which may be problematic (see [Munoz & Siravegna, 2023](#)).

II Data and Methodology

In this paper, I use census data obtained from IPUMS International (Integrated Public Use Microdata Series, [IPUMS, 2019](#)), which is hosted at the University of Minnesota Population Center and reports harmonized representative samples (typically 10%) of full census microdata sets for a large number of countries. In particular, I use 91 samples of population and housing censuses from 24 countries. The censuses are conducted to compute total population and contain an educational attainment question in their questionnaire.³ The key advantage of this data set is that it contains detailed information about the location of a large share of the entire population, which allows me to analyze mobility at a very disaggregated geographical level.⁴ Moreover, the information about educational attainment is, for the most part, collected directly from each household member, in contrast to previous research that used retrospective questions (i.e., individuals being asked about the educational attainment of their parents), which may introduce recall bias. However, the main disadvantage of this data set is that it does not link all individuals to their parents because to be linked, both individuals and parents have to be part of the same household. Below, I explain how I addressed this issue and share recent evidence showing that the coresidence bias is likely very small for the indicators used in this paper.

II.1 Countries and smaller administrative units

The 24 countries analyzed are: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Trinidad and Tobago, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Saint Lucia, Suriname, and Venezuela (see Table A1 in the appendix for details about the fraction of data available by census). I drew 91 samples from these 24 countries at various points from 1960 to 2012. Importantly, the study includes six countries from the Caribbean region for which no estimates of mobility were available.

Regarding geography, IPUMS reports residence at the time of the interview for at most two levels of administrative units in which the households were counted. These variables contain the geographies for every country harmonized spatio-temporally to provide spatially consistent boundaries across samples in each country. This allows me to assign individuals to

³I do not use Chile 1960, Colombia 1964, Costa Rica 1963, Dominican Republic 1960 and 1970, Ecuador 1962, Honduras 1961, or Mexico 1960 because the individuals are not organized into households in those censuses. I also omitted the 1995, 2005, and 2015 interdecennial census counts for Mexico.

⁴Previous literature on Latin America has used household survey data or public opinion surveys (see for example, [Hertz et al., 2007](#); [Narayan et al., 2018](#); [Neidhöfer et al., 2018](#)), given that long panel data or administrative/registry data that allow the researcher to link generations are rare.

“coarse” administrative units (roughly similar to states in the U.S.) and “fine” administrative units (roughly similar to counties in the U.S.). The sample spans 400 provinces (“coarse” units) and 6,684 districts (“fine” units). The baseline estimates use the “coarse” units to avoid issues derived from having fewer observations per administrative unit, but estimates using the “fine” units are also reported in the appendix.

II.2 Linking generations and coresidence

Data collection is organized at the household level, so only individuals who live in the same household at the time of the interview can be linked to each other. The data set includes a variable that, by means of 62 different values, details the relationship between the individual and the head of the household. Based on this variable, I sort individuals into five different generations, where the head of household corresponds to generation zero (see Table A4 in the appendix for details on how individuals are assigned a generation). Based on the generation number, I use individuals who live with at least one member of the immediately preceding generation and consider these members of the older generation members to be “pseudo-parents.”⁵

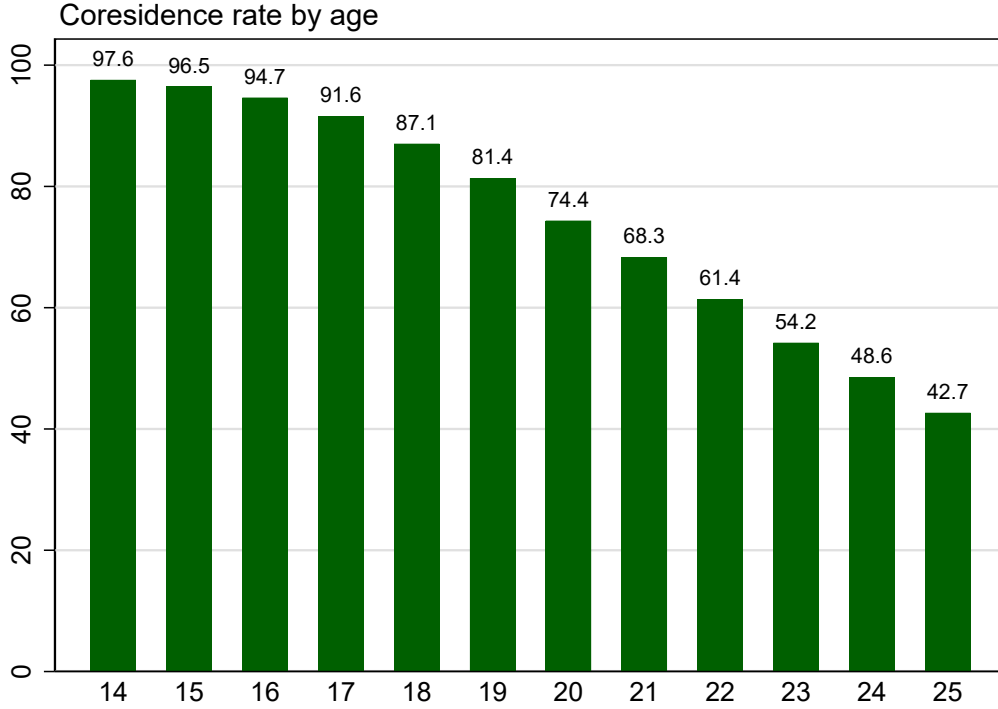
Figure 1 shows the unweighted average rate of coresidence (defined as living with at least one relative of the immediately preceding generation) by age in the sample, pooling all countries and years. Rates start off above 90% for individuals younger than 18 years old, and then decrease rapidly to nearly 40% for 25-year-old individuals. When I compute the coresidence rate with samples that distinguish between urban and rural populations, I find negligible differences. Samples that distinguish between genders show a steeper decline in the rate of coresidence by age for women relative to men (see Figure A1 in the appendix).

Figure 2 disaggregates the coresidence rate by country, showing some variation in the extent to which coresidence declines with age. The figure also shows that the most pronounced drop in coresidence rate happens in Brazil, the most populous country in the region. Table A3 in the appendix provides coresidence rates by country for different age groups.

A concern regarding the use of coresidents is that it may bias IGM estimates, since individuals who reside with their parents may systematically differ from those who do not reside with them (see for example, Emran, Greene, & Shilpi, 2018; Emran & Shilpi, 2021; Francesconi & Nicoletti, 2006). To address this issue, I compute IGM using individuals that are old enough to have completed the level of education of interest but young enough to be living with parents at high rates, which is the standard approach used in the literature (see

⁵Alesina et al. (2021) takes a similar approach with census data from Africa.

Figure 1: Coresidence rate by age

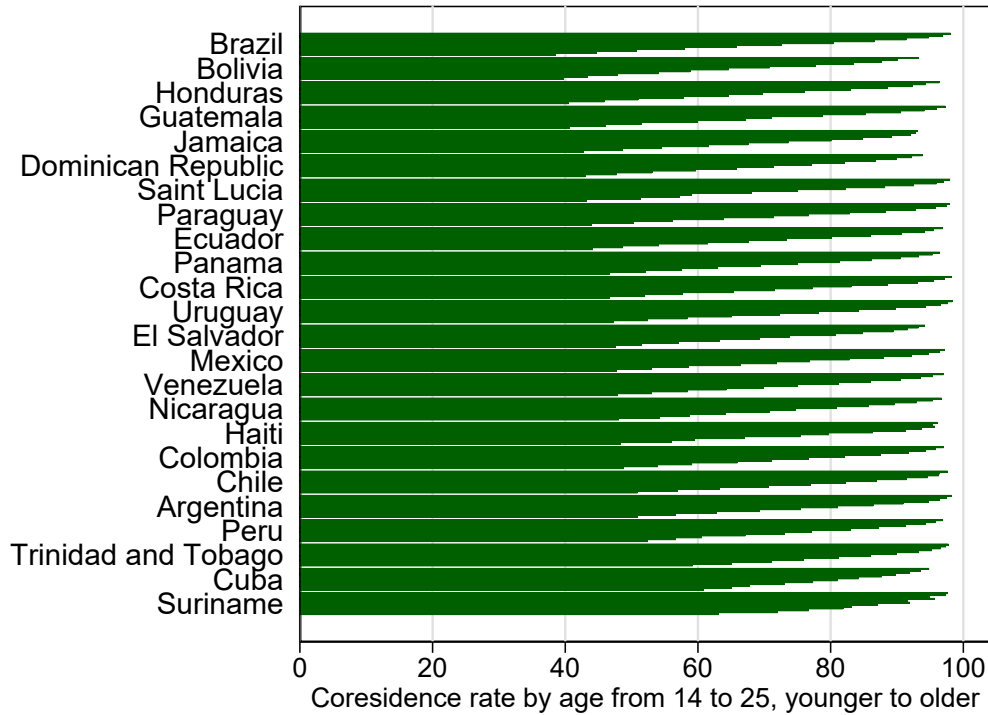


Notes: Coresidence is defined as living with at least one relative of the immediately preceding generation. The data in the graph is unweighted.

for example, [Alesina et al., 2021, 2023](#); [Card et al., 2022](#); [Derenoncourt, 2022](#); [Feigenbaum, 2018](#); [Goldin & Katz, 1999](#)). Nonetheless, [Munoz and Siravegna \(2023\)](#) show that the average coresidence bias when computing upward mobility (measured as the likelihood that individuals whose parents did not complete primary school will themselves complete primary school) for individuals aged 21–25 years (with coresidence rates of less than 50% on average) is approximately 2%. In addition, the ranking obtained from sorting country-cohorts by level of upward mobility using these coresident samples closely matches the one obtained with a sample that includes all children (the Spearman rank correlation between the estimates with the full sample and those with coresident samples is 0.91).⁶ Similarly, [Asher et al. \(2023\)](#) show with data from India that the bias for their proposed indicator of upward mobility is negligible when using coresidents younger than 20. Given these findings, the potential for coresidence bias in my estimates is small, since these estimates are computed using individuals aged 14–18 (or 14–25), a group with a high rate of coresidence.

⁶Figure A2 in the appendix display visually how the estimates computed in [Munoz and Siravegna \(2023\)](#) with all children compare to the estimates with coresidents.

Figure 2: Coresidence rate by age and country



Notes: Coresidence is defined as living with at least one relative of the immediately preceding generation. The data in the graph is unweighted.

II.3 Education

There are at least three advantages to using education rather than income to measure IGM in the context of developing countries. First, it contains less measurement error, reducing potential attenuation bias (see [Solon, 1992](#)). Second it is fixed early in the life cycle, thus avoiding the life-cycle bias found in studies that use income (see [Haider & Solon, 2006](#)). Third, it can be completely attributed to a specific individual, while income sometimes is hard to assign within a household (for example, in households with multiple persons and home production). This last advantage may be especially relevant in the case of rural populations in poor countries. Education is also a suitable variable because it is closely linked to income and is intrinsically important in terms of human development

There are two questions about educational attainment in the data set. The first reports the total years of schooling completed by each individual (formal schooling regardless of the track or kind of study), and the second is re-coded by IPUMS to capture educational attainment expressed as the level of schooling completed.⁷ This second item contains four

⁷It does not necessarily reflect any particular country's definition of the various levels of schooling in terms of terminology or number of years of schooling.

categories: (1) less than primary completed, (2) primary completed, (3) secondary completed, and (4) university completed. In the main analysis of the paper, I use the variable of level of schooling completed, which has a lower number of missing values and it is available for more countries than total years of schooling completed.⁸ To the extent possible, IPUMS applied the United Nations standard of six years of primary schooling, three years of lower secondary schooling, and three years of higher secondary schooling.

In the sample, a majority of individuals report having completed less than secondary school and nearly 50% less than primary (see Figure 3a), which supports the focus on primary completion that I will detail later, since most of the action happens at lower levels of completion.⁹ In addition, although the level of education in Latin America and the Caribbean has been increasing across cohorts (see Figure 3b), the region still shows a share of around 60 percent with at most nine years of schooling (i.e., roughly lower secondary education) in the most recent cohort (i.e., those born in the 1980s), and significant shares of older cohorts (which include most of the parents in the sample) have attained less than primary education.¹⁰ Nonetheless, I also provide an appendix with estimates that focus on secondary school completion.

Figure 4 shows the educational transition matrix for individuals over age 25 (since younger individuals are unlikely to have completed their education), providing a rough idea of the patterns of intergenerational education mobility present in the data set.¹¹ The plot highlights that the action in terms of mobility happens in the two lowest levels of educational attainment, which is qualitatively similar to what Alesina et al. (2021) document for the African continent. In particular, it shows that the most disadvantaged parents in terms of educational attainment account for approximately 60% of all parents and that their children have close to 50% chances of surpassing their attainment. This aggregated figure masks important differences between countries. Two countries that stand out in terms of low and high levels of parental attainment of primary education and highlight the heterogeneity hidden in Figure 4 are Jamaica and Guatemala.¹² Jamaica has slightly less than 20% of parents with less than primary attainment and children with relatively high chances of surpassing them, while Guatemala has close to 80% of parents with less than primary attainment and

⁸Years of schooling is not available for Brazil 2010, Cuba 2002, Saint Lucia 1991, Suriname 2012, Trinidad and Tobago 1970, and Uruguay 2011.

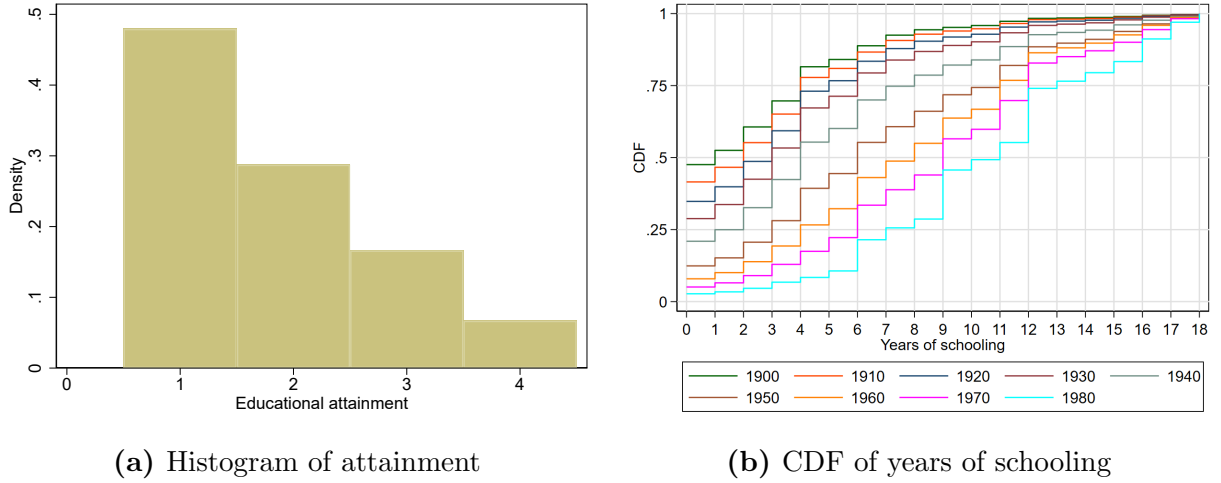
⁹An additional reason to focus on primary completion is that these estimates are directly comparable to those recently documented in Alesina et al. (2021) for Africa.

¹⁰Table A6 in the appendix reports education by country and cohort.

¹¹The main analysis uses younger individuals, since the focus is on primary completion. Figure A3 in the appendix reproduces this mosaic with individuals aged 14–25 years. The appendix also includes the same mosaic plot by country.

¹²Saint Lucia shows similar patterns but has a much smaller population.

Figure 3: Educational attainment



Notes: The graphs use different samples, since years of schooling is not available or is top-coded in six country-year samples (Brazil 2010, Colombia 1993 and 2005, Peru 1993 and 2007, and Uruguay 2011). The graph includes only individuals older than 25 from decade cohorts 1900 to 1980. The plot on the right shows the cumulative distribution function (CDF) by birth decade (e.g., 1980 includes those born between 1980 and 1989). Educational attainment is defined as: (1) less than primary completed, (2) primary completed, (3) secondary completed, and (4) university completed.

children with relatively low chances of surpassing them (see Figure 5).¹³

II.4 Methodology

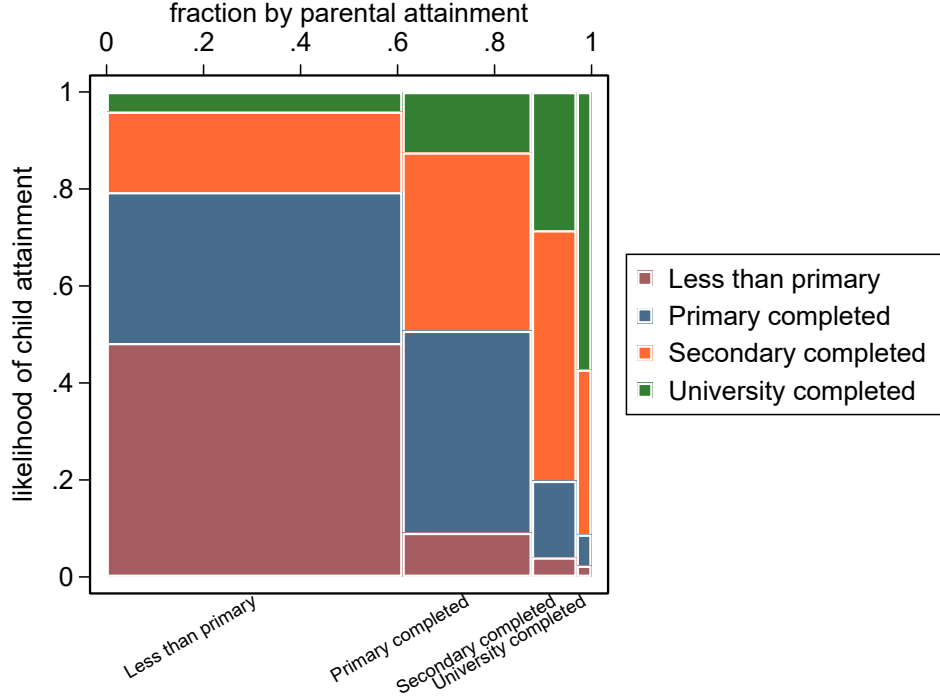
For each individual in the sample, I analyze the relationship between their own educational attainment and the average attainment of individuals one generation older living in the same household, rounded to the nearest integer (it makes little difference whether maximum or average attainment are used, as I later explain in the robustness section). More specifically, I consider a measure of absolute intergenerational mobility that reflects the likelihood of a child completing a strictly higher or lower education level than the members of the immediately preceding generation in the household (parents and/or extended family members, such as aunts and uncles).¹⁴

Upward mobility at the country level. To estimate upward IGM, I estimate the

¹³The same plot using individuals ages 14–25 can be found in the appendix (see Figure A4) and show qualitatively similar patterns.

¹⁴Deutscher and Mazumder (2023) provide a conceptual framework to distinguish between relative and absolute measures of intergenerational mobility.

Figure 4: Educational attainment transition matrix



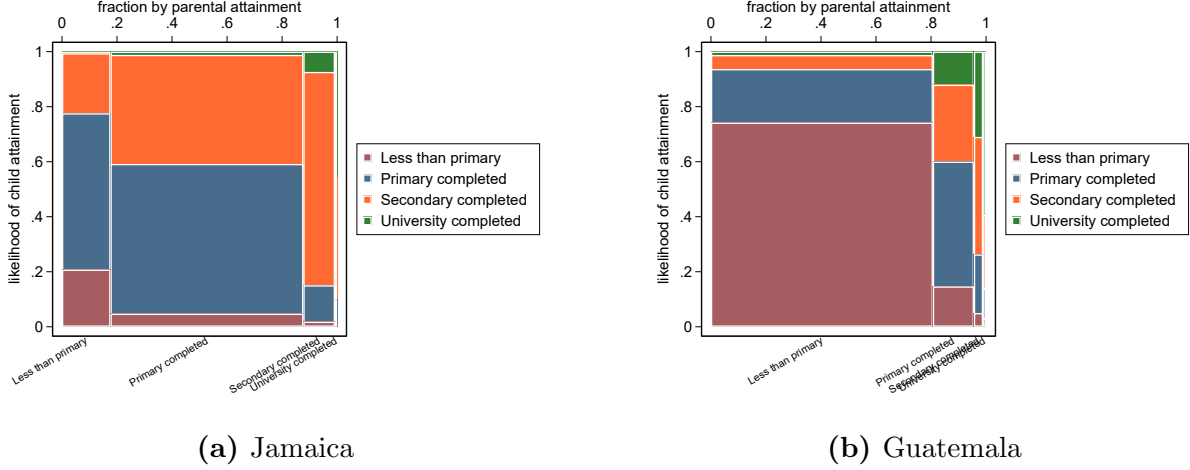
Notes: The sample is made up of individuals over age 25 who coreside with at least one individual from the preceding generation. The figure displays the transition matrix between the educational attainment of individuals in the sample and their parents. The horizontal axis is divided according to the share of parents with each level of educational attainment. The height of each rectangle within the figure is the likelihood of child educational attainment conditional on the attainment of their parents.

following econometric specification, pooling observations from all censuses and countries:

$$y_{icoyt}^{up} = \alpha_c^{up} + \gamma_o^b + \gamma_y^b + \theta_t + \epsilon_{icoyt} \quad (1)$$

where y_{icoyt}^{up} is a dummy variable that takes a value equal to one when individual i completes at least primary education and zero otherwise. Subscripts c , o , y , and t refer respectively to country, average decade-cohort of the individuals from the preceding generation that coreside with individual i , decade-cohort of individual i , and census year. The parameters γ_o^b , γ_y^b , θ_t refer to fixed effects of the decade-cohort of the preceding generation, decade-cohort of individual i , and census year, respectively. These fixed effects aim to control for differences driven by the birth cohort of children, the birth cohort of their parents, and other potential factors associated with each census. This regression uses a sample of individuals aged 14

Figure 5: Transition matrix for selected countries



Notes: The sample is made up of individuals over age 25 that coreside with at least one individual from the preceding generation. The figures display the transition matrix between the educational attainment of individuals in the sample and their parents. The horizontal axis is divided according to the share of parents with each level of educational attainment. The height of each rectangle within each figure is the likelihood of child educational attainment conditional on the attainment of their parents.

to 18 (or 14 to 25), for whom the preceding generation (parents or older relatives) have on average less than primary education. Hence, α_c^{up} is the parameter of interest and, for each country c , measures the likelihood that children whose “parents” did not complete primary school will themselves complete primary education, net of cohort effects for both children and parents, as well as of census year effects.

This empirical approach, similar to the one used in [Alesina et al. \(2021\)](#) with data from Africa, delivers a measure of mobility that is comparable between countries and that captures some long-term patterns over half a century by netting out birth-cohort and census-year effects that are common across countries.

Downward mobility at the country level. To estimate downward IGM, I use a similar econometric specification, pooling observations from all the censuses and countries:

$$y_{icoyt}^{down} = \alpha_c^{down} + \gamma_o^b + \gamma_y^b + \theta_t + \epsilon_{icoyt} \quad (2)$$

where y_{icoyt}^{down} is a dummy variable that takes a value equal to one when individual i does not complete primary education and zero otherwise. The parameters γ_o^b , γ_y^b , θ_t again refer respectively to fixed effects by decade-cohort of the preceding generation that coresides with individual i , decade-cohort of individual i , and census year. These fixed effects aim to

control for differences driven by the birth cohort of children, the birth cohort of their parents, and other potential factors associated with each census. This regression uses a sample of individuals aged 14 to 18 (or 14 to 25), for whom the preceding generation (parents or older relatives) have on average completed at least primary education. Hence, α_c^{down} is the parameter of interest and, for each country c , measures the likelihood that children whose “parents” did not complete primary school will themselves fail to complete primary education, net of cohort effects for both children and parents, as well as of census year effects.

Upward and downward mobility at a finer geographical level. To estimate IGM at a more disaggregated level (i.e., provinces or districts), I run the following econometric specifications, country by country:

$$\begin{aligned} y_{icroyt}^{up} &= \alpha_{cr}^{up} + \gamma_o^b + \gamma_y^b + \theta_t + \epsilon_{icroyt} \\ y_{icroyt}^{down} &= \alpha_{cr}^{down} + \gamma_o^b + \gamma_y^b + \theta_t + \epsilon_{icroyt} \end{aligned} \quad (3)$$

The variables and subscripts that appear in equations 1 and 2 are interpreted in the same way here, and the additional subscript r refers to the district or province, according to the level of geographical disaggregation used in the analysis (provinces for baseline estimates and districts in the additional exercise in the appendix).

Why is primary education a suitable variable for measuring IGM? There are three reasons for focusing on primary education. First, a substantial share of the population of Latin America and the Caribbean in the period spanned by this data set has attained less than a primary education, as shown in the previous subsection. Second, this focus makes the analysis directly comparable to the recent work of [Alesina et al. \(2021\)](#) in Africa and minimizes the potential bias that comes from using samples of coresidents. Third, the focus on the lowest level of education can also be justified from a conceptual point of view. Development policy discussions often claim that the poorest should not be left behind, and this focus is related to the school of moral philosophy exemplified by the principle of justice proposed by [Rawls \(1971\)](#).¹⁵

Robustness. As a robustness check, I compute upward and downward mobility using some alternative options for data construction. First, I use the maximum attainment of the preceding generation instead of average attainment. This change produces estimates with negligible differences (for example, the Pearson correlation coefficients between measurements using average versus maximum at the country, province, and district level are approximately 1). Second, I estimate mobility using a sample of individuals linked to (probable) parents, as done by [IPUMS \(2019\)](#). This change produces estimates that are also

¹⁵See [Ravallion \(2016\)](#) as an example of the focus on the poorest in the context of poverty measurement.

highly correlated (for example, the Pearson correlation coefficients between measurements using older relatives versus (probable) parents at the country, province, and district level are 0.98, 0.97, and 0.93, respectively).

Alternative measures of IGM. I estimate a set of additional measures of intergenerational mobility that are less focused on the bottom of the educational attainment distribution. In contrast to the estimates focused on primary education, these measures are computed using individuals aged 19 to 25. First, I estimate upward and downward mobility considering secondary education instead of primary. Second, I estimate upward mobility as the likelihood of an individual finishing at least secondary education when the preceding generation was not able to complete primary school. These indicators are more prone to coresidence bias, but they still provide valuable information. For example, [Munoz and Siravegna \(2023\)](#) show that the rank correlation between indicators of upward mobility using secondary level computed with all children versus coresidents is approximately 0.86.¹⁶

III Intergenerational Mobility in LAC

III.1 Country-level estimates

Table 1 summarizes the estimates of mobility at the country level. On average, close to 50 percent of children with parents who did not finish primary education (from now on, illiterate parents) are able to complete primary school. On the other hand, downward mobility is close to 10 percent, since one out of 10 children with parents who finished primary education (from now on, literate parents) do not complete primary school.¹⁷

There is substantial heterogeneity among LAC countries. The probability that children of illiterate parents will complete primary school ranges from 18% in Guatemala to 87% in Jamaica. In the case of downward mobility, the estimated probability that children of literate parents will not complete primary school ranges from null in Jamaica to 23% in Haiti. The heterogeneity found in upward mobility in Latin America (e.g., the gap of 69 percentage points between Jamaica and Guatemala) is relatively similar to the heterogeneity that [Alesina et al. \(2021\)](#) documented for African countries (e.g., the gap of 75 percentage points between South Africa and South Sudan), although minimum and maximum values were higher in Africa. Furthermore, the level of upward mobility among countries in LAC substantially overlaps with that of Africa. Countries with the lowest levels of upward mobility in LAC, such as Haiti, Guatemala, and Nicaragua, are more upwardly mobile than the five

¹⁶Using 72 country- and five-year birth cohorts that span 18 countries in Latin America.

¹⁷Note that these estimates are computed net of cohort and census year effects according to equations 1 and 2, which may result in estimates outside the 0–1 range, as seen in Jamaica.

lowest of the 27 countries for which [Alesina et al. \(2021\)](#) provide estimates (Malawi, Ethiopia, Sudan, Mozambique, and South Sudan). In contrast, the overlap in downward mobility is much less pronounced (see Figure [A15](#) in the appendix.).

Table 1: Country-level estimates of educational intergenerational mobility

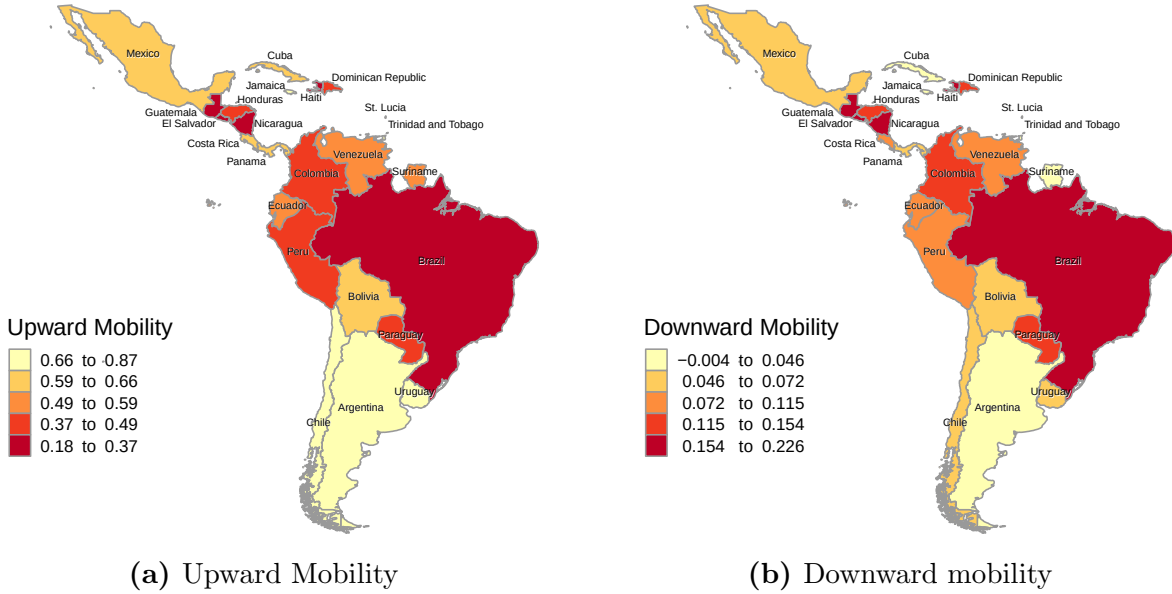
mobility / N age range	census years	(1)	(2)	(3)	(4)	(5)	(6)
		upward 14–18	upward 14–25	downward 14–18	downward 14–25	N 14–18	N 14–25
Jamaica	1982,1991,2001	.868	.864	-.004	.003	43,404	77,227
Trinidad and Tobago	1970,1980,1990,2000,2011	.839	.833	.023	.023	41,253	81,100
Argentina	1970,1980,1991,2001,2010	.762	.789	.035	.034	1,068,471	2,017,618
Chile	1970,1982,1992,2002	.682	.709	.05	.044	344,149	651,737
Uruguay	1963,1975,1985,1996,2006,2011	.668	.685	.064	.052	108,528	199,653
Cuba	2002,2012	.662	.688	.027	.024	101,268	214,486
Panama	1960,1970,1980,1990,2000,2010	.635	.665	.049	.04	86,527	157,906
Costa Rica	1973,1984,2000,2011	.634	.643	.086	.068	107,088	197,018
Bolivia	1976,1992,2001,2012	.609	.634	.068	.057	206,745	358,013
Mexico	1970,1990,2000,2010	.602	.622	.048	.042	2,811,581	4,961,471
Ecuador	1974,1982,1990,2001,2010	.543	.572	.089	.074	373,130	667,055
Suriname	2012	.535	.563	.042	.031	2,999	6,141
Venezuela	1971,1981,1990,2001	.533	.587	.096	.08	517,834	940,766
Saint Lucia	1980,1991	.523	.492	.126	.142	2,089	3,679
Peru	1993,2007	.48	.524	.115	.088	357,472	668,806
Paraguay	1962,1972,1982,1992,2002	.432	.463	.116	.096	118,082	207,766
Colombia	1973,1985,1993,2005	.402	.437	.142	.114	886,765	1,605,718
Honduras	1974,1988,2001	.398	.433	.151	.133	109,458	182,786
Dominican Republic	1981,2002,2010	.376	.442	.15	.124	173,340	312,654
Brazil	1960,1970,1980,1991,2000,2010	.367	.422	.171	.128	10,755,296	18,713,402
El Salvador	1992,2007	.342	.374	.164	.138	85,402	150,582
Haiti	1971,1982,2003	.212	.266	.226	.178	104,465	183,588
Nicaragua	1971,1995,2005	.194	.238	.223	.18	93,635	167,740
Guatemala	1964,1973,1981,1994,2002	.181	.212	.159	.129	238,047	402,133
mean / total		.52	.548	.101	.084	18,737,028	33,129,045

Notes: Columns (1) and (2) give upward IGM estimates. They reflect the likelihood that individuals aged 14–18 or 14–25 whose parents have not completed primary schooling will manage to complete at least primary education. Columns (3) and (4) give downward IGM estimates. They reflect the likelihood that individuals aged 14–18 or 14–25 whose parents have completed primary schooling or higher will not manage to complete primary education. Columns (5) and (6) give the number of observations used to estimate the country-specific IGM statistics (children with parents whose education is reported in the censuses). Countries are sorted from the highest to the lowest level of upward IGM based on the 14–18 sample (column (1)). “Mean” gives the unweighted average of the 24 country estimates.

Figure [6](#) maps the country-level estimates of upward and downward mobility in education. It highlights the heterogeneity found across the continent, showing that patterns of upward mobility are inversely related to downward mobility and that there are combinations of low and high mobility countries in South America, as well as in Central America and the Caribbean. The estimates of upward and downward mobility are significantly negatively correlated at the country level (see Figure [A16](#) in the appendix.).

Country-level estimates of intergenerational mobility focused on secondary education can be found in Table [A8](#) in the appendix. The samples are smaller, and the level of upward

Figure 6: Intergenerational educational mobility in LAC



Notes: Upward mobility reflects the likelihood that children aged 14–18 whose parents have not completed primary schooling will manage to complete at least primary education. Downward mobility reflects the likelihood that children aged 14–18 whose parents have completed primary schooling or higher will not manage to complete primary education. Both estimates are net of cohort and census year effects.

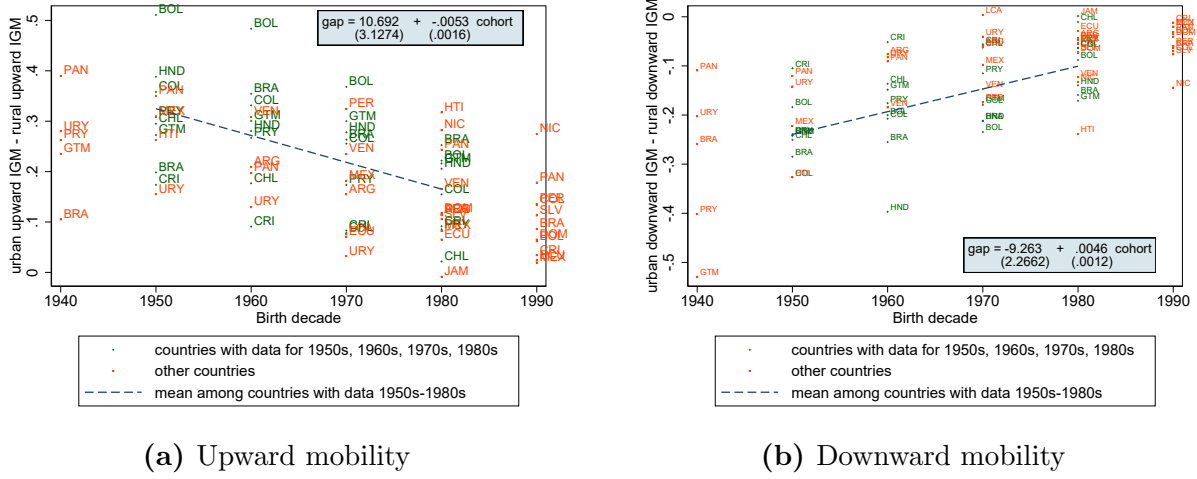
mobility is considerably lower, while the level of downward mobility is considerably higher. As with the estimates using primary education, there is significant variation across countries. In the case of upward mobility measured as the likelihood that children complete at least secondary education when their parents were not able to complete primary, we see lower levels of mobility at the country level, as could be expected (see Table A11 in the appendix).

III.1.a Urban-rural

Given that an important feature of most developing countries is the gap in living standards between rural and urban residents (see Lagakos, 2020), I explore the heterogeneity in IGM between these populations and document how they have evolved across birth cohorts. I do so by estimating upward and downward mobility by country, birth decade of the “children,” and urban/rural status of their residence.¹⁸ Figure 7 shows the gap in the upward/downward mobility between urban and rural areas over the various birth cohorts. I find a gap in upward mobility that favors urban areas and that has been declining from 36 percentage points to

¹⁸Equation 1 and 2 in this case becomes $y_{icys}^{up/down} = \alpha_{cys}^{up/down} + \epsilon_{icys}$, where $\alpha_{cys}^{up/down}$ is a fixed effect by country, decade-cohort of individual i , and rural/urban residence s .

Figure 7: Intergenerational educational mobility in LAC - urban/rural



Notes: These estimates correspond to the probability that individuals whose parents did not finish primary school will manage to complete at least primary education, in the case of upward mobility, and the probability that individuals whose parents completed primary school will not manage to complete primary education, in the case of downward mobility. The estimates are for individuals aged 14–18 by country (pooling all available waves), birth decade of the “children,” and urban/rural status of the household.

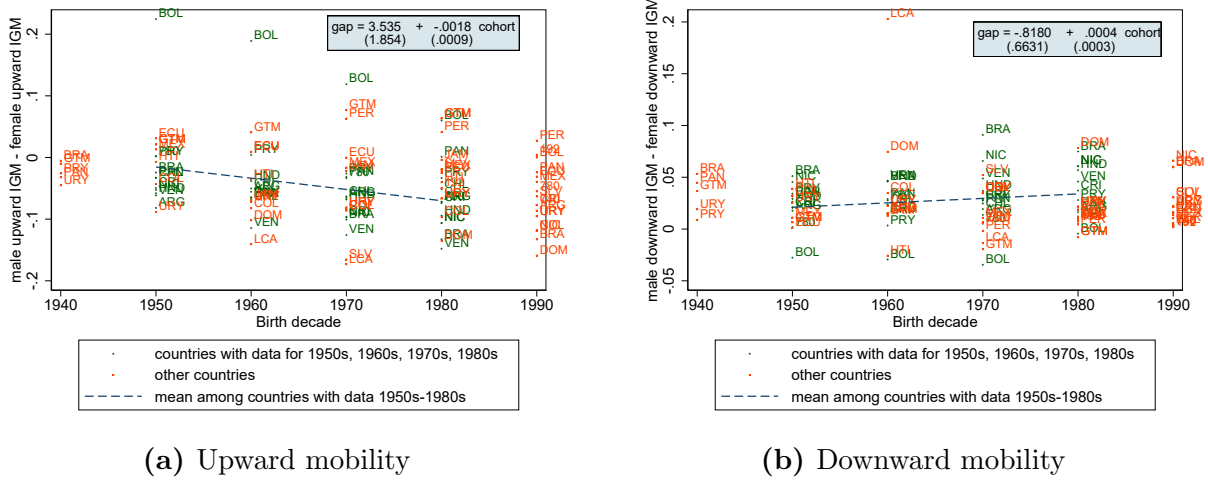
20 percentage points in more recent birth cohorts. In other words, upward mobility is on average 36 percentage points higher in urban areas compared to rural areas for the cohort born in 1950–1959, and this gap declines to 20 percentage points for those born between 1980 and 1989. The gap in downward mobility is also closing from below, moving from 29 percentage points for the 1950 birth decade to 15 percentage points for the 1980 birth decade. Figure A17 and Figure A18 in the appendix show estimates by sub-population rather than the gap between them for countries with data for at least four decades. These estimates suggest that the gap has been shrinking because of an increase in upward mobility and a decrease in downward mobility in rural areas.¹⁹

III.1.b Gender

As discussed in a recent survey on IGM in developing countries (see Torche, 2021), gender gaps in education have been disappearing or even shifting in favor of women. I examine whether these patterns hold in this census data set by estimating IGM for males and females

¹⁹The urban-rural gap can be affected by migration from rural to urban areas. However, the gap is unlikely driven by this migration, as it would require negative selection into migration, which contrasts with the evidence of positive selection shown in Munoz (2022).

Figure 8: Intergenerational educational mobility in LAC - gender



These estimates reflect the probability that individuals whose parents did not finish primary school will complete at least primary education, in the case of upward mobility, and the probability that individuals whose parents completed primary school will not manage to complete primary education, in the case of downward mobility. The estimates are for individuals aged 14–18 by country (pooling all available waves), birth decade of the “children,” and gender.

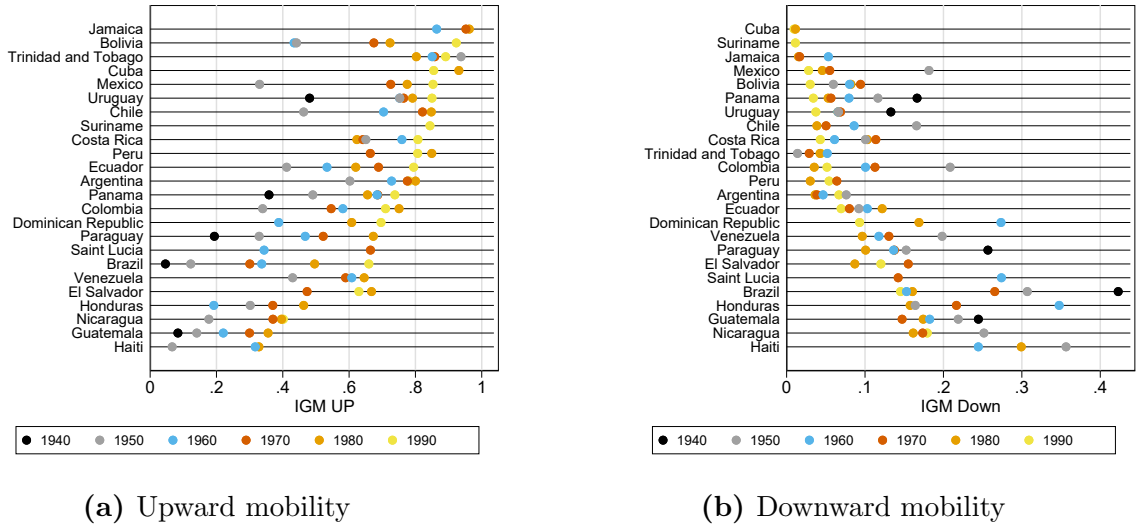
separately and documenting how the gap between these populations has evolved across birth cohorts. I estimate upward and downward mobility by country, birth decade of the “children,” and gender.²⁰ I do not find systematic differences by gender for older birth cohorts, but there appears to be a trend towards higher upward mobility for women because their upward mobility is 3 percentage points higher in the 1980s birth cohort (see Figure 8). For downward mobility, there is a similar gap in favor of women of approximately 3 percentage points for the 1980s birth cohort, with a flatter trend. Figure A19 and Figure A20 in the appendix show estimates by sub-population rather than the gender gap for countries with data for at least four decades. These estimates suggests that the gap has been increasing in favor of women because of a more-than-proportional increase for them in upward mobility and a less than proportional decrease in downward mobility.

III.1.c Shifts over time

As mentioned in the data section, data coverage over time is unbalanced, with data for some countries spanning more years than others. This limits analysis of trends over time

²⁰Equation 1 and 2 in this case becomes $y_{icyg}^{up/down} = \alpha_{cyg}^{up/down} + \epsilon_{icyg}$, where $\alpha_{cyg}^{up/down}$ is a fixed effect by country, decade-cohort of individual i , and gender g .

Figure 9: Intergenerational educational mobility in LAC across cohorts



These estimates correspond to the probability that individuals whose parents did not finish primary school will manage to complete at least primary education, in the case of upward mobility, and the probability that individuals whose parents completed primary school will not manage to complete primary education, in the case of downward mobility. The estimates are for individuals aged 14–18 by country (pooling all available waves) and birth decade of the “children.”

and the conclusions that can be derived from cross-country comparisons at given points in time or for a given cohort. Nevertheless, I document estimates of mobility by country for the different birth cohorts that are available.²¹ Figure 9 reports these estimates. The level of upward mobility has clearly been increasing, while downward mobility has been falling. This is unsurprising, given that educational attainment has increased in the region over the last decades. For example, in Brazil, Panama, and Uruguay, the countries with the most censuses in the data set, upward mobility increased from 0.05, 0.36, and 0.48, respectively, for those born in the 1940s to 0.66, 0.74, and 0.85 for those born in the 1990s. Despite this shift and the improvement in schooling in the region, in several countries the probability that those born in the 1990s to poorly educated parents will complete primary education is still less than 80 percent.

²¹Equation 1 and 2 in this case becomes $y_{i,cy}^{up/down} = \alpha_{cy}^{up/down} + \epsilon_{i,cy}$, where $\alpha_{cy}^{up/down}$ is a fixed effect by country and decade-cohort of individual i .

III.1.d Discussion of the results

The estimates of intergenerational mobility at the country level reveal the following patterns. First, there is substantial heterogeneity in upward and downward mobility across countries in LAC. Caribbean countries, such as Jamaica and Trinidad and Tobago, show the highest levels of upward mobility in LAC, while Haiti has among the lowest. As mentioned earlier, these country-level estimates complement the existing literature by using an indicator focused on the most disadvantaged population. Hence, the associated rankings based on IGM do not necessarily align with previous studies that use other indicators.²² The range of estimates for LAC is similar to the range found for Africa, although with higher average upward mobility and lower downward mobility. Second, upward mobility is higher in urban areas, and downward mobility is lower. However, the urban-rural gap is decreasing over birth cohorts because IGM in rural areas is catching up. Third, upward mobility is slightly higher and downward mobility slightly lower for females, and the gender gap shifts in favor of females over birth cohorts. This trend in upward mobility favoring females is consistent with the findings of [Neidhöfer et al. \(2018\)](#),²³ and this finding adds to the scarce literature on gender differences in IGM (see [Torche, 2021](#)). Fourth, upward mobility has increased significantly across birth cohorts, while downward mobility has decreased substantially. This is consistent with the trends shown in [Neidhöfer et al. \(2018\)](#) and [Van der Weide et al. \(2024\)](#) for absolute mobility.

IV Spatial Variation and Correlates of IGM in LAC

In this section, I map intergenerational mobility in education across regions in LAC and then explore whether the observed patterns are associated with a set of correlates.

IV.1 Spatial variation of intergenerational mobility in LAC

Table 2 summarizes the estimates of mobility at the province level. These results show that in some countries, mobility levels vary substantially across provinces.²⁴ This is the case in Paraguay, Mexico, Guatemala, and Peru, where the difference between the most upwardly mobile and least upwardly mobile provinces is more than half the range between countries

²²This is also recognized in [Neidhöfer et al. \(2018\)](#) when comparing ranks based on indicators of relative mobility to those of absolute mobility.

²³These results are documented in the online supplemental material of the paper and compute upward mobility as the probability that children with parents who achieved less than secondary education will complete secondary school for nine countries.

²⁴Figure A6 in the appendix visually represents variability within countries.

in Latin America. But there are also cases with either high or low upward mobility at the country level and very little variation within country, such as Jamaica and Haiti, although this is somewhat expected since these countries have few administrative units and a small population.

For downward mobility, variability (measured by standard deviation or the difference between the province with the highest and lowest level) is less pronounced. However, the full range of downward mobility in some countries is larger than the difference between the country with the highest mobility (Jamaica) and the country with the lowest mobility (Haiti). Nicaragua and Honduras stand out as cases where the range between the provinces with the minimum and the maximum downward mobility is relatively wide (see Figure A6 in the appendix).

Figures 10 and 11 map out the estimates summarized in Table 2. They reveal interesting patterns in some countries. For example, Mexico has a somewhat lower level of upward mobility in the south, and a lighter spot in the middle of the country where the capital is. In contrast, Brazil has a much lower level of mobility in the northern regions and higher mobility on the east coast near the states of São Paulo and Rio de Janeiro. Overall, the region shows higher levels in the south, especially on the Pacific coast, and some heterogeneity in the Caribbean, with major contrasts between Cuba and Haiti.

In the appendix, I share similar estimates (see Table A7) and maps (see Figure A7 and A8) at the district level, which is the finest administrative unit available in the data set. The patterns are qualitatively similar, but the level of disaggregation means that estimates for some districts with few observations end up outside the $[0,1]$ range.

The appendix also contains summary statistics of alternative estimates of intergenerational mobility that consider secondary education at the province and district levels (see Table A9, A10, A12, and A13). These estimates are consistent with the country-level ones, in the sense that relative to my baseline estimates using primary education, they show lower levels of upward mobility, higher levels of downward mobility, smaller samples, and significant within-country variation.

IV.2 Correlates of intergenerational mobility

Given the substantial heterogeneity observed across regions, I explore a set of correlates of regional IGM to uncover stylized facts that help characterize its geography. The set is relatively small given the difficulty of collecting data that is comparable across all adminis-

Table 2: Summary statistics: Province-level estimates of educational IGM

country	provinces	upward						downward						Nmin	Nmean
		mean	median	stdev	min	max	Nmin	Nmean	mean	median	stdev	min	max		
Cuba	14	.917	.932	.056	.757	.972	63	146	.011	.011	.003	.006	.017	889	7104
Suriname	7	.897	.897	.095	.83	.965	56	73	.012	.013	.005	.005	.021	72	395
Jamaica	14	.888	.893	.029	.84	.936	106	322	.029	.028	.006	.018	.042	1193	2779
Trinidad and Tobago	4	.872	.871	.043	.822	.923	66	1763	.033	.034	.005	.027	.037	1272	8550
Chile	44	.773	.767	.066	.655	.915	93	1523	.064	.065	.019	.027	.113	256	4804
Peru	25	.749	.702	.115	.555	.93	298	5728	.07	.072	.028	.03	.139	699	8571
Argentina	24	.702	.691	.087	.545	.874	204	9763	.061	.058	.02	.021	.099	2329	34757
Costa Rica	7	.693	.693	.054	.623	.753	2261	4929	.083	.071	.023	.058	.112	5091	10369
Uruguay	19	.679	.677	.048	.598	.781	281	1418	.064	.065	.012	.04	.086	734	4294
Mexico	32	.674	.67	.079	.498	.899	2265	38282	.053	.052	.016	.015	.1	6269	49580
Bolivia	9	.651	.641	.097	.504	.814	534	9900	.071	.062	.025	.04	.125	968	13072
Ecuador	14	.622	.602	.057	.561	.718	1371	10618	.091	.082	.031	.06	.179	1322	16034
Panama	7	.596	.629	.108	.401	.744	802	3829	.084	.068	.051	.046	.197	481	8532
Venezuela	22	.545	.526	.079	.402	.708	801	10079	.131	.133	.025	.097	.193	707	13459
El Salvador	14	.538	.541	.062	.436	.669	1740	3346	.16	.158	.033	.098	.218	479	2754
Colombia	22	.519	.526	.094	.373	.724	164	19078	.118	.118	.033	.052	.179	897	21230
Saint Lucia	4	.474	.475	.049	.429	.516	325	446	.155	.155	.01	.148	.162	79	111
Paraguay	14	.458	.412	.118	.33	.777	1740	5381	.147	.138	.046	.04	.207	953	3701
Dominican Republic	23	.451	.469	.071	.302	.584	688	2176	.149	.149	.023	.109	.206	340	2693
Honduras	18	.381	.377	.094	.22	.575	211	4291	.219	.217	.066	.12	.397	255	1790
Nicaragua	12	.349	.366	.109	.205	.529	1211	5000	.211	.198	.063	.137	.35	246	2803
Brazil	25	.285	.249	.103	.144	.493	7290	332632	.21	.23	.052	.123	.299	5407	97580
Guatemala	22	.256	.256	.085	.099	.479	2399	8340	.229	.239	.037	.12	.282	548	2480
Haiti	4	.223	.218	.032	.191	.266	5399	20467	.341	.363	.052	.262	.375	832	5649
total	400	.587	.604	.203	.099	.972	56	29432	.112	.087	.076	.005	.397	72	17814

Notes: This table shows summary statistics for province-level estimates of IGM. “Upward” reflects the likelihood that children ages 14–18 whose parents have not completed primary schooling will manage to complete at least primary education. “Downward” reflects the likelihood that children ages 14–18 whose parents have completed primary schooling or higher will not manage to complete primary education. “Total” shows the unweighted summary statistics across all provinces. The columns “Nmin” and “Nmean” report the smallest and average sample size, respectively, across provinces. Countries are sorted from the highest to the lowest average level of upward IGM across provinces (column “mean”). Provinces with less than 50 observations are omitted (Figure A5 in the appendix reports the distribution of province-level sample size).

trative units.²⁵ An additional and perhaps more important caveat is that the analysis does not provide any causal interpretation and is solely descriptive.

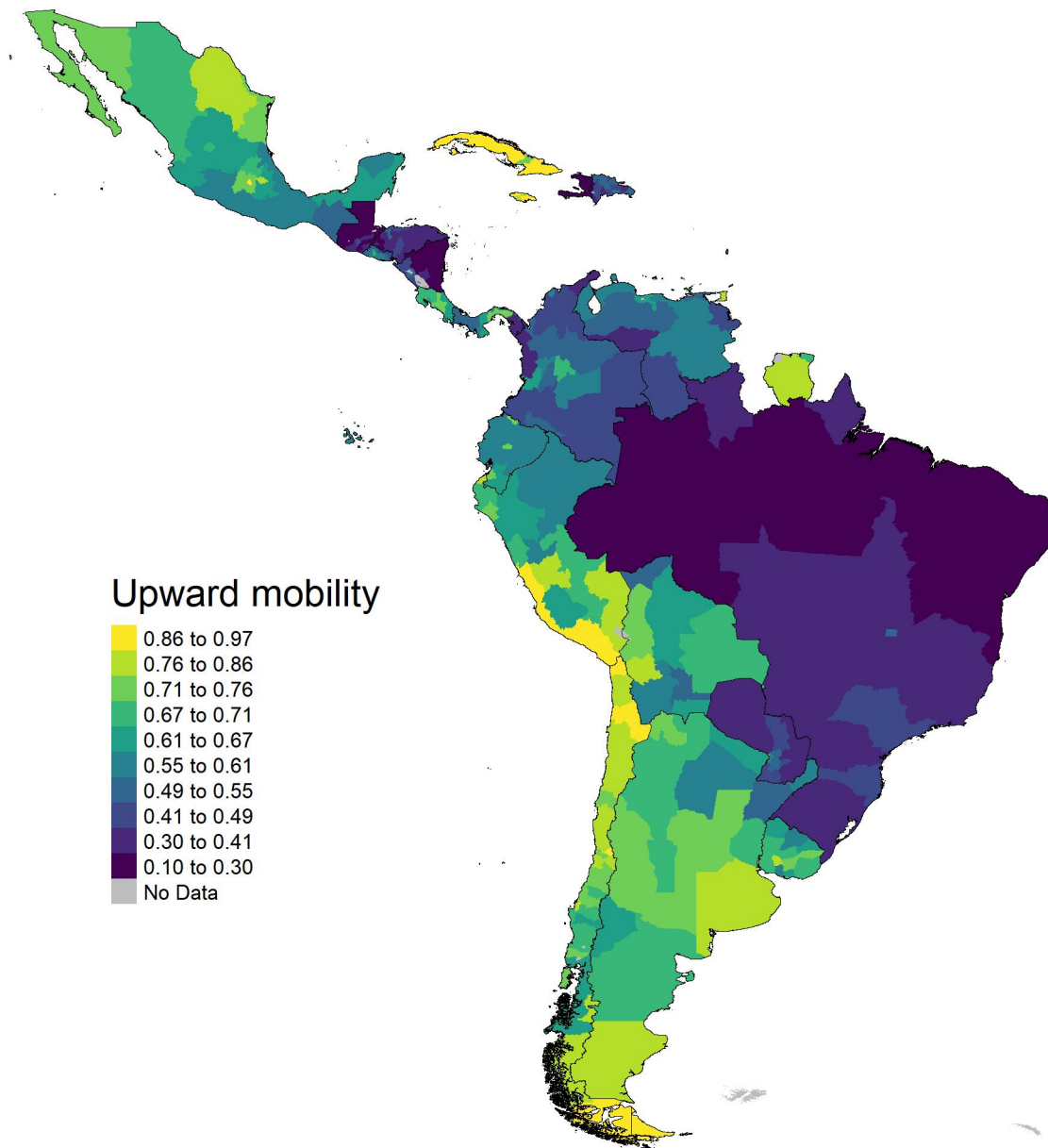
I run univariate regressions that pool all the countries, linking IGM to geographical and initial conditions that have been discussed in previous studies on intergenerational mobility outside of LAC (for example, see [Alesina et al., 2021](#)). To do so, I estimate the following econometric specification:

$$\alpha_{cr}^d = \eta_c^d + \beta^d Z_{cr} + \epsilon_{cr}^d \quad (4)$$

where $d = [up, down]$, the dependent variable, is the measure of upward or downward intergenerational mobility previously estimated for province/district r in country c , η_c^d denotes country fixed effects, and Z_{cr} and β^d are the covariate and the coefficient of interest, respectively. β^d summarizes the linear association between intergenerational mobility and the covariate.

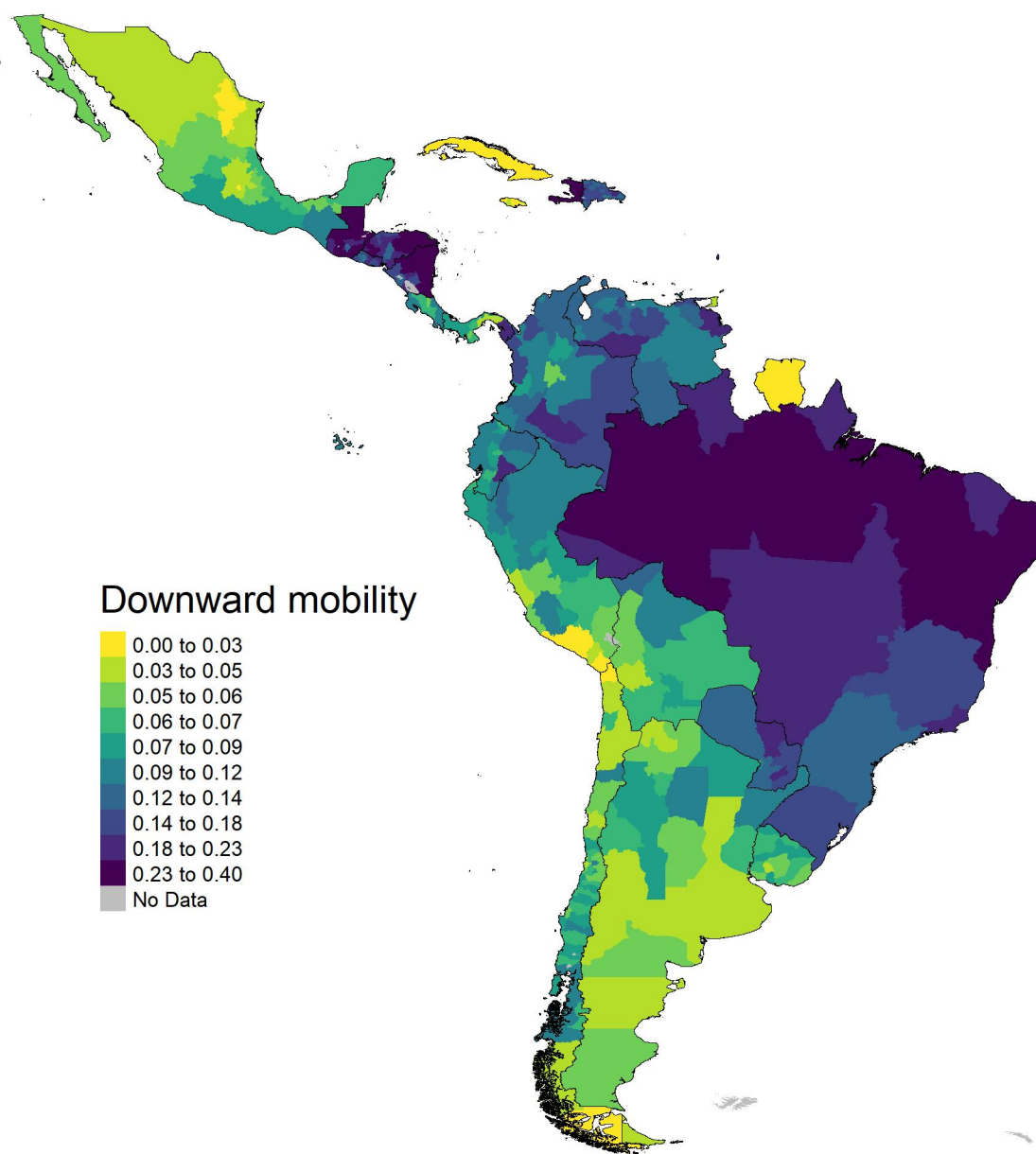
²⁵For example, [Munoz \(2021\)](#) and [Van der Weide et al. \(2020\)](#) use full-count census data for individual countries focusing on a much larger set of correlates.

Figure 10: Upward mobility in LAC



Notes: Upward mobility reflects the likelihood that children ages 14–18 whose parents have not completed primary schooling will manage to complete at least primary education.

Figure 11: Downward mobility in LAC



Notes: Downward mobility reflects the likelihood that children ages 14–18 whose parents completed primary schooling will not manage to complete at least primary education.

IV.3 Education of the preceding generation

First, I analyze the share of the preceding generation that completed primary education. [Alesina et al. \(2021\)](#) finds this measure to be strongly associated with mobility in Africa. This correlate in part reflects the initial outcomes at the province/district-level for parents. I compute this variable using an econometric specification similar to the one used to compute mobility at the regional level (see Equation 3), run country by country:

$$e_{icroyt} = \delta_{cr} + \gamma_o^b + \gamma_y^b + \theta_t + \epsilon_{icroyt} \quad (5)$$

where e_{icroyt} is a dummy variable equal to 1 if the educational level completed by the preceding generation for individual i from country c region r is at least primary school. Like before, γ_o^b and γ_y^b are birth-decade fixed effects for parents and children, and θ_t is a census year fixed effect. In other words, δ_{cr} estimates the share of “parents” who complete primary school by region, netting out cohort and census year effects.

In line with the results in [Alesina et al. \(2021\)](#), I find a strong positive correlation between upward mobility and the literacy of the preceding generation (see Figure A21 in the appendix) at the district-level, as well as a strong negative correlation with downward mobility, which suggests that the factors that may explain the variation in primary education completion in earlier generations also have a persistent effect on subsequent ones. Similar patterns are found at the country-birth cohort level (see Figure 12).

IV.4 Other covariates

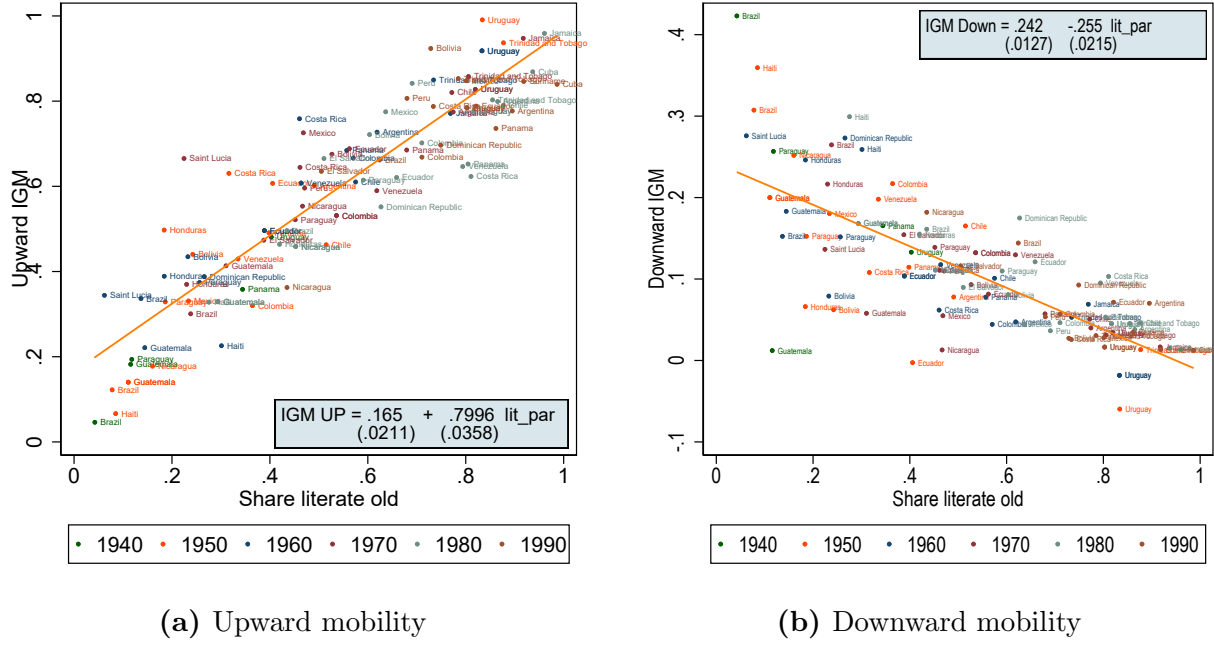
Given the strong association between IGM and the educational attainment of the preceding generation, I perform the correlation analyses for the remaining correlates one by one and also partial out the effect of the educational attainment of the preceding generation. The idea is to test whether any potential relationship with the covariate of interest remains after removing the effect of the covariate on “initial conditions.” I do so by estimating the following specification (in addition to Equation 4):

$$\alpha_{cr}^{up/down} = \eta_c + \beta Z_{cr} + \gamma W_{cr} + \epsilon_{cr} \quad (6)$$

where $m_{cr}^{up/down}$ is the measure of upward or downward IGM for province/district r in country c , η_c denotes country fixed effects, W_{cr} is the share of parents in region r who are literate, and Z_{cr} and β are the covariate and coefficient of interest, respectively.

Taking cues from the analysis in [Alesina et al. \(2021\)](#), I consider a set of correlates that

Figure 12: Intergenerational mobility and literacy of the preceding generation



(a) Upward mobility

(b) Downward mobility

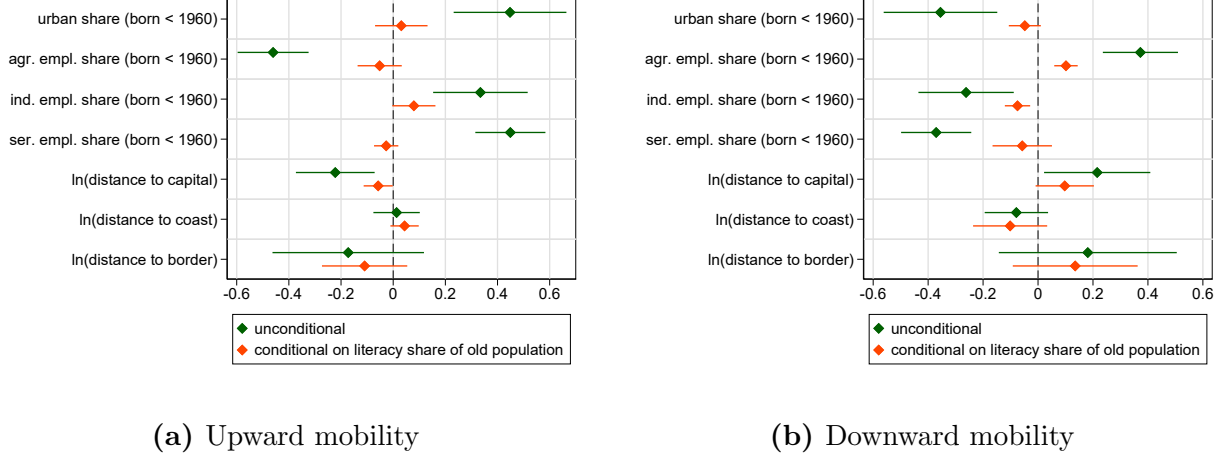
Notes: These estimates are computed by birth decade cohort of the children.

includes geographical characteristics and proxies for level of development at the beginning of the study period to assess whether they are relevant in this context.²⁶ The geographical correlates are distance to the capital, distance to the border, and distance to the coast. The development proxy correlates are the share of the population that is urban, the share of the workforce employed in agriculture, the share of the workforce employed in industry, and the share of the workforce employed in services. I restrict the sample to individuals born before year 1960 to compute these last four covariates.

The results are reported in Figure 13 for upward and downward mobility. Although upward mobility seems to be correlated with most of the proxies for development, in all cases the correlations become insignificant at the 5% level when controlling for education of the preceding generation. Only share of the workforce employed in industry, which is positively associated with upward mobility, is statistically significant at 10%. For downward mobility, I find a significant correlation at the standard level, even when controlling for the education of the preceding generation, with share of the workforce employed in industry and agriculture, although with opposite signs. A higher share of employment in agriculture is

²⁶Several of these correlates have been used to study development at the sub-national level in Latin America, see for example, [Gallup, Gaviia, and Lora \(2003\)](#), [Maloney and Valencia Caicedo \(2016\)](#), and [Gomez-Lobo and Oviedo \(2023\)](#).

Figure 13: IGM and correlates



Notes: The graph plots the estimated coefficients and 95% confidence intervals computed with standard errors clustered by country. The analysis is done at district- level, running regressions by covariate as in equations 4 and 6. The coefficients are standardized.

associated with higher downward mobility, while a higher share of employment in industry is associated with lower downward mobility.

In the case of geographical correlates, distance to the border and coast are not significantly correlated with either measure of mobility. This aligns with [Alesina et al. \(2021\)](#) in the case of the border but differs from their results for the coast. However, distance to the capital negatively correlates to upward mobility and positively correlates to downward mobility, although weakly (statistically significant at the 5% level for upward and at the 10% level for downward mobility).

All these findings are robust to the use of upward or downward mobility computed using secondary education as the level of interest (see Figure A22 in the appendix).

IV.5 Discussion of the results

The estimates of intergenerational mobility at the sub-national level reveal the following patterns. First, there is substantial variation across provinces and districts. In several countries, the range between provinces can be more than half the range found at the country level for the entire region. This important variation in IGM does not show up in country-level analyses. This finding adds to the previous literature documenting within-country heterogeneity in levels of mobility in education (e.g., [Alesina et al., 2021](#); [Asher et al., 2023](#); [Card](#)

et al., 2022). Additionally, this finding suggests that patterns of IGM in income may also vary significantly in the region, although this hypothesis is not verifiable at the moment. For example, Card et al. (2022) use a similar measure of intergenerational mobility in education (fraction of children who completed at least ninth grade among those whose parents completed 5–8 years of education) to map IGM at the county level in the U.S. using the 1940 census. They find important variability and geographical patterns that are similar to the map with the estimates of income mobility for the cohort born in years 1980–83 from Chetty et al. (2014). Second, IGM is strongly correlated to the average educational attainment of parents. Furthermore, beyond the effect of initial conditions, IGM appears to be correlated to some proxies of development, as well as distance to the capital, suggesting that educational opportunities are centralized. These results are qualitatively similar to the findings in Africa (Alesina et al., 2021) and complement previous studies that have shown a positive association between economic development and measures of intergenerational mobility in the region (Neidhöfer et al., 2024, 2018) and globally (Van der Weide et al., 2024).

V Final Remarks

In this paper, I examine intergenerational educational mobility for countries in Latin America and the Caribbean at a disaggregated regional level using census data spanning more than half a century. I investigate mobility in education at the bottom of the educational attainment distribution by focusing on the likelihood that children whose parents did not complete primary education will themselves manage to complete that level, which can be measured with a high degree of confidence between ages 14 and 18. Similarly, I measure downward mobility as the probability that children whose parents completed at least primary education will not themselves manage to complete that level.

I find wide cross-country and within-country heterogeneity. In LAC, the distance between the most and least upwardly mobile countries is relatively close to what has been recently documented in Africa, although the least mobile countries in Africa are less mobile than any country in LAC. Similarly, the median country in LAC shows higher upward mobility than the median country in Africa. There is significant overlap in the levels of upward mobility between these two regions, but much less overlap in levels of downward mobility. I do not find significant differences by gender, but I do document a decline in the mobility gap between urban and rural populations. I also find that upward mobility increases and downward mobility decreases over time.

Within-country mobility shows a variety of patterns. For example, some countries have higher mobility in the northern regions (e.g., Mexico), whereas others show higher mobility

in the southern regions (e.g., Brazil). The level of within-country heterogeneity also varies by country, with the lowest levels found in the smallest and least populated nations. Moreover, level of mobility closely correlates to the share of the preceding generation that completed primary school. In addition, there appears to be a weak positive correlation between upward mobility and share of the workforce employed in industry or distance to the capital, whereas downward mobility is significantly correlated to the share of the workforce employed in industry and the share of the workforce employed in agriculture, and is only weakly correlated to distance to the capital.

Given the unbalanced nature of the data set in terms of coverage over time and across countries, further research could shed more light on potential determinants of mobility in Latin America by analyzing countries with relatively high data coverage, such as Chile, Mexico, or Brazil, where it is easier to collect correlates by administrative unit. This paper contributes to this goal by creating estimates of mobility at a disaggregated geographical level and making them available in an online data appendix for future research.

References

- Alesina, A., Hohmann, S., Michalopoulos, S., & Papaioannou, E. (2021). Intergenerational Mobility in Africa. *Econometrica*, 89(1), 1–35.
- Alesina, A., Hohmann, S., Michalopoulos, S., & Papaioannou, E. (2023). Religion and Educational Mobility in Africa. *Nature*, 618(7963), 134–143.
- Alvaredo, F., & Gasparini, L. (2015). *Recent Trends in Inequality and Poverty in Developing Countries* (1st ed., Vol. 2). Elsevier B.V. Retrieved from <http://dx.doi.org/10.1016/B978-0-444-59428-0.00010-2>
- Asher, S., Novosad, P., & Rafkin, C. (2023). Intergenerational Mobility in India: New Measures and Estimates Across Time and Social Groups. *American Economic Journal: Applied Economics* (forthcoming).
- Becker, G. S., & Tomes, N. (1979). An Equilibrium Theory of the Distribution of Income and Intergenerational Mobility. *Journal of Political Economy*, 87(6), 1153–1189.
- Becker, G. S., & Tomes, N. (1986). Human Capital and the Rise and Fall of Families. *Journal of Labor Economics*, 4(3), S1–S39.
- Bjorklund, A., & Jantti, M. (1997). Intergenerational Income Mobility in Sweden Compared to the United States. *The American Economic Review*, 87(5), 1009–1018.
- Black, S. E., & Devereux, P. J. (2011). *Recent Developments in Intergenerational Mobility* (Vol. 4b).
- Card, D., Domnisoru, C., & Taylor, L. (2022). The Intergenerational Transmission of Human Capital: Evidence from the Golden Age of Upward Mobility. *Journal of Labor Economics*, 40(S1), S39–S95.
- Chetty, R., Hendren, N., Kline, P., & Saez, E. (2014). Where is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States. *The Quarterly Journal of Economics*, 129(4), 1553–1623.
- Corak, M. (2013). Income Inequality, Equality of Opportunity, and Intergenerational Mobility. *Journal of Economic Perspectives*, 27(3), 79–102.
- Corak, M. (2020). The Canadian Geography of Intergenerational Income Mobility. *The Economic Journal*, 130(631), 2134–2174.
- Cortés Orihuela, J., Díaz, J. D., Gutiérrez Cubillos, P., Montecinos, A., Troncoso, P. A., & Villarroel, G. I. (2023). Decentralizing the Chilean Miracle: Regional Intergenerational Mobility in a Developing Country. *Regional Studies*, 57(5), 785–799.
- Dahan, M., & Gaviria, A. (2001). Sibling correlations and intergenerational mobility in Latin America. *Economic Development and Cultural Change*, 49(3), 537–554.
- Derenoncourt, E. (2022). Can You Move to Opportunity? Evidence from the Great Migration. *American Economic Review*, 112(2), 369–408.
- Deutscher, N., & Mazumder, B. (2023). Measuring Intergenerational Income Mobility: A Synthesis of Approaches. *Journal of Economic Literature* (forthcoming), 61(3), 988–1036.
- Emran, M. S., Greene, W., & Shilpi, F. (2018). When Measure Matters: Coresidency, Truncation Bias, and Intergenerational Mobility in Developing Countries. *Journal of Human Resources*, 53(3), 579–607.
- Emran, M. S., & Shilpi, F. (2021). Economic Approach to Intergenerational Mobility: Measures, Methods, and Challenges in Developing Countries. In V. Iversen, A. Krishna, &

- K. Sen (Eds.), *Social mobility in developing countries: Concepts, methods, and determinants*. Oxford University Press.
- Feigenbaum, J. J. (2018). Multiple Measures of Historical Intergenerational Mobility: Iowa 1915 to 1940. *Economic Journal*, 128(612), F446–F481.
- Francesconi, M., & Nicoletti, C. (2006). Intergenerational Mobility and Sample Election in Short Panels. *Journal of Applied Econometrics*, 21, 1265–1293.
- Gallup, J. L., Gaviria, A., & Lora, E. (2003). *Is Geography Destiny? Lessons from Latin America*. Stanford University Press and the World Bank.
- G.C. Britto, D., Fonseca, A., Pinotti, P., Sampaio, B., & Warwar, L. (2022). Intergenerational Mobility in the Land of Inequality. *IZA Discussion Paper*(15611).
- Goldin, C., & Katz, L. F. (1999). Human Capital and Social Capital: The Rise of Secondary Schooling in America, 1910-1940. *The Journal of Interdisciplinary History*, 29(4), 683–723.
- Gomez-Lobo, A., & Oviedo, D. (2023). Spatial Inequalities in Latin America: Mapping Aggregate to Micro-level disparities. *LSE Research Online Documents on Economics*, 120691.
- Güell, M., Pellizzari, M., Pica, G., & Rodríguez Mora, J. V. (2018). Correlating Social Mobility and Economic Outcomes. *Economic Journal*, 128(612), F353–F403.
- Haider, S., & Solon, G. (2006). Life-Cycle Variation in the Association between Current and Lifetime Earnings. *American Economic Review*, 96(4), 1308–1320.
- Hertz, T., Jayasundera, T., Piraino, P., Selcuk, S., Smith, N., & Verashchagina, A. (2007). The Inheritance of Educational Inequality: International Comparisons and Fifty-Year Trends. *The B.E. Journal of Economic Analysis Policy*, 7(2).
- Hilger, N. (2016). The Great Escape: Intergenerational Mobility in the United States Since 1940. *NBER Working Paper*(21217).
- IPUMS. (2019). *Integrated Public Use Microdata Series, International: Version 7.2 [dataset]*. Minneapolis, MN: IPUMS: Minnesota Population Center.
- Lagakos, D. (2020). Urban-Rural Gaps in the Developing World: Does Internal Migration Offer Opportunities? *Journal of Economic Perspectives*, 34(3), 174–192.
- Maloney, W. F., & Valencia Caicedo, F. (2016). The Persistence of (Subnational) Fortune. *Economic Journal*, 126(598), 2363–2401.
- Munoz, E. (2021). Intergenerational Educational Mobility within Chile. *Available at SSRN: <https://ssrn.com/abstract=3969270> or <http://dx.doi.org/10.2139/ssrn.3969270>*.
- Munoz, E. (2022). Does it Matter Where You Grow up? Childhood Exposure Effects in Latin America and the Caribbean. *Policy Research working paper, World Bank Group*, 10037.
- Munoz, E., & Siravegna, M. (2023). When Measure Matters: Coresidence Bias and Intergenerational Mobility Revisited. *IDB Working Paper*, 01469.
- Narayan, A., Van der Weide, R., Cojocaru, A., Lakner, C., Redaelli, S., Gerszon Mahler, D., ... Thewissen, S. (2018). *Fair Progress?: Economic Mobility Across Generations Around the World*. The World Bank.
- Neidhöfer, G. (2019). Intergenerational Mobility and the Rise and Fall of Inequality: Lessons from Latin America. *Journal of Economic Inequality*, 17(4), 499–520.

- Neidhöfer, G., Gasparini, L., Ciaschi, M., Gasparini, L., & Serrano, J. (2024). Social Mobility and Economic Development. *Journal of Economic Growth*, 29, 327-359.
- Neidhöfer, G., Serrano, J., & Gasparini, L. (2018). Educational Inequality and Intergenerational Mobility in Latin America: A New Database. *Journal of Development Economics*, 134, 329-349.
- Ravallion, M. (2016). Are the World's Poorest being Left Behind? *Journal of Economic Growth*, 21, 139-164.
- Rawls, J. (1971). *A Theory of Justice*. Cambridge, MA: Harvard University Press.
- Solon, G. (1992). Intergenerational Income Mobility in the United States. *The American Economic Review*, 82(3), 393-408.
- Torche, F. (2021). Educational Mobility in the Developing World. In V. Iversen, A. Krishna, & K. Sen (Eds.), *Social mobility in developing countries: Concepts, methods, and determinants*. Oxford University Press.
- Van der Weide, R., Ferreira de Souza, P., & Barbosa, R. (2020). Intergenerational Mobility in Education in Brazil. *mimeo*.
- Van der Weide, R., Lakner, C., Mahler, D. G., Narayan, A., & Gupta, R. (2024). Intergenerational mobility around the world: A new database. *Journal of Development Economics*, 166.

Appendices

This appendix provides details on how the sample was constructed, as well as some additional tables and graphs.

Table [A1](#) lists the census samples obtained from IPUMS-International and the size of the data set extracted.

Table [A2](#) reports sample size, from raw data to samples restricted by age and by availability of information on education.

Table [A3](#) reports coresidence rates by country for different ages.

Table [A4](#) details how the information on relationship to head of household is used to identify different generations.

Table [A5](#) reports coresidence rates by country-sample for different ages.

Figure [A1](#) displays coresidence rates by urban/rural population and by gender.

Figure [A2](#) compares estimates of upward mobility with all children versus coresident children for the same country-cohort. The source of these estimates is [Munoz and Siravegna \(2023\)](#).

Figure [A3](#) displays the educational attainment transition matrix for individuals 14–25 years old.

Figure [A4](#) displays the educational attainment transition matrix for individuals 14–25 years old in selected countries.

Table [A6](#) summarizes education level by cohort using data on individuals at least 25 years old.

Figure [A5](#) reports the CDF of the sample size by province.

Figure [A6](#) reports the variability of province-level estimates of intergenerational mobility within countries.

Table [A7](#) reports district-level estimates of intergenerational mobility.

Figure [A7](#) and [A8](#) map out mobility at the district level for LAC.

Figure [A9](#) and [A10](#) map out mobility at the district level for LAC using secondary education.

Table [A8](#), [A9](#), and [A10](#) report estimates of IGM based on secondary education.

Table [A11](#), [A12](#), and [A13](#) report estimates of IGM based on the likelihood of an individual completing secondary education when their parents completed less than primary school.

Figure [A11](#), [A12](#), [A13](#), and [A14](#) display mosaic plots of educational attainment by country.

Figure [A15](#) compares upward and downward mobility in LAC and Africa.

Figure [A16](#) shows the negative relationship between upward and downward mobility.

Figure [A17](#) shares estimates of upward mobility by urban/rural status for selected countries.

Figure [A18](#) shows estimates of downward mobility by urban/rural status for selected countries.

Figure [A19](#) displays estimates of upward mobility by gender for selected countries.

Figure [A20](#) shares estimates of downward mobility by gender for selected countries.

Figure [A21](#) shows scatter plots between IGM and share of the preceding generation that completed at least primary education, by district.

Figure [A22](#) shows the association between IGM estimates using secondary education and correlates.

A Sample coverage and construction

Table A1: Census samples

N	Country	Year	Fraction (%)	Households	Persons	N	Country	Year	Fraction (%)	Households	Persons
1	Argentina	1970	2	129,728	466,892	47	Haiti	2003	10	219,633	838,045
2	Argentina	1980	10	672,062	2,667,714	48	Honduras	1974	10	49,064	278,348
3	Argentina	1991	10	1,199,651	4,286,447	49	Honduras	1988	10	77,406	423,971
4	Argentina	2001	10	1,040,852	3,626,103	50	Honduras	2001	10	123,584	608,620
5	Argentina	2010	10	1,217,166	3,966,245	51	Jamaica	1982	10	54,526	223,667
6	Bolivia	1976	10	121,378	461,699	52	Jamaica	1991	10	62,291	232,625
7	Bolivia	1992	10	177,926	642,368	53	Jamaica	2001	10	64,317	205,179
8	Bolivia	2001	10	239,475	827,692	54	Mexico	1970	1	82,856	483,405
9	Bolivia	2012	10	292,117	1,003,516	55	Mexico	1990	10	1,648,280	8,118,242
10	Brazil	1960	20	3,066,365	14,983,769	56	Mexico	2000	10.6	2,312,035	10,099,182
11	Brazil	1970	25	5,111,039	24,789,716	57	Mexico	2010	10	2,903,640	11,938,402
12	Brazil	1980	25	6,716,885	29,378,753	58	Nicaragua	1971	10	36,063	189,469
13	Brazil	1991	10	4,024,553	17,045,712	59	Nicaragua	1995	10	82,815	435,728
14	Brazil	2000	10	5,304,711	20,274,412	60	Nicaragua	2005	10	119,339	515,485
15	Brazil	2010	10	6,192,502	20,635,472	61	Panama	1960	5	11,869	53,553
16	Chile	1970	10	199,041	890,481	62	Panama	1970	10	31,755	150,473
17	Chile	1982	10	282,356	1,133,062	63	Panama	1980	10	47,726	195,577
18	Chile	1992	10	373,964	1,335,055	64	Panama	1990	10	61,458	232,737
19	Chile	2002	10	486,115	1,513,914	65	Panama	2000	10	84,346	284,081
20	Colombia	1973	10	349,853	1,988,831	66	Panama	2010	10	95,579	341,118
21	Colombia	1985	10	571,046	2,643,125	67	Paraguay	1962	5	18,307	90,236
22	Colombia	1993	10	774,321	3,213,657	68	Paraguay	1972	10	43,883	233,669
23	Colombia	2005	10	1,054,812	4,006,168	69	Paraguay	1982	10	60,465	301,582
24	Costa Rica	1973	10	36,323	186,762	70	Paraguay	1992	10	100,704	415,401
25	Costa Rica	1984	10	56,186	241,220	71	Paraguay	2002	10	113,039	516,083
26	Costa Rica	2000	10	106,973	381,500	72	Peru	1993	10	564,765	2,206,424
27	Costa Rica	2011	10	124,693	430,082	73	Peru	2007	10	821,675	2,745,895
28	Cuba	2002	10	371,878	1,118,767	74	Saint Lucia	1980	10	2,674	11,451
29	Cuba	2012	10	416,577	1,115,643	75	Saint Lucia	1991	10	3,394	13,382
30	Dominican Rep	1981	8.5	103,904	475,829	76	Suriname	2012	10	14,037	53,636
31	Dominican Rep	2002	10	247,375	857,606	77	Trinidad and Tobago	1970	10	15,871	69,349
32	Dominican Rep	2010	10	309,624	943,784	78	Trinidad and Tobago	1980	10	23,870	105,464
33	Ecuador	1974	10	145,902	648,678	79	Trinidad and Tobago	1990	10	27,561	113,104
34	Ecuador	1982	10	195,401	806,834	80	Trinidad and Tobago	2000	10	35,715	111,833
35	Ecuador	1990	10	243,898	966,234	81	Trinidad and Tobago	2011	8.8	41,606	116,917
36	Ecuador	2001	10	354,222	1,213,725	82	Uruguay	1963	10	79,403	256,171
37	Ecuador	2010	10	386,944	1,448,233	83	Uruguay	1975	10	95,935	279,994
38	El Salvador	1992	10	125,695	510,760	84	Uruguay	1985	10	105,761	295,915
39	El Salvador	2007	10	172,012	574,364	85	Uruguay	1996	10	118,067	315,920
40	Guatemala	1964	5	40,220	210,411	86	Uruguay	2006	8.4	85,316	256,866
41	Guatemala	1973	5.5	59,622	289,458	87	Uruguay	2011	10	118,498	328,425
42	Guatemala	1981	5	65,555	302,106	88	Venezuela	1971	2	284,336	1,158,527
43	Guatemala	1994	10	160,603	833,139	89	Venezuela	1981	10	323,321	1,441,266
44	Guatemala	2002	10	222,770	1,121,946	90	Venezuela	1990	10	468,808	1,803,953
45	Haiti	1971	10	95,145	434,869	91	Venezuela	2001	10	646,080	2,306,489
46	Haiti	1982	2.5	28,698	128,770						

Table A2: Sample sizes

Country	Year	All observations			Obs. with education		Country	Year	age: All	All observations		Obs. with education	
		age: All	age: 14-18	age: 14-25	age: 14-18	age: 14-25				age: 14-18	age: 14-25	age: 14-18	age: 14-25
Argentina	1970	466,892	42,317	96,744	31,411	59,124	Haiti	2003	838,045	103,088	218,016	72,705	130,436
Argentina	1980	2,700,000	241,353	532,289	193,448	348,232	Honduras	1974	278,348	32,262	64,660	24,018	37,966
Argentina	1991	4,300,000	392,977	844,871	347,074	611,881	Honduras	1988	423,971	47,258	95,944	37,642	62,769
Argentina	2001	3,600,000	321,380	764,630	295,621	596,468	Honduras	2001	608,620	73,272	154,339	62,008	105,745
Argentina	2010	4,000,000	354,910	813,073	323,256	621,385	Jamaica	1982	223,668	27,612	58,456	17,270	28,729
Bolivia	1976	461,699	51,674	109,380	35,230	57,307	Jamaica	1991	232,625	25,145	56,810	17,326	32,498
Bolivia	1992	642,368	69,992	147,085	46,235	75,965	Jamaica	2001	205,179	21,357	47,770	14,349	25,241
Bolivia	2001	827,692	90,786	199,275	63,080	111,001	Mexico	1970	483,405	54,069	111,210	41,915	64,605
Brazil	1960	15,000,000	1,600,000	3,500,000	1,300,000	2,200,000	Mexico	1990	8,100,000	1,000,000	2,100,000	900,739	1,500,000
Brazil	1970	25,000,000	2,800,000	6,000,000	2,300,000	3,700,000	Mexico	2000	10,000,000	1,100,000	2,400,000	963,638	1,700,000
Brazil	1980	29,000,000	3,300,000	7,400,000	2,700,000	4,600,000	Mexico	2010	12,000,000	1,300,000	2,700,000	1,200,000	2,200,000
Brazil	1991	17,000,000	1,800,000	4,000,000	1,600,000	2,800,000	Nicaragua	1971	189,469	22,601	44,957	16,771	26,368
Brazil	2000	20,000,000	2,200,000	4,800,000	1,900,000	3,400,000	Nicaragua	1995	435,728	51,956	107,402	42,619	74,447
Brazil	2010	21,000,000	1,900,000	4,500,000	1,700,000	3,200,000	Nicaragua	2005	515,485	60,691	136,084	50,811	95,961
Chile	1970	890,481	96,432	203,625	73,392	123,911	Panama	1960	53,553	5,481	11,869	3,368	5,498
Chile	1982	1,100,000	130,958	293,439	106,794	197,946	Panama	1970	150,473	15,817	34,219	11,310	18,797
Chile	1992	1,300,000	121,069	290,349	100,838	199,734	Panama	1980	195,577	22,673	47,420	17,725	30,333
Chile	2002	1,500,000	130,506	297,907	110,343	214,019	Panama	1990	232,737	25,536	57,471	19,537	36,604
Colombia	1973	2,000,000	245,355	493,144	172,222	281,047	Panama	2000	284,081	27,438	62,585	21,924	41,171
Colombia	1985	2,600,000	312,063	705,404	245,920	466,142	Panama	2010	341,118	30,266	70,017	26,170	49,837
Colombia	1993	3,200,000	336,233	758,037	263,014	485,909	Paraguay	1962	90,236	10,003	20,431	6,011	10,224
Colombia	2005	4,000,000	399,870	860,151	325,438	579,432	Paraguay	1972	233,669	27,630	54,005	18,806	31,105
Costa Rica	1973	186,762	23,539	46,832	18,809	30,070	Paraguay	1982	301,582	34,248	74,515	25,177	45,971
Costa Rica	1984	241,220	28,005	64,067	23,982	44,198	Paraguay	1992	415,401	41,705	89,839	30,061	52,473
Costa Rica	2000	381,500	40,582	88,091	36,085	63,624	Paraguay	2002	516,083	59,365	125,811	48,042	85,609
Costa Rica	2011	430,082	40,703	98,328	36,805	74,880	Peru	1993	2,200,000	245,196	539,320	183,244	335,766
Cuba	2002	1,100,000	82,556	180,787	69,378	132,152	Peru	2007	2,700,000	280,035	636,955	222,254	419,885
Dominican Republic	1981	475,829	62,387	126,838	49,358	84,310	Saint Lucia	1980	11,451	1,516	2,985	1,076	1,754
Dominican Republic	2002	857,606	85,616	194,479	69,843	128,140	Saint Lucia	1991	13,382	1,455	3,406	1,138	2,154
Dominican Republic	2010	943,784	98,661	221,932	78,426	142,857	Trinidad and Tobago	1970	69,349	8,259	16,684	6,398	10,873
Ecuador	1974	648,678	72,812	162,826	49,142	82,561	Trinidad and Tobago	1980	105,464	13,096	28,713	11,078	20,578
Ecuador	1982	806,834	89,627	194,868	64,889	112,394	Trinidad and Tobago	1990	113,104	10,646	24,520	9,232	18,279
Ecuador	1990	966,234	108,806	237,150	83,171	146,856	Trinidad and Tobago	2000	111,833	12,444	26,458	10,890	20,515
Ecuador	2001	1,200,000	126,354	287,034	100,955	186,327	Trinidad and Tobago	2011	116,917	8,325	22,630	7,288	17,595
Ecuador	2010	1,400,000	145,454	326,549	117,218	212,597	Uruguay	1963	256,171	20,618	47,079	15,749	28,722
El Salvador	1992	510,760	62,794	129,373	44,508	74,325	Uruguay	1975	279,994	24,213	53,152	18,704	33,222
El Salvador	2007	574,364	62,912	131,762	55,338	100,318	Uruguay	1985	295,915	23,728	55,355	18,881	35,368
Guatemala	1964	210,079	22,674	46,804	17,177	27,249	Uruguay	1996	315,920	26,188	60,440	21,870	41,399
Guatemala	1973	289,446	33,148	71,814	24,569	39,263	Uruguay	2006	256,866	21,943	45,451	20,277	36,604
Guatemala	1981	302,106	33,771	72,879	26,958	45,277	Uruguay	2011	328,425	26,825	60,496	23,925	43,382
Guatemala	1994	833,137	97,480	196,310	82,505	135,877	Venezuela	1971	1,200,000	133,044	282,119	87,971	144,465
Guatemala	2002	1,100,000	127,311	269,696	114,181	200,981	Venezuela	1981	1,400,000	166,729	367,032	133,566	238,340
Haiti	1971	434,869	51,096	101,984	35,014	58,427	Venezuela	1990	1,800,000	199,055	445,482	149,752	269,185
Haiti	1982	128,770	15,471	36,494	8,349	15,840	Venezuela	2001	2,300,000	234,403	534,204	204,784	394,511

Notes: This table reports the total sample size by census year and country, as well as the sample population restricted by age and by the presence of information on education for children and parents.

B Rates of coresidence

This table shows the coresidence rate by country for different ages. The coresidence rate is the total number of individuals who coreside with at least one member of an immediately preceding generation in the household divided by the total number of individuals in the age group. The sample only includes individuals for whom educational attainment and relationship to head of household are observed.

Table A3: Coresidence rates

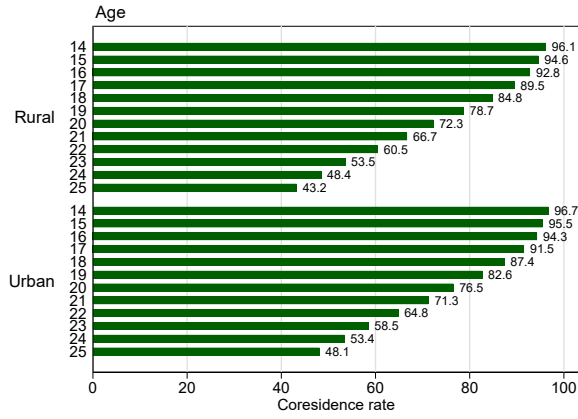
	Rate				Observations (thousands)			
	14–18	18–25	21–25	20–23	14–18	18–25	21–25	20–23
Argentina	95.7	72.1	63.1	72.2	1246	1746	1067	870
Bolivia	86.7	57.6	48.8	56.4	263	358	218	180
Brazil	93.7	63.0	51.7	62.0	12292	16695	10015	8312
Chile	95.4	72.7	63.8	73.3	410	570	351	285
Colombia	93.4	68.4	59.6	68.2	1086	1451	888	717
Costa Rica	94.5	68.3	58.8	68.0	122	173	105	87
Cuba	91.6	74.6	68.7	74.8	141	217	136	107
Dominican Republic	89.0	63.4	54.1	62.7	222	307	182	153
Ecuador	92.8	64.8	55.2	64.2	451	621	378	311
El Salvador	90.8	66.8	57.8	66.1	110	138	82	68
Guatemala	92.8	63.4	52.8	62.6	286	363	214	180
Haiti	94.4	71.6	60.3	71.1	123	158	88	76
Honduras	91.1	62.3	52.1	60.9	136	168	98	83
Jamaica	90.5	65.2	55.2	64.7	58	76	45	37
Mexico	93.8	69.1	59.4	68.5	3363	4318	2536	2112
Nicaragua	92.4	67.7	59.1	67.2	120	156	93	78
Panama	92.5	66.8	57.7	66.3	108	150	91	74
Paraguay	94.7	67.4	57.4	67.2	136	177	107	89
Peru	93.3	69.8	61.8	69.4	436	604	371	301
Saint Lucia	94.7	66.3	55.7	65.2	2	3	2	2
Suriname	95.7	81.2	75.6	82.2	4	5	3	3
Trinidad and Tobago	96.1	78.1	70.4	78.8	47	66	40	32
Uruguay	95.4	68.9	59.2	68.6	125	175	107	87
Venezuela	92.6	67.7	59.0	67.1	630	858	518	428

Table A4: Relationship to head of household and generational identifiers

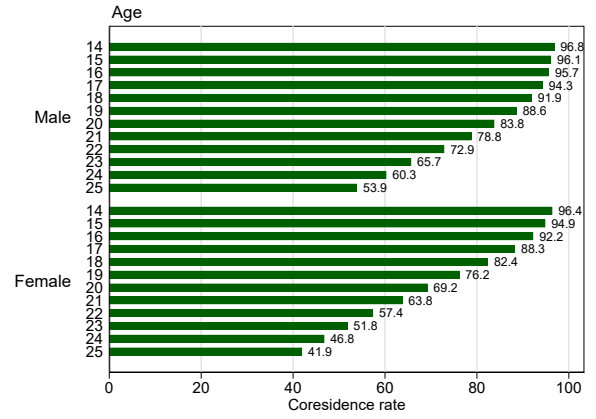
Relationship to head	Generation	Relationship to head	Generation
Grandparent	-2	Sibling of sibling-in-law	0
Great- grandparent	-2	Ex-spouse	0
Parent/parent-in-law	-1	Child	1
Parent	-1	Biological child	1
Stepparent	-1	Adopted child	1
Parent-in-law	-1	Stepchild	1
Aunt/uncle	-1	Child-in-law	1
Head	0	Spouse/partner of child	1
Spouse/partner	0	Unmarried partner of child	1
Spouse	0	Nephew/niece	1
Unmarried partner	0	Foster child	1
Same-sex spouse/partner	0	Tutored/foster child	1
Sibling/sibling-in-law	0	Tutored child	1
Sibling	0	Grandchild	2
Stepsibling	0	Grandchild or great-grandchild	2
Sibling-in-law	0	Great-grandchild	2
Cousin	0	Great-great-grandchild	2

Notes: Categories not classified are: Other relative, not elsewhere classified; other relative with different family name; non-relative; friend; housemate/roommate; visitor; godparent; godchild; domestic employee; relative of employee; spouse of servant; child of servant; other relative of servant; roomer/boarder/lodger/foster child; boarder; boarder or guest; lodger; employee, boarder or guest; other specified non-relative; agregado; temporary resident, guest; group quarters; group quarters, non-inmates; institutional inmates; non-relative, n.e.c.; other relative or non-relative; unknown.

Figure A1: Coresidence rate by age for subgroups



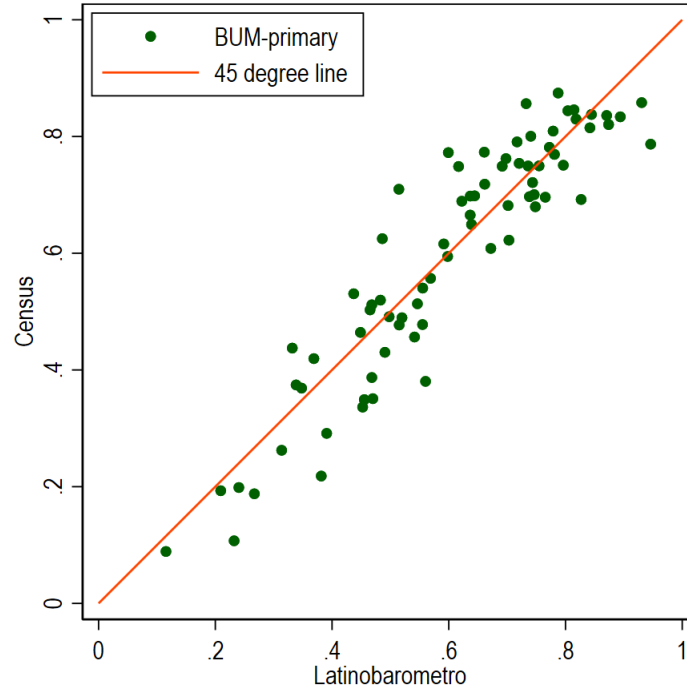
(a) Coresidence rates by urban-rural status



(b) Coresidence rate by gender

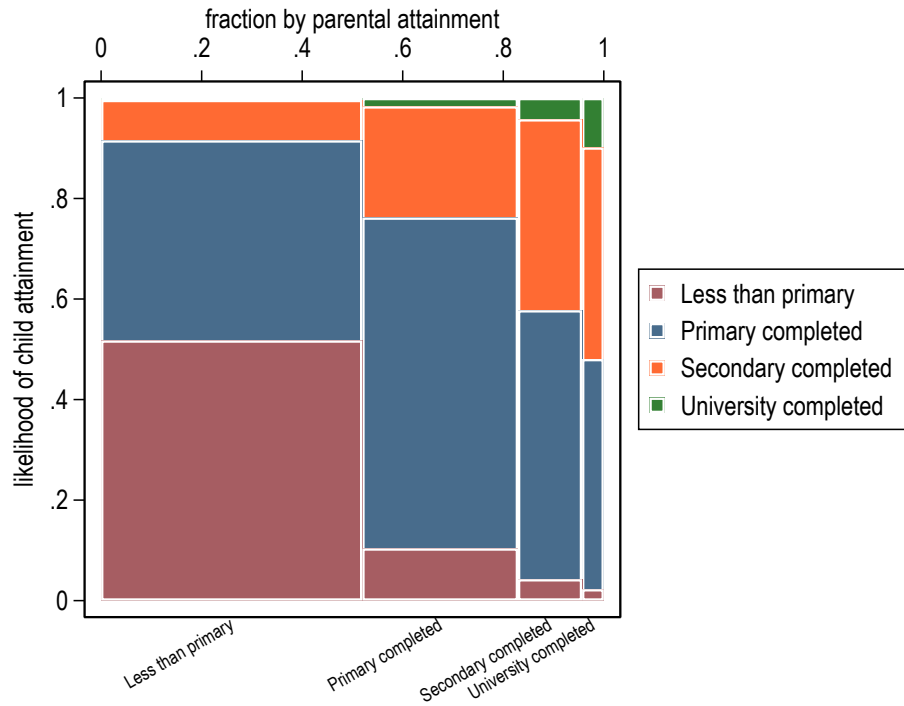
Notes: Coresidence is defined as living with at least one individual from the immediately preceding generation. The data in the graph is unweighted.

Figure A2: Comparison of IGM with all versus coresident children



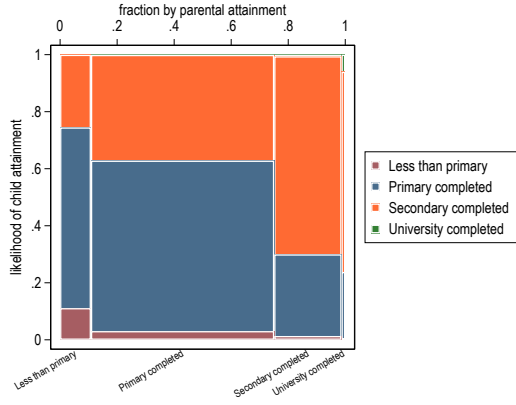
Notes: The source of these estimates is [Munoz and Siravegna \(2023\)](#). It shows the relationship between estimates of the conditional probability that individuals whose parents did not complete primary school will manage to complete primary education using two data sources. One set of estimates is computed with census data, using individuals aged 21–25 that coreside with at least one parent. The second set of estimates uses the equivalent five birth-cohorts of each census sample with data from Latinobarometro, where individuals are asked about the educational attainment of their parents. These 72 estimates span 18 countries in Latin America.

Figure A3: Educational attainment transition matrix

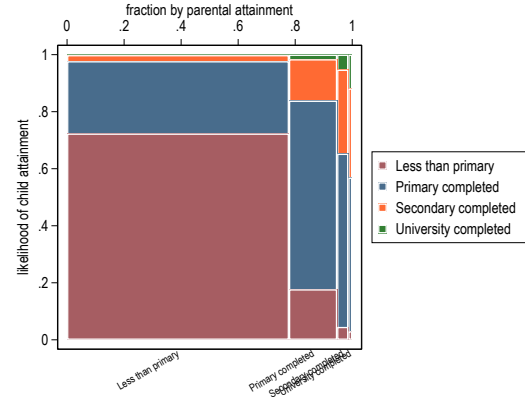


Notes: This sample is made up of individuals 14–25 years old who coreside with at least one individual from the preceding generation. The figure displays the transition matrix between the educational attainment of individuals in the sample and their parents. The horizontal axis is divided according to the share of parents who have attained each level of education. The height of each rectangle within the figure is the likelihood of child educational attainment conditional on the attainment of their parents.

Figure A4: Transition matrix for selected countries



(a) Jamaica



(b) Guatemala

Notes: This sample is made up of individuals 14–25 years old who coreside with at least one individual from the preceding generation. The figure displays the transition matrix between the educational attainment of individuals in the sample and their parents. The horizontal axis is divided according to the share of parents who have attained each level of education. The height of each rectangle within the figure is the likelihood of child educational attainment conditional on the attainment of their parents.

Table A5: Coresidence rate by sample

	Year	Rate				Observations (thousands)			
		14-18	18-25	21-25	20-23	14-18	18-25	21-25	20-23
Argentina	1970	95.0	69.7	59.3	69.8	33	48	29	24
Argentina	1980	94.6	68.2	58.8	68.6	204	276	174	138
Argentina	1991	95.6	69.4	59.1	69.3	364	468	281	231
Argentina	2001	96.7	76.4	68.7	76.8	306	464	288	238
Argentina	2010	95.5	73.1	64.5	72.9	338	490	295	240
Bolivia	1976	90.8	54.8	43.0	52.8	39	52	31	26
Bolivia	1992	93.1	58.1	46.7	56.9	52	68	42	34
Bolivia	2001	85.9	57.5	49.3	56.6	74	102	62	52
Bolivia	2012	82.3	58.4	51.6	57.4	98	137	83	68
Brazil	1960	94.9	61.3	48.5	60.1	1386	1824	1069	905
Brazil	1970	95.7	62.9	49.4	61.4	2383	2963	1714	1474
Brazil	1980	94.4	59.6	47.1	58.2	2907	3972	2407	1987
Brazil	1991	92.3	63.5	53.3	62.8	1710	2347	1433	1166
Brazil	2000	92.6	65.5	54.8	64.6	2064	2837	1665	1404
Brazil	2010	91.6	66.2	58.0	66.1	1842	2753	1727	1377
Chile	1970	95.8	68.8	58.0	69.1	77	91	55	45
Chile	1982	96.2	74.0	64.5	74.5	111	150	91	75
Chile	1992	94.5	71.2	62.5	72.2	107	166	105	82
Chile	2002	95.1	75.1	67.8	75.6	116	163	101	83
Colombia	1973	93.8	66.2	54.8	64.8	185	212	122	103
Colombia	1985	95.4	73.1	64.5	73.8	260	370	225	183
Colombia	1993	94.3	68.7	60.1	68.6	282	398	251	197
Colombia	2005	91.1	65.5	57.4	64.9	360	472	290	233
Costa Rica	1973	95.5	64.4	50.9	62.4	20	23	13	11
Costa Rica	1984	95.0	66.2	55.3	65.8	25	38	23	19
Costa Rica	2000	94.5	67.5	57.5	66.7	38	50	30	25
Costa Rica	2011	93.7	71.7	64.4	72.3	39	63	40	32
Cuba	2002	91.3	73.5	66.7	73.3	76	103	62	48
Cuba	2012	92.0	75.5	70.4	75.9	65	113	74	59
Dominican Republic	1981	91.7	67.1	56.9	65.7	54	67	38	33
Dominican Republic	2002	90.0	63.8	54.9	63.6	78	111	68	56
Dominican Republic	2010	86.6	61.2	52.0	60.4	91	129	76	64
Ecuador	1974	92.8	62.0	51.2	60.7	53	68	40	33
Ecuador	1982	93.8	64.4	54.1	63.6	71	94	57	48
Ecuador	1990	93.1	65.1	54.8	64.8	90	122	74	60
Ecuador	2001	92.3	65.3	56.2	64.8	110	159	98	82
Ecuador	2010	92.4	65.5	56.6	64.8	128	178	109	88
El Salvador	1992	91.3	61.8	51.0	61.0	49	61	37	30
El Salvador	2007	90.5	70.7	63.2	70.1	61	77	46	38
Guatemala	1964	91.6	56.1	44.8	55.6	19	23	14	11
Guatemala	1973	88.4	50.4	39.8	48.9	28	38	22	19
Guatemala	1981	92.7	59.4	47.9	58.3	29	40	23	20

Continued on next page

Table A5 – continued from previous page

	Year	14-18	18-25	21-25	20-23	14-18	18-25	21-25	20-23
Guatemala	1994	93.5	64.5	53.5	63.5	88	104	61	51
Guatemala	2002	93.5	67.8	57.8	67.2	122	159	93	80
Haiti	1971	94.9	66.9	52.8	66.8	37	45	25	21
Haiti	1982	93.8	67.7	56.3	67.9	9	14	8	7
Haiti	2003	94.3	74.3	64.3	73.6	77	99	55	47
Honduras	1974	92.0	59.4	48.2	58.2	26	31	18	15
Honduras	1988	92.6	64.6	54.7	63.5	41	48	29	24
Honduras	2001	89.9	62.0	52.0	60.5	69	89	51	45
Jamaica	1982	90.9	65.0	53.7	64.2	20	25	14	12
Jamaica	1991	91.7	67.5	57.8	67.6	20	28	17	14
Jamaica	2001	88.5	62.5	53.6	61.6	17	23	14	11
Mexico	1970	94.7	58.2	44.0	56.8	44	51	29	24
Mexico	1990	94.0	66.5	55.3	65.8	958	1191	689	579
Mexico	2000	93.0	66.8	57.4	66.4	1079	1442	869	708
Mexico	2010	94.2	73.3	64.7	72.8	1282	1634	949	801
Nicaragua	1971	93.1	61.8	49.6	60.8	18	20	12	10
Nicaragua	1995	93.5	69.4	60.4	68.8	46	56	33	28
Nicaragua	2005	91.2	68.1	60.5	67.6	56	80	49	40
Panama	1960	91.3	52.8	40.6	52.3	4	5	3	3
Panama	1970	91.7	57.8	46.4	56.5	12	16	10	8
Panama	1980	92.7	65.9	55.1	65.1	19	24	14	12
Panama	1990	93.2	69.9	61.0	69.6	21	30	18	15
Panama	2000	93.3	68.8	60.4	68.4	24	33	21	16
Panama	2010	91.8	68.6	61.0	68.5	29	41	25	20
Paraguay	1962	95.7	63.1	51.9	64.3	6	8	5	4
Paraguay	1972	96.0	66.5	55.3	67.1	20	23	14	11
Paraguay	1982	94.7	67.6	57.9	67.8	27	37	23	19
Paraguay	1992	93.2	61.8	52.0	60.9	32	44	27	22
Paraguay	2002	95.1	72.0	62.5	71.5	51	64	37	32
Peru	1993	94.0	69.5	60.9	69.1	196	267	165	135
Peru	2007	92.7	70.0	62.5	69.6	240	337	206	166
Saint Lucia	1980	95.3	64.5	51.5	63.2	1	1	1	1
Saint Lucia	1991	94.0	67.7	58.6	66.9	1	2	1	1
Suriname	2012	95.7	81.2	75.6	82.2	4	5	3	3
Trinidad and Tobago	1970	97.0	72.1	59.5	72.0	7	8	4	4
Trinidad and Tobago	1980	95.2	73.2	63.2	73.6	12	16	9	8
Trinidad and Tobago	1990	95.8	76.9	69.4	78.0	10	14	9	7
Trinidad and Tobago	2000	96.4	81.4	74.2	81.2	12	15	8	7
Trinidad and Tobago	2011	96.5	84.4	80.1	86.2	8	14	9	7
Uruguay	1963	97.1	70.6	60.0	70.3	16	23	14	11
Uruguay	1975	96.5	67.6	56.0	66.6	19	27	16	13
Uruguay	1985	96.9	67.1	57.5	67.6	19	29	19	15
Uruguay	1996	94.0	69.3	60.5	69.3	23	34	21	17
Uruguay	2006	95.0	74.9	65.7	74.6	21	27	16	13
Uruguay	2011	94.0	65.6	56.5	64.8	25	36	22	18

Continued on next page

Table A5 – continued from previous page

	Year	14-18	18-25	21-25	20-23	14-18	18-25	21-25	20-23
Venezuela	1971	93.7	60.5	48.4	58.8	97	121	71	60
Venezuela	1981	92.8	66.7	57.3	66.1	144	192	115	96
Venezuela	1990	91.7	66.6	57.9	65.8	168	227	137	112
Venezuela	2001	92.7	71.7	64.6	71.7	221	318	195	160

C Schooling by cohort

In this section, I summarize the education level by country and cohort using data on individuals at least 25 years old.

Table A6: Education by cohort

	cohort	mean years	less primary	primary	secondary	tertiary
Argentina	1950	9.1	17.8	50.6	24.1	7.5
Argentina	1960	10.0	11.3	48.9	31.4	8.4
Argentina	1970	10.8	8.1	45.8	36.1	9.9
Argentina	1980	11.4	7.4	46.3	35.9	10.4
Bolivia	1950	6.3	46.1	30.7	17.4	5.9
Bolivia	1960	7.8	31.4	38.5	22.8	7.3
Bolivia	1970	9.2	22.7	37.7	28.7	10.9
Bolivia	1980	10.7	13.7	34.7	35.6	16.1
Brazil	1950	5.7	58.2	18.0	15.7	8.2
Brazil	1960	6.7	44.6	25.4	21.5	8.5
Brazil	1970	7.2	33.8	28.1	27.9	10.2
Brazil	1980		18.9	28.9	39.0	13.2
Chile	1950	9.2	19.0	47.2	28.7	5.1
Chile	1960	10.1	12.0	45.9	37.3	4.8
Chile	1970	11.3	6.8	39.4	46.2	7.6
Chile	1980					
Colombia	1950	6.5	34.9	39.7	18.9	6.5
Colombia	1960	7.5	24.5	42.2	26.6	6.7
Colombia	1970	8.8	18.2	34.6	34.6	12.6
Colombia	1980	9.4	14.1	30.0	43.0	12.9
Costa Rica	1950	7.9	23.1	46.9	18.3	11.7
Costa Rica	1960	8.6	14.7	51.8	19.2	14.3
Costa Rica	1970	8.7	15.1	50.3	17.2	17.4
Costa Rica	1980	9.7	11.4	44.1	20.1	24.3
Cuba	1950	10.4	7.6	46.1	32.6	13.7
Cuba	1960	11.4	2.8	39.7	43.4	14.2
Cuba	1970	11.7	1.9	37.6	46.9	13.6
Cuba	1980	12.3	1.5	24.3	52.1	22.1
Dominican Republic	1950	6.3	50.5	29.0	12.3	8.1
Dominican Republic	1960	8.0	33.5	37.1	17.8	11.7
Dominican Republic	1970	8.6	27.4	39.4	22.3	10.9
Dominican Republic	1980	9.7	19.8	33.6	34.0	12.6
Ecuador	1950	7.4	34.3	39.8	17.7	8.2
Ecuador	1960	8.8	22.4	41.7	26.1	9.8
Ecuador	1970	9.4	16.4	42.7	30.9	10.0

Continued on next page

Table A6 – continued from previous page

	cohort	mean years	less primary	primary	secondary	tertiary
Ecuador	1980	10.2	11.1	39.5	37.2	12.1
El Salvador	1950	5.2	55.6	27.3	12.9	4.2
El Salvador	1960	6.5	45.0	31.7	18.3	5.0
El Salvador	1970	7.5	37.3	33.3	23.0	6.4
El Salvador	1980	8.1	31.5	37.2	25.7	5.6
Guatemala	1950	3.5	71.9	18.5	6.4	3.3
Guatemala	1960	4.5	62.3	24.6	9.1	3.9
Guatemala	1970	5.2	55.2	29.0	11.3	4.5
Guatemala	1980					
Haiti	1950	3.0	71.9	21.3	6.0	0.8
Haiti	1960	3.4	67.7	18.5	12.6	1.2
Haiti	1970	5.2	52.6	28.1	18.2	1.2
Haiti	1980					
Honduras	1950	4.5	61.8	25.8	9.7	2.7
Honduras	1960	5.4	50.7	33.2	13.0	3.0
Honduras	1970	6.0	41.5	42.2	13.9	2.5
Honduras	1980					
Jamaica	1950	9.7	7.4	60.5	29.4	2.7
Jamaica	1960	11.2	2.7	44.7	50.2	2.4
Jamaica	1970	12.4	2.1	20.9	74.5	2.6
Jamaica	1980					
Mexico	1950	6.8	37.4	41.8	11.4	9.5
Mexico	1960	8.3	23.6	47.8	17.3	11.4
Mexico	1970	9.2	13.8	54.0	19.9	12.3
Mexico	1980	10.1	9.8	50.3	24.1	15.8
Nicaragua	1950	4.9	59.7	24.4	9.3	6.5
Nicaragua	1960	6.0	48.1	31.6	13.9	6.5
Nicaragua	1970	6.4	42.9	33.2	16.5	7.4
Nicaragua	1980	6.8	39.3	32.7	20.3	7.7
Panama	1950	8.6	21.2	45.5	21.4	11.8
Panama	1960	9.7	12.4	45.0	29.0	13.6
Panama	1970	10.2	11.0	40.8	31.1	17.2
Panama	1980	10.7	8.8	36.7	36.3	18.2
Paraguay	1950	6.2	46.8	39.2	9.9	4.2
Paraguay	1960	7.3	34.1	43.7	16.9	5.3
Paraguay	1970	8.1	26.3	46.0	21.3	6.5
Paraguay	1980					
Peru	1950	7.5	38.8	16.8	32.9	11.6
Peru	1960	8.4	28.2	19.2	41.4	11.2
Peru	1970	9.3	16.9	20.8	48.3	14.0
Peru	1980	9.7	11.9	21.2	55.2	11.6
Saint Lucia	1950	9.4	72.3	3.9	20.8	3.0

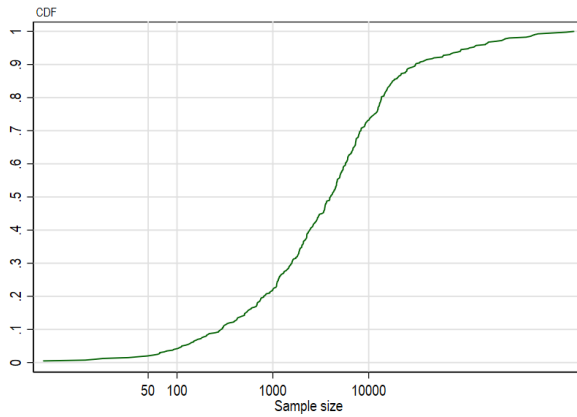
Continued on next page

Table A6 – continued from previous page

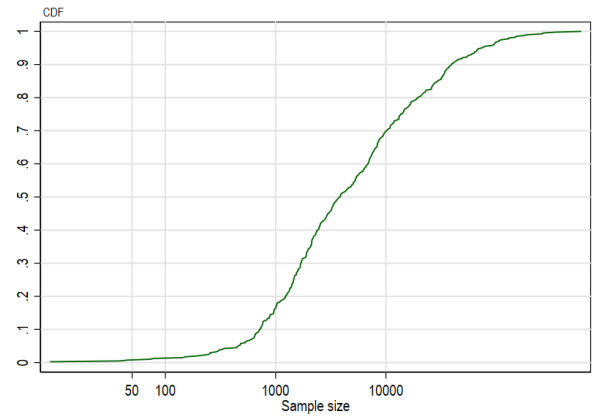
	cohort	mean years	less primary	primary	secondary	tertiary
Saint Lucia	1960		52.7	8.8	35.6	2.8
Saint Lucia	1970					
Saint Lucia	1980					
Suriname	1950		11.3	69.8	16.1	2.9
Suriname	1960		7.1	70.9	18.5	3.5
Suriname	1970		6.4	66.3	22.7	4.6
Suriname	1980		4.9	57.9	30.8	6.4
Trinidad and Tobago	1950	9.0	15.8	44.6	36.4	3.1
Trinidad and Tobago	1960	10.1	12.1	31.6	52.9	3.4
Trinidad and Tobago	1970	11.5	6.7	20.6	67.8	4.9
Trinidad and Tobago	1980	12.1	5.4	15.9	72.0	6.8
Uruguay	1950	8.9	17.7	53.0	23.3	5.9
Uruguay	1960	9.2	12.1	57.5	22.6	7.8
Uruguay	1970	9.7	11.8	53.0	26.9	8.3
Uruguay	1980	10.2	6.6	54.0	31.9	7.4
Venezuela	1950	7.4	26.0	46.2	25.5	2.2
Venezuela	1960	8.1	18.7	46.3	34.0	1.1
Venezuela	1970	8.6	14.6	43.0	42.1	0.2
Venezuela	1980					

D Sample size in province-level estimates

Figure A5: CDF of the sample sizes used in estimating province-level intergenerational mobility



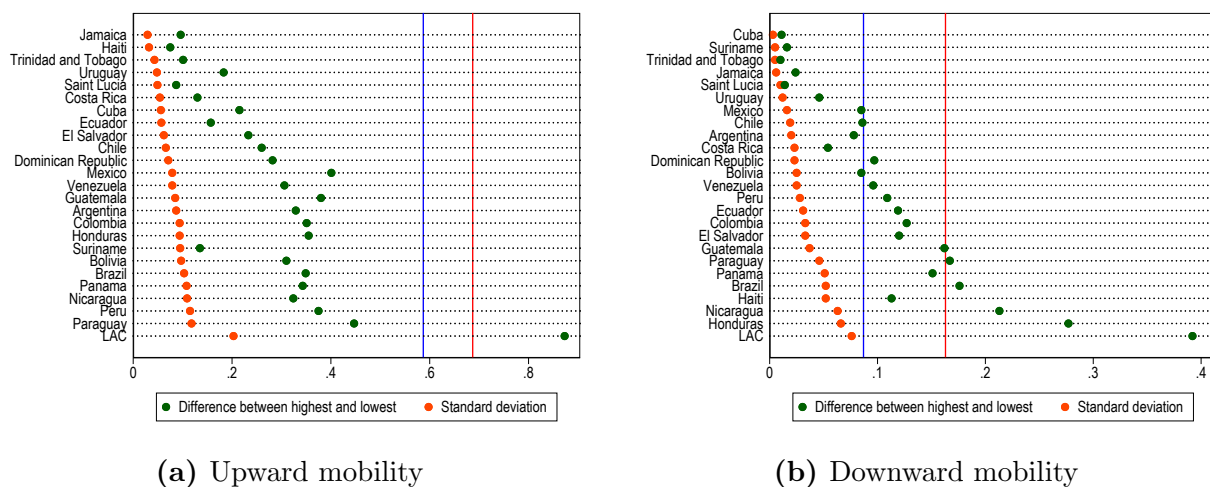
(a) Upward mobility



(b) Downward mobility

E Variability in province-level estimates

Figure A6: Intergenerational educational mobility in LAC: within-country variability



Notes: The figure reports the extent to which estimates of intergenerational mobility (upward and downward) vary within countries and for all LAC using the difference between the province with the highest level and the province with the lowest level, as well as the standard deviation of mobility at the province level, by country. The underlying estimates of mobility reflect the probability that those whose parents did not finish primary school will complete at least primary education, in the case of upward mobility, and the probability that those whose parents completed primary school will not complete primary education, in the case of downward mobility. LAC displays this statistic after pooling all provinces in the sample. The blue line marks the (unweighted) average mobility at the province level. The red line marks the difference between the highest and lowest mobility at the country level, as reported in Table 1.

F District-level estimates

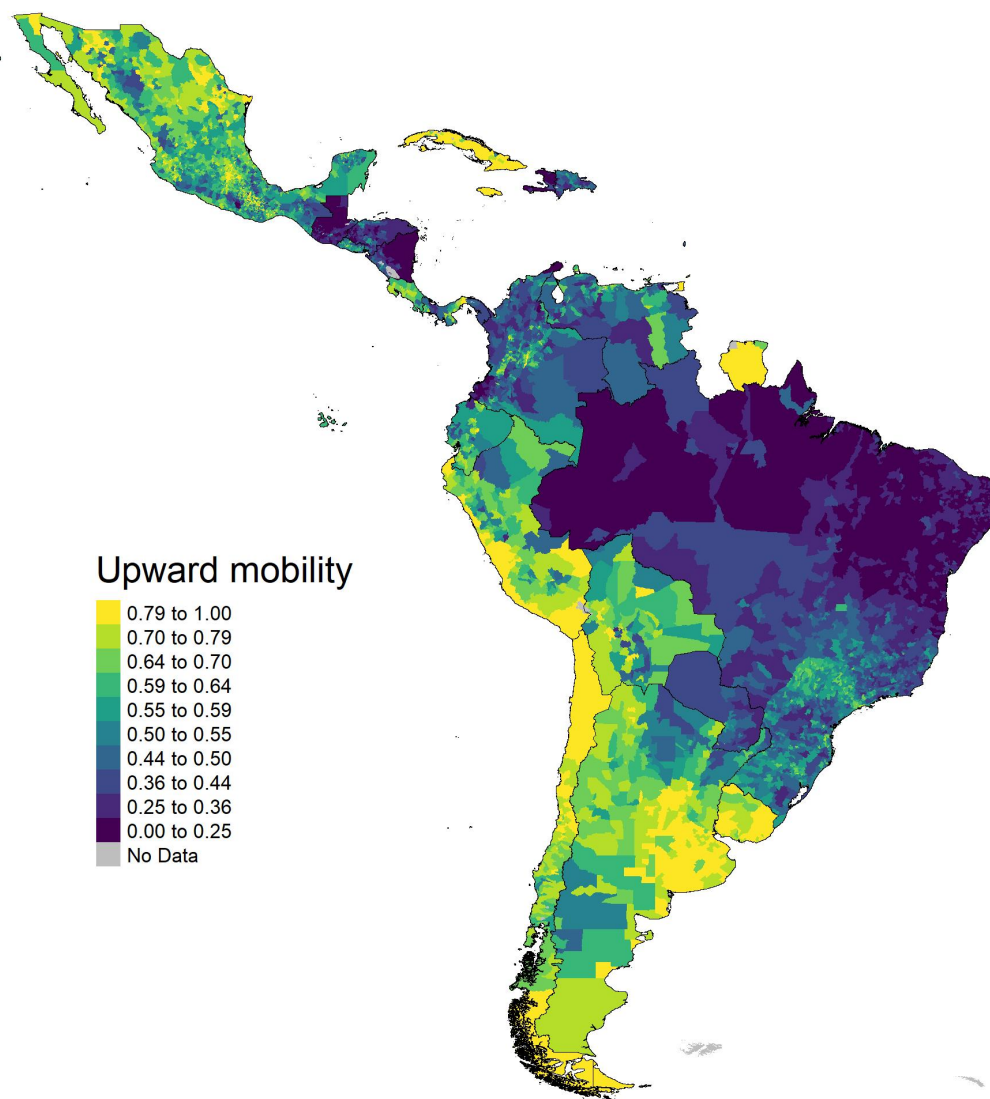
Table A7: Summary statistics: district-level estimates of educational IGM

country	districts	upward							downward						
		mean	median	stdev	min	max	Nmin	Nmean	mean	median	stdev	min	max	Nmin	Nmean
Cuba	137	.845	.872	.112	.722	.94	50	58	.012	.01	.007	0	.043	178	726
Uruguay	67	.798	.793	.056	.684	.94	50	151	.046	.043	.022	.003	.098	238	737
Chile	179	.758	.752	.079	.534	.969	68	378	.069	.065	.026	.014	.157	140	1181
Costa Rica	55	.714	.719	.07	.498	.878	110	627	.075	.072	.027	.033	.156	313	1320
Argentina	312	.713	.732	.123	.407	.986	56	756	.066	.054	.035	.013	.194	276	2674
Peru	168	.702	.688	.127	.339	.935	111	857	.097	.081	.053	.016	.342	64	1275
Bolivia	80	.627	.642	.13	.345	.948	179	1114	.111	.104	.059	.027	.317	80	1471
Mexico	2,331	.615	.612	.132	.192	1.133	50	551	.083	.071	.055	-.052	.504	50	702
Ecuador	78	.591	.599	.115	.306	.847	180	1930	.109	.095	.047	.054	.291	244	2915
Panama	35	.588	.593	.153	.253	.803	184	766	.095	.08	.052	.031	.241	152	1706
El Salvador	103	.553	.549	.091	.327	.754	92	459	.177	.168	.068	.043	.383	50	381
Venezuela	157	.52	.513	.103	.255	.746	194	1412	.158	.151	.05	.068	.334	135	1886
Colombia	434	.509	.498	.127	-.043	.88	123	967	.151	.145	.065	.037	.371	133	1076
Paraguay	63	.474	.477	.119	.116	.781	208	1146	.152	.143	.051	.039	.259	96	788
Dominican Republic	66	.462	.463	.082	.301	.667	73	770	.154	.147	.036	.082	.273	94	953
Brazil	2,040	.386	.387	.15	.019	.827	366	2514	.203	.184	.087	.046	.602	65	1089
Nicaragua	68	.361	.373	.11	.138	.582	264	882	.214	.2	.069	.103	.423	51	501
Honduras	96	.355	.346	.109	.112	.576	211	805	.24	.224	.08	.109	.44	52	359
Guatemala	191	.243	.237	.11	.03	.613	286	961	.268	.252	.095	.088	.649	50	329
Haiti	23	.196	.191	.063	.087	.373	845	3559	.412	.426	.087	.221	.569	91	982
total	6,683	.523	.539	.187	-.043	1.133	50	1296	.136	.115	.093	-.052	.649	50	1027

Notes: This table shows summary statistics for district-level estimates of IGM. “Upward” reflects the likelihood that children ages 14–18 whose parents have not completed primary schooling will manage to complete at least primary education. “Downward” reflects the likelihood that children ages 14–18, whose parents have completed primary schooling or higher will not manage to complete primary education. “Total” shows the unweighted summary statistics across all districts. The columns “Nmin” and “Nmean” report the smallest and average sample size, respectively, across districts. Countries are sorted from highest to lowest average level of upward IGM across districts (column “mean”). Districts with less than 50 observations are omitted.

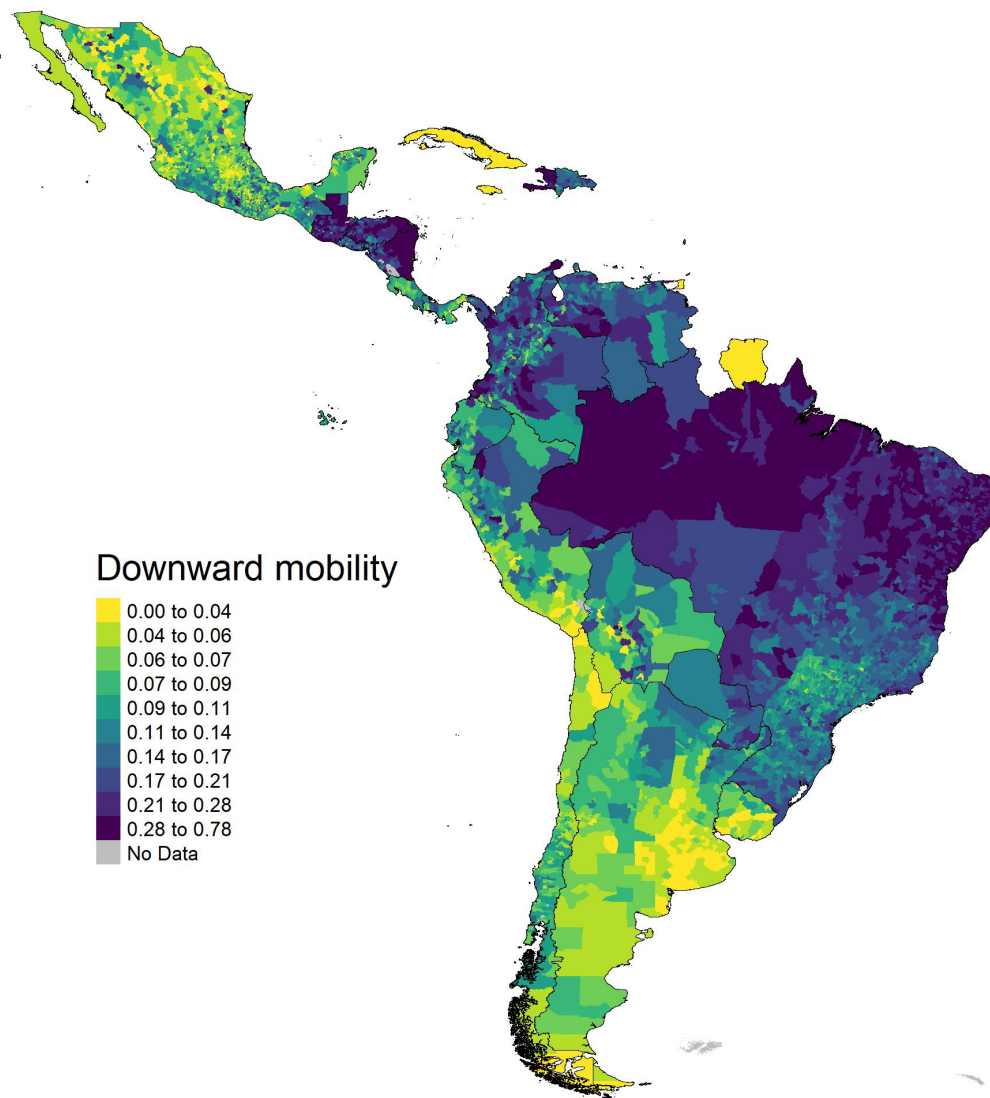
G District-level maps of mobility

Figure A7: Upward mobility in LAC



Notes: Upward mobility reflects the likelihood that children ages 14–18 whose parents have not completed primary schooling will manage to complete at least primary education. This graph uses provinces for St. Lucia, Jamaica, Trinidad and Tobago, and Suriname because these countries do not have a finer administrative units in the data set.

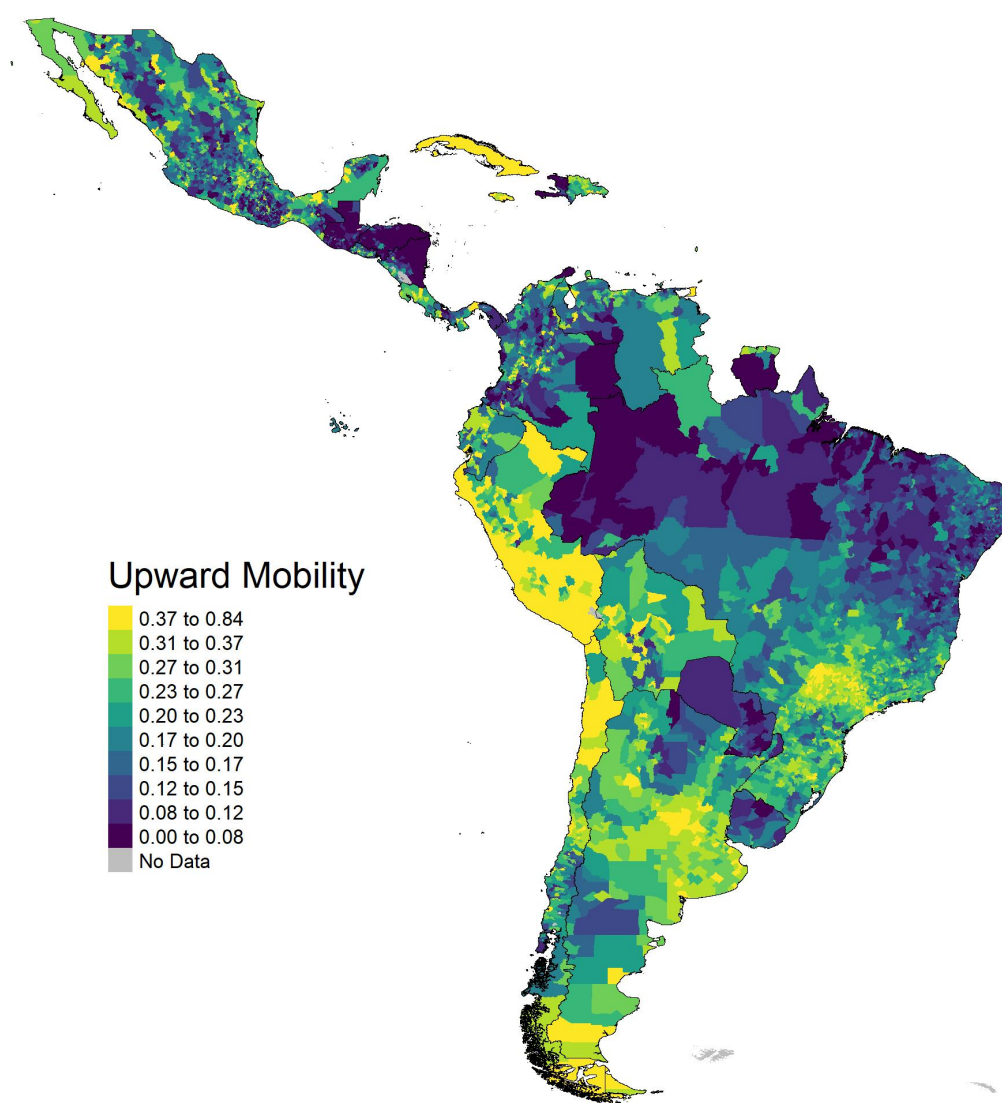
Figure A8: Downward mobility in LAC



Notes: Downward mobility reflects the likelihood that children ages 14–18 whose parents completed at least primary schooling will not manage to complete primary education. This graph uses provinces for St. Lucia, Jamaica, Trinidad and Tobago, and Suriname because these countries do not have a finer administrative units in the data set.

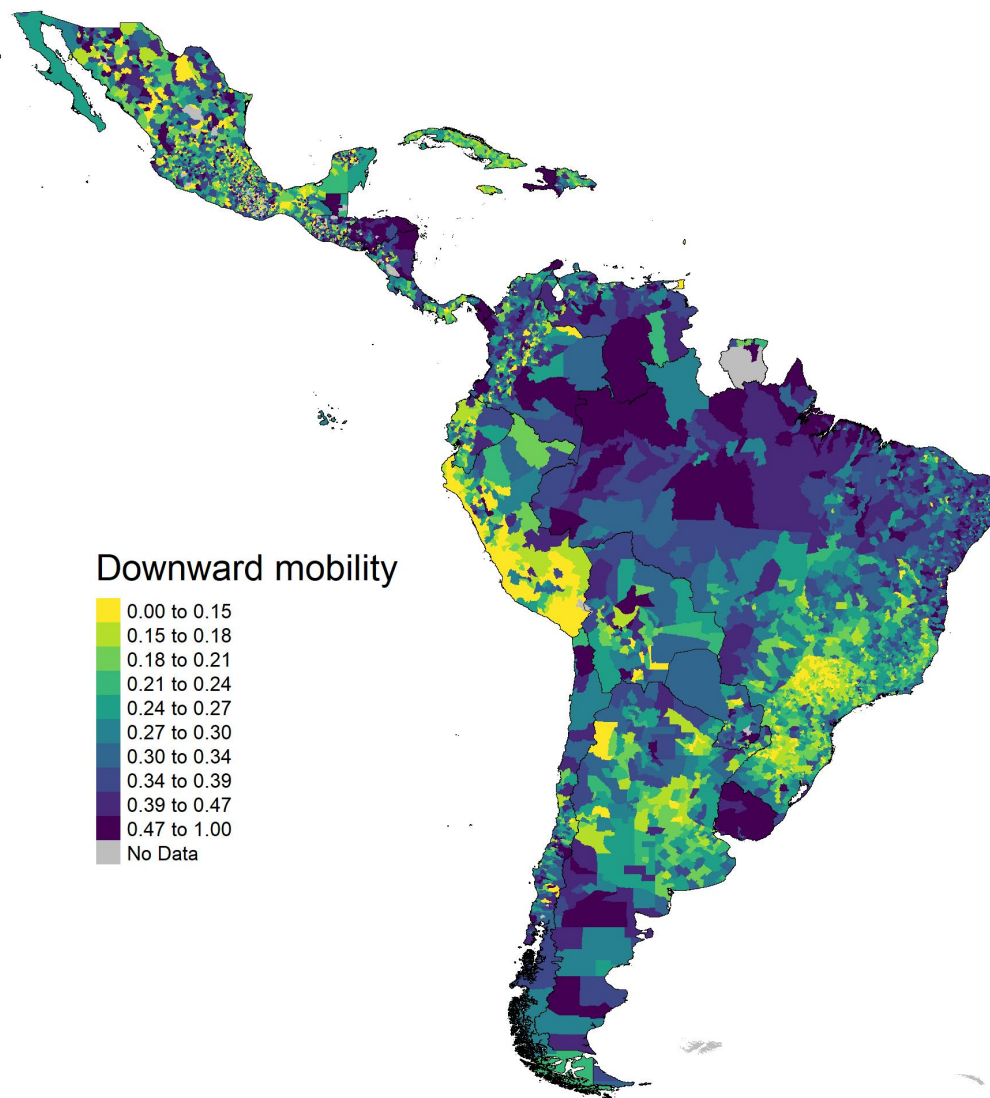
H District-level maps of mobility in secondary schooling

Figure A9: Upward mobility in LAC



Notes: Upward mobility reflects the likelihood that children ages 14–18 whose parents have not completed secondary schooling will manage to complete at least secondary education. This graph uses provinces for St. Lucia, Jamaica, Trinidad and Tobago, and Suriname because these countries do not have a finer administrative units in the data set.

Figure A10: Downward mobility in LAC



Notes: Downward mobility reflects the likelihood that children ages 14–18 whose parents completed at least secondary schooling will not manage to complete secondary education. This graph uses provinces for St. Lucia, Jamaica, Trinidad and Tobago, and Suriname because these countries do not have a finer administrative units in the data set

I Estimates of IGM using secondary education

Table A8: Country-level estimates of educational intergenerational mobility

mobility / N age range	census years	(1)	(2)	(3)	(4)	(5)	(6)
		upward 19–25	upward 20–25	downward 19–25	downward 20–25	N 19–25	N 20–25
Trinidad and Tobago	1970,1980,1990,2000,2011	.58	.579	.077	.072	51,140	21,370
Peru	1993,2007	.493	.504	.059	.049	348,429	220,485
Jamaica	1982,1991,2001	.458	.455	.138	.149	49,411	11,400
Saint Lucia	1980,1991	.42	.408	.084	.139	2,694	168
Cuba	2002,2012	.362	.381	.221	.205	84,252	123,515
Chile	1970,1982,1992,2002	.358	.369	.164	.148	431,534	129,491
Argentina	1970,1980,1991,2001,2010	.344	.358	.213	.198	1,276,838	447,347
Panama	1960,1970,1980,1990,2000,2010	.338	.351	.186	.174	97,802	31,532
Bolivia	1976,1992,2001,2012	.326	.338	.21	.2	211,870	62,971
Venezuela	1971,1981,1990,2001	.292	.297	.236	.233	636,479	130,603
Ecuador	1974,1982,1990,2001,2010	.289	.3	.194	.176	429,008	105,824
Costa Rica	1973,1984,2000,2011	.287	.296	.205	.19	122,731	40,554
Dominican Republic	1981,2002,2010	.257	.278	.243	.216	197,241	54,451
Brazil	1960,1970,1980,1991,2000,2010	.249	.268	.231	.203	12,610,650	1,718,702
Colombia	1973,1985,1993,2005	.242	.255	.2	.171	1,152,288	160,657
Mexico	1970,1990,2000,2010	.24	.252	.226	.202	3,392,481	506,282
Uruguay	1963,1975,1985,1996,2006,2011	.237	.24	.334	.31	130,248	34,931
Paraguay	1962,1972,1982,1992,2002	.206	.218	.143	.12	146,601	15,782
El Salvador	1992,2007	.185	.201	.224	.193	100,588	17,559
Haiti	1971,1982,2003	.157	.162	.425	.398	133,746	10,397
Guatemala	1964,1973,1981,1994,2002	.122	.131	.195	.169	278,412	19,341
Honduras	1974,1988,2001	.093	.096	.383	.371	121,155	11,281
Suriname	2012	.077	.114	.367	.334	4,413	1,318
Nicaragua	1971,1995,2005	.033	.043	.338	.309	118,929	15,611
mean / total		.277	.287	.221	.205	22,128,940	3,891,572

Notes: Columns (1) and (2) give upward IGM estimates. They reflect the likelihood that individuals ages 19–25 and 20–25 whose parents have not completed secondary schooling will manage to complete at least secondary education. Columns (3) and (4) give downward IGM estimates. They reflect the likelihood that individuals ages 19–25 and 20–25 whose parents have completed secondary schooling or higher will not manage to complete secondary education. Columns (5) and (6) give the number of observations used to estimate the country-specific IGM statistics (individuals with parents whose education is reported in the censuses). Countries are sorted from highest to lowest level of upward IGM in the 19–25 sample (column (1)). “Mean” gives the unweighted average of the 24 country estimates.

Table A9: Summary statistics: province-level estimates of educational IGM

country	provinces	upward							downward						
		mean	median	stdev	min	max	Nmin	Nmean	mean	median	stdev	min	max	Nmin	Nmean
Trinidad and Tobago	4	.62	.619	.121	.494	.746	835	7021	.1	.102	.015	.082	.117	327	2941
Peru	25	.534	.508	.157	.288	.787	441	7603	.114	.1	.049	.043	.249	291	4850
Cuba	14	.504	.501	.026	.472	.574	443	3264	.2	.199	.021	.171	.247	611	4823
Jamaica	14	.394	.398	.055	.322	.505	741	1957	.173	.168	.038	.117	.248	123	459
Bolivia	9	.364	.366	.081	.256	.485	707	12967	.201	.183	.061	.137	.306	154	3841
Saint Lucia	4	.325	.312	.065	.268	.406	262	373	.181	.181		.181	.181	62	62
Chile	44	.321	.314	.079	.154	.477	234	4438	.283	.28	.059	.175	.42	68	1627
Argentina	24	.317	.314	.064	.222	.56	1136	29270	.242	.241	.057	.136	.377	504	10278
Costa Rica	7	.297	.296	.061	.222	.391	4477	9661	.263	.227	.073	.193	.371	864	3186
Dominican Republic	23	.281	.29	.057	.136	.394	733	2938	.264	.234	.077	.176	.518	54	864
Mexico	32	.279	.274	.049	.193	.394	5016	58421	.217	.214	.025	.155	.263	1130	8763
Panama	7	.277	.297	.101	.087	.409	673	7697	.193	.19	.018	.173	.226	300	2912
Suriname	7	.273	.305	.124	.04	.392	62	344	.282	.282	.019	.269	.296	170	316
Ecuador	14	.266	.28	.052	.182	.342	1339	16814	.219	.191	.08	.139	.427	188	4181
Colombia	22	.257	.236	.075	.148	.435	645	28660	.228	.216	.067	.122	.42	132	4020
Venezuela	22	.253	.251	.049	.161	.36	894	15945	.291	.281	.07	.183	.487	153	3279
El Salvador	14	.208	.216	.066	.124	.385	1430	3963	.308	.298	.067	.207	.497	69	742
Uruguay	19	.189	.192	.029	.142	.272	647	3783	.492	.505	.053	.357	.574	109	1013
Brazil	25	.185	.168	.057	.11	.305	6098	280107	.264	.271	.049	.184	.352	1744	38217
Nicaragua	12	.164	.174	.075	.05	.286	918	5457	.298	.3	.048	.219	.391	70	782
Paraguay	14	.148	.13	.082	.08	.373	1844	6227	.275	.273	.05	.151	.345	60	723
Guatemala	22	.083	.076	.04	.03	.214	1967	6973	.305	.284	.064	.214	.426	51	486
Honduras	18	.074	.064	.04	.02	.176	297	3726	.482	.486	.079	.302	.573	65	440
Haiti	4	.059	.051	.021	.044	.09	4577	18354	.698	.707	.112	.553	.827	115	1426
total	400	.274	.267	.14	.02	.787	62	30464	.268	.247	.112	.043	.827	51	5629

Notes: This table shows summary statistics for province-level estimates of upward and downward IGM. “Upward” reflects the likelihood that individuals ages 19–25 whose parents have not completed secondary schooling will manage to complete at least secondary education. “Downward” reflects the likelihood that individuals ages 19–25 whose parents have completed secondary schooling or higher will not manage to complete secondary education. “Total” shows the unweighted summary statistics across all provinces. The columns “Nmin” and “Nmean” report the smallest and average sample size, respectively, across provinces. Provinces with less than 50 observations are omitted.

Table A10: Summary statistics: district-level estimates of educational IGM

country	districts	upward							downward						
		mean	median	stdev	min	max	Nmin	Nmean	mean	median	stdev	min	max	Nmin	Nmean
Cuba	137	.496	.493	.052	.373	.632	90	333	.212	.209	.038	.107	.325	66	493
Peru	168	.437	.416	.176	.104	.84	156	1138	.144	.127	.075	.034	.444	50	1024
Chile	179	.318	.311	.123	.088	.82	140	1091	.273	.27	.087	.045	.533	50	513
Costa Rica	55	.316	.317	.071	.155	.488	288	1230	.244	.232	.082	.104	.474	59	412
Argentina	312	.287	.294	.08	.059	.562	192	2252	.25	.243	.067	.106	.532	50	868
Bolivia	80	.281	.267	.114	.102	.592	219	1459	.258	.25	.08	.124	.479	52	784
Dominican Republic	66	.277	.282	.058	.136	.466	111	1040	.26	.241	.073	.158	.518	51	427
Panama	35	.248	.233	.124	.019	.444	356	1539	.214	.198	.063	.075	.344	52	689
Ecuador	78	.237	.217	.081	.096	.423	331	3057	.238	.228	.076	.127	.465	53	952
Uruguay	67	.219	.193	.093	.051	.499	169	572	.471	.485	.121	.173	.71	50	233
Venezuela	157	.216	.211	.07	.067	.404	289	2234	.327	.317	.09	.125	.599	50	634
Brazil	2,040	.213	.208	.09	-.007	.528	365	2373	.273	.261	.096	.055	.659	50	484
El Salvador	103	.212	.188	.106	.03	.516	160	539	.279	.277	.073	.117	.464	51	293
Colombia	434	.21	.189	.098	-.09	.493	185	1453	.261	.249	.092	.077	.629	50	348
Mexico	2,331	.19	.181	.097	-.046	.663	50	813	.244	.234	.076	.059	.54	50	362
Nicaragua	68	.161	.159	.072	.034	.312	228	963	.287	.277	.081	.179	.476	50	323
Paraguay	64	.15	.132	.084	-.049	.374	187	1326	.264	.259	.064	.151	.406	53	377
Guatemala	191	.069	.059	.051	-.006	.268	199	803	.302	.282	.075	.162	.441	55	324
Honduras	96	.059	.052	.042	-.004	.219	195	699	.454	.461	.081	.298	.579	51	376
Haiti	23	.042	.035	.031	.001	.137	753	3192	.708	.717	.09	.52	.83	59	451
total	6,684	.217	.203	.117	-.09	.84	50	1490	.264	.249	.098	.034	.83	50	506

Notes: This table shows summary statistics for district-level estimates of upward and downward IGM. “Upward” reflects the likelihood that individuals ages 19–25 whose parents have not completed secondary schooling will manage to complete at least secondary education. “Downward” reflects the likelihood that individuals ages 19–25 whose parents have completed secondary schooling or higher will not manage to complete secondary education. “Total” shows the unweighted summary statistics across all districts. The columns “Nmin” and “Nmean” report the smallest and average sample size, respectively, across districts. Districts with less than 50 observations are omitted.

J Estimates of upward IGM using primary-to-secondary education

Table A11: Country-level estimates of upward IGM using primary-to-secondary education

mobility / N age range	census years	(1)	(2)
		upward 19–25	N 19–25
Trinidad and Tobago	1970,1980,1990,2000,2011	.466	8,506
Peru	1993,2007	.416	131,085
Saint Lucia	1980,1991	.388	1,452
Jamaica	1982,1991,2001	.315	4,304
Bolivia	1976,1992,2001,2012	.237	66,410
Chile	1970,1982,1992,2002	.19	97,017
Brazil	1960,1970,1980,1991,2000,2010	.187	6,142,101
Cuba	2002,2012	.187	4,037
Uruguay	1963,1975,1985,1996,2006,2011	.178	25,192
Argentina	1970,1980,1991,2001,2010	.177	226,100
Dominican Republic	1981,2002,2010	.161	64,387
Panama	1960,1970,1980,1990,2000,2010	.161	23,221
Venezuela	1971,1981,1990,2001	.148	185,993
Costa Rica	1973,1984,2000,2011	.133	28,829
Ecuador	1974,1982,1990,2001,2010	.128	121,410
Colombia	1973,1985,1993,2005	.121	354,007
Mexico	1970,1990,2000,2010	.107	1,008,707
El Salvador	1992,2007	.092	37,462
Paraguay	1962,1972,1982,1992,2002	.085	54,934
Haiti	1971,1982,2003	.073	62,660
Guatemala	1964,1973,1981,1994,2002	.042	125,087
Honduras	1974,1988,2001	.036	52,754
Nicaragua	1971,1995,2005	-.004	47,560
Suriname	2012	-.094	200
mean / total		.164	8,873,415

Notes: Column (1) gives upward IGM estimates. It reflects the likelihood that individuals ages 19–25 whose parents have not completed primary schooling will manage to complete at least secondary education. Column (2) gives the number of observations used to estimate the country-specific IGM statistics (individuals with parents whose education is reported in the censuses). Countries are sorted from highest to lowest level of upward IGM (column (1)). “Mean” gives the unweighted average of the 24 country estimates.

Table A12: Province-level estimates of upward IGM using primary-to-secondary education

country	provinces	upward						
		mean	median	stdev	min	max	Nmin	Nmean
Peru	25	.481	.442	.165	.246	.748	250	5243
Cuba	14	.323	.342	.049	.231	.384	155	309
Bolivia	9	.251	.254	.08	.154	.384	348	7379
Chile	44	.203	.205	.062	.093	.331	114	1694
Dominican Republic	23	.194	.201	.046	.067	.275	588	1795
Costa Rica	7	.166	.167	.042	.12	.244	2051	4118
Argentina	24	.155	.15	.048	.089	.322	219	9421
Mexico	32	.155	.149	.039	.096	.244	2143	31522
Colombia	22	.149	.136	.047	.092	.254	141	16091
El Salvador	14	.148	.145	.044	.097	.27	1209	2676
Venezuela	22	.147	.147	.029	.082	.214	643	8454
Uruguay	19	.144	.139	.027	.094	.191	264	1326
Brazil	25	.14	.128	.05	.074	.249	4716	245684
Ecuador	14	.136	.134	.031	.098	.204	840	8672
Panama	7	.131	.127	.054	.055	.224	457	3317
Nicaragua	12	.107	.114	.051	.04	.19	807	3963
Paraguay	14	.076	.067	.048	.032	.211	1312	4225
Guatemala	22	.049	.047	.021	.012	.106	1614	5686
Haiti	4	.046	.041	.011	.039	.063	4211	15665
Honduras	18	.045	.036	.024	.01	.105	152	2931
total	371	.173	.149	.118	.01	.748	114	23884

Notes: This table shows summary statistics for province-level estimates of upward IGM. “Upward” reflects the likelihood that individuals ages 19–25 whose parents have not completed primary schooling will manage to complete at least secondary education. “Total” shows the unweighted summary statistics across all provinces. The columns “Nmin” and “Nmean” report the smallest and average sample size, respectively, across provinces. Provinces with less than 50 observations are omitted.

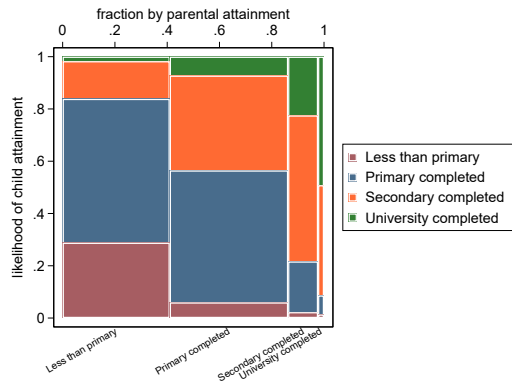
Table A13: District-level estimates of upward IGM using primary-to-secondary education

country	districts	upward						
		mean	median	stdev	min	max	Nmin	Nmean
Peru	168	.395	.365	.175	.084	.807	105	785
Cuba	137	.338	.354	.091	.149	.479	52	81
Bolivia	80	.202	.194	.095	.064	.473	150	830
Chile	179	.2	.192	.082	.04	.478	81	421
Dominican Republic	66	.193	.187	.056	.067	.433	65	635
Costa Rica	55	.179	.181	.06	.057	.304	117	524
Brazil	2,040	.174	.168	.079	-.018	.471	278	1990
El Salvador	103	.155	.139	.076	.023	.381	87	364
Uruguay	67	.15	.144	.065	.024	.355	51	156
Argentina	312	.139	.14	.053	.012	.325	54	727
Colombia	434	.131	.115	.066	-.097	.321	82	816
Venezuela	157	.128	.123	.046	.028	.257	190	1185
Ecuador	78	.126	.115	.049	.026	.241	142	1577
Panama	35	.123	.098	.075	.011	.276	176	663
Nicaragua	68	.11	.101	.054	.017	.232	192	699
Mexico	2,331	.109	.098	.068	-.041	.635	50	452
Paraguay	63	.077	.07	.051	-.067	.211	153	900
Guatemala	191	.043	.039	.03	-.005	.156	172	655
Honduras	96	.037	.032	.028	-.006	.141	152	550
Haiti	23	.034	.033	.024	-.003	.103	664	2724
total	6,683	.144	.127	.093	-.097	.807	50	1042

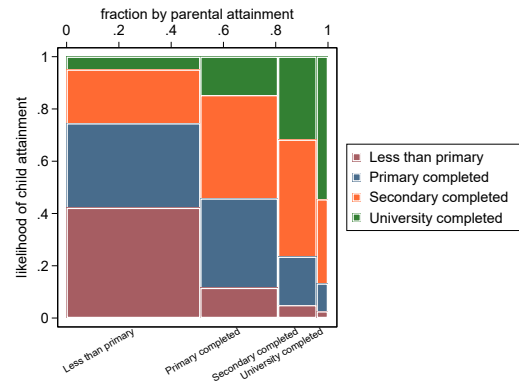
Notes: This table shows summary statistics for district-level estimates of upward IGM. “Upward” reflects the likelihood that individuals ages 19–25 whose parents have not completed primary schooling will manage to complete at least secondary education. “Total” shows the unweighted summary statistics across all districts. The columns “Nmin” and “Nmean” report the smallest and average sample size, respectively, across districts. Districts with less than 50 observations are omitted.

K Transition matrix by country

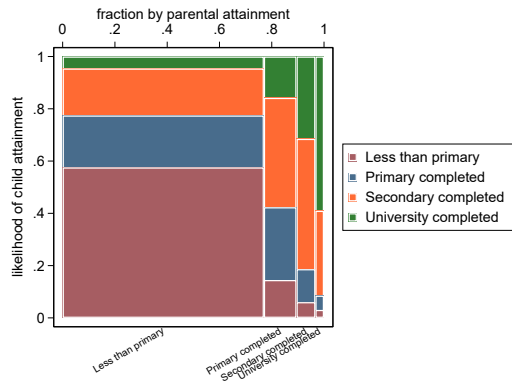
Figure A11: Transition matrix by country



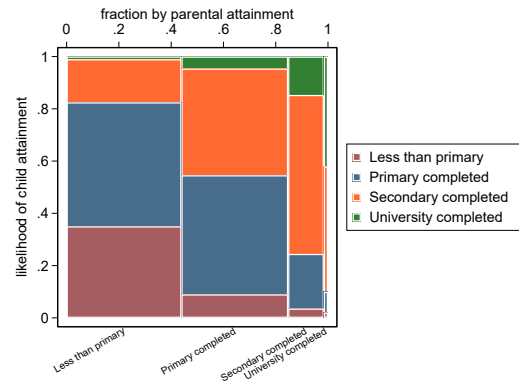
(a) Argentina



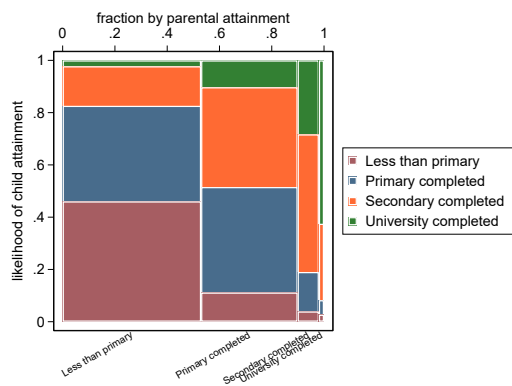
(b) Bolivia



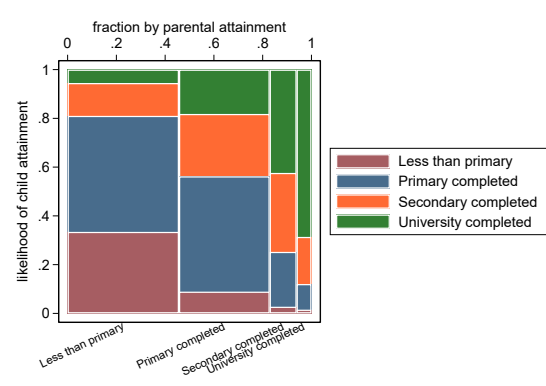
(c) Brazil



(d) Chile

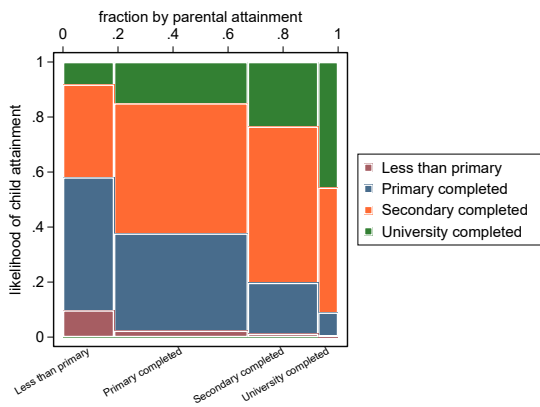


(e) Colombia

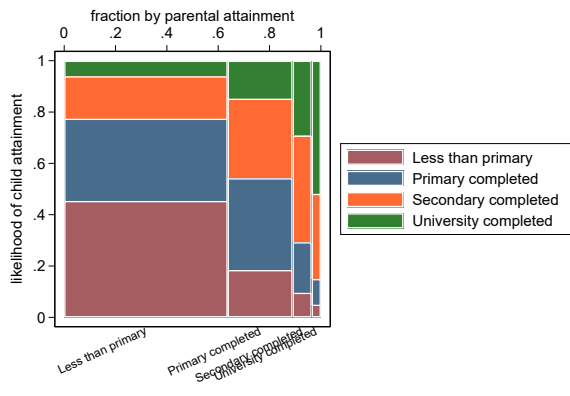


(f) Costa Rica

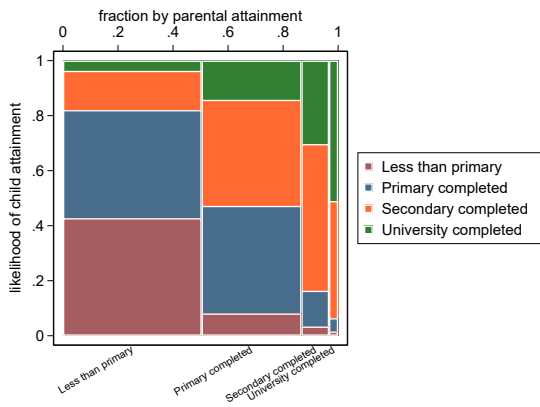
Figure A12: Transition matrix by country



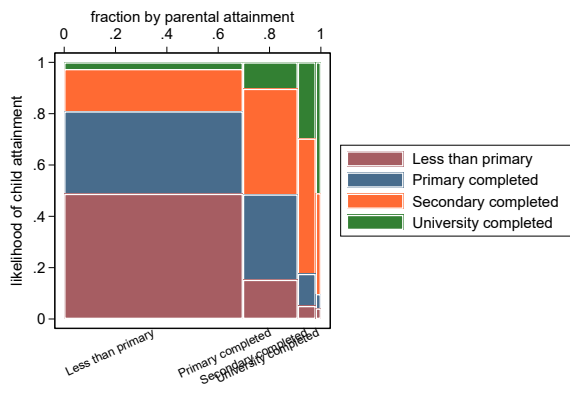
(a) Cuba



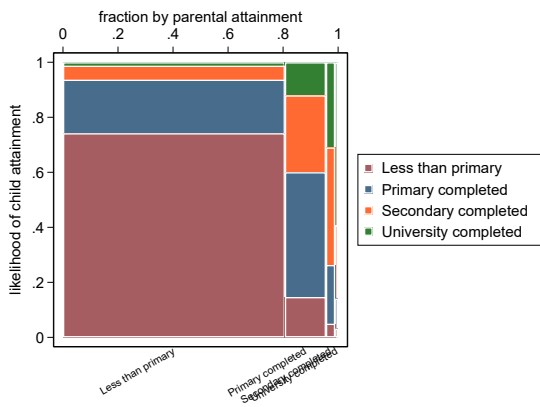
(b) Dominican Republic



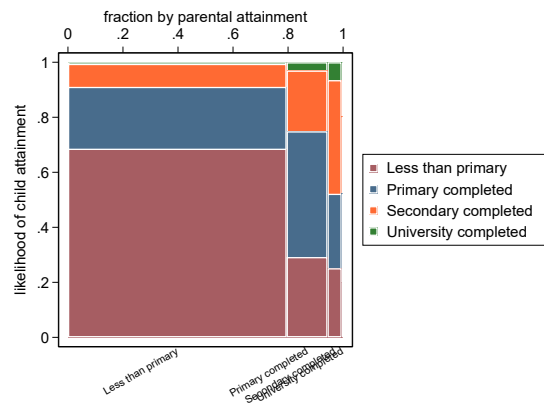
(c) Ecuador



(d) El Salvador

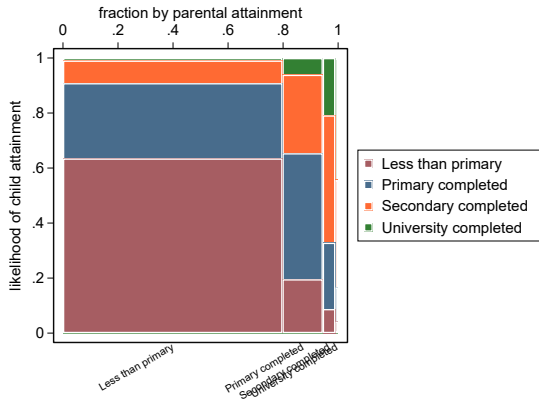


(e) Guatemala

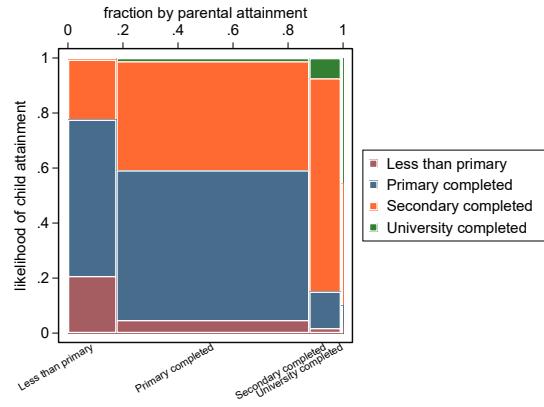


(f) Haiti

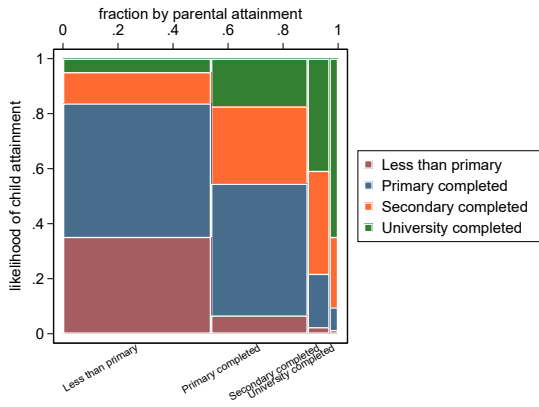
Figure A13: Transition matrix by country



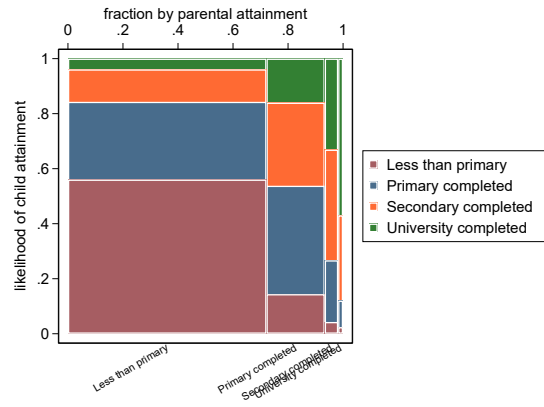
(a) Honduras



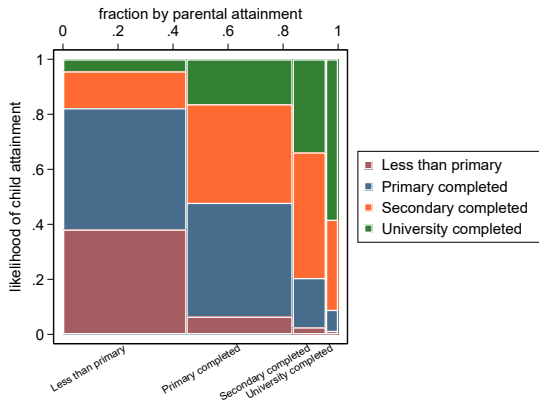
(b) Jamaica



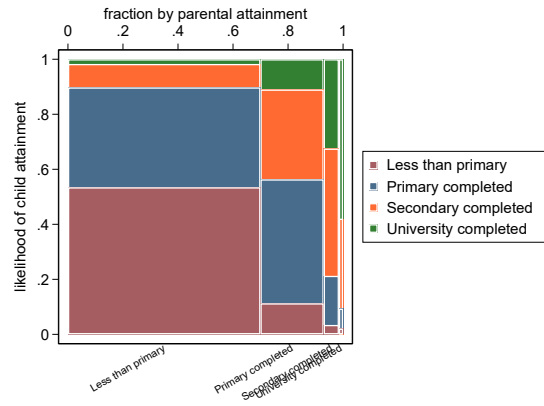
(c) Mexico



(d) Nicaragua

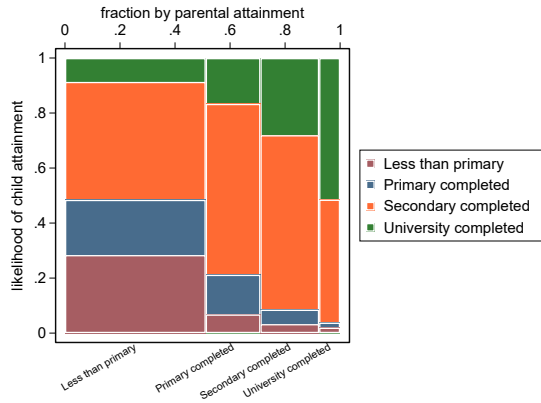


(e) Panama

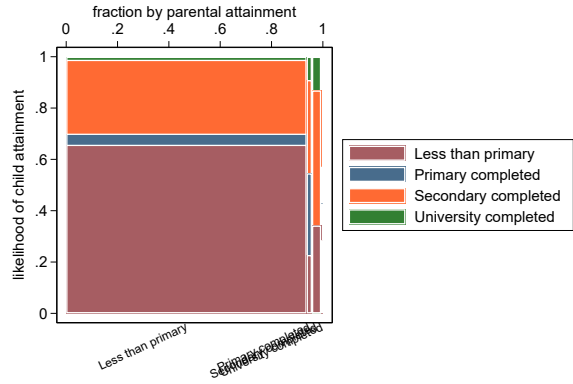


(f) Paraguay

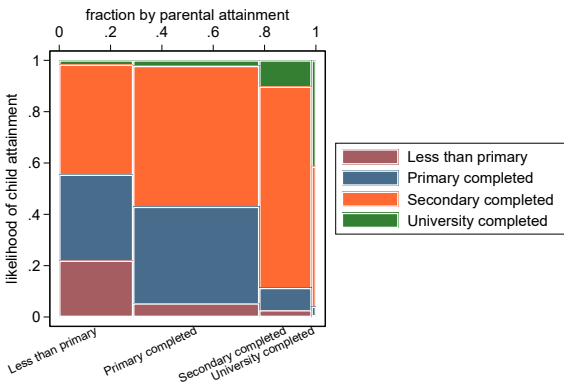
Figure A14: Transition matrix by country



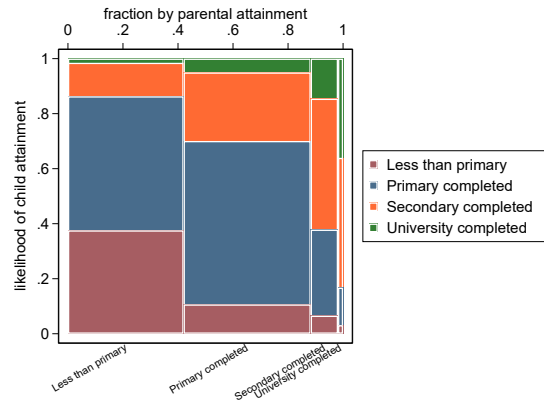
(a) Peru



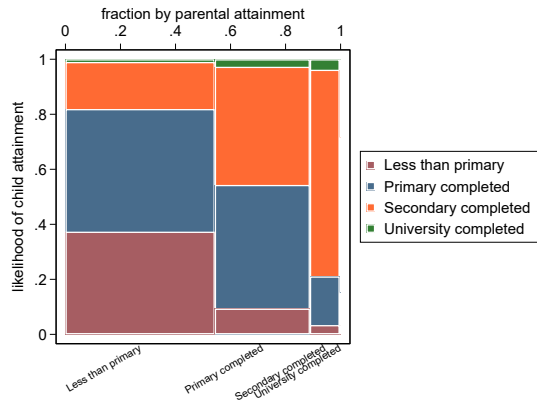
(b) Saint Lucia



(c) Trinidad and Tobago

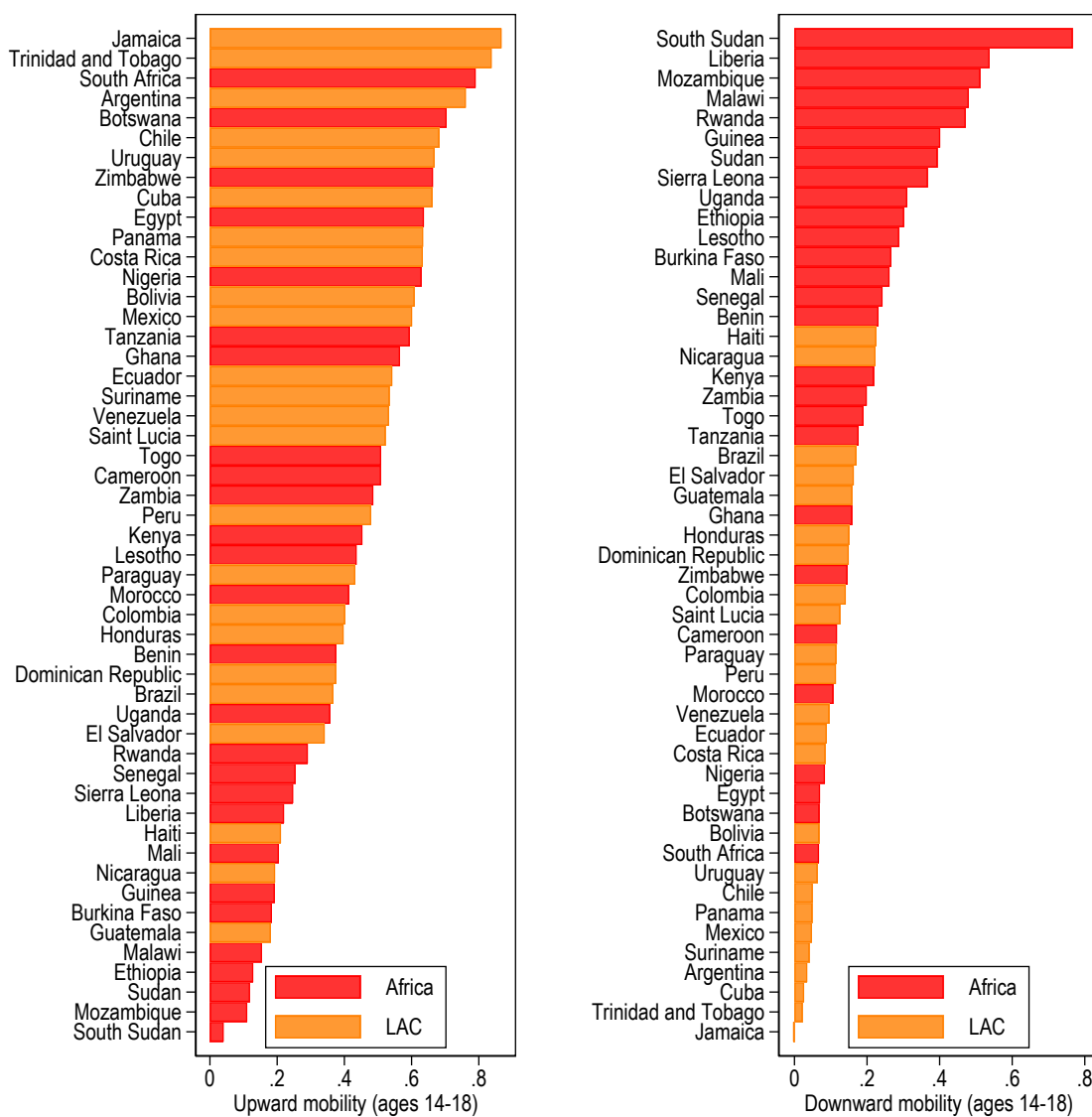


(d) Uruguay



(e) Panama

Figure A15: Upward and downward mobility in LAC compared to Africa



Notes: Estimates for African countries come from [Alesina et al. \(2021\)](#).

Figure A16: Highly negative correlation between upward and downward mobility

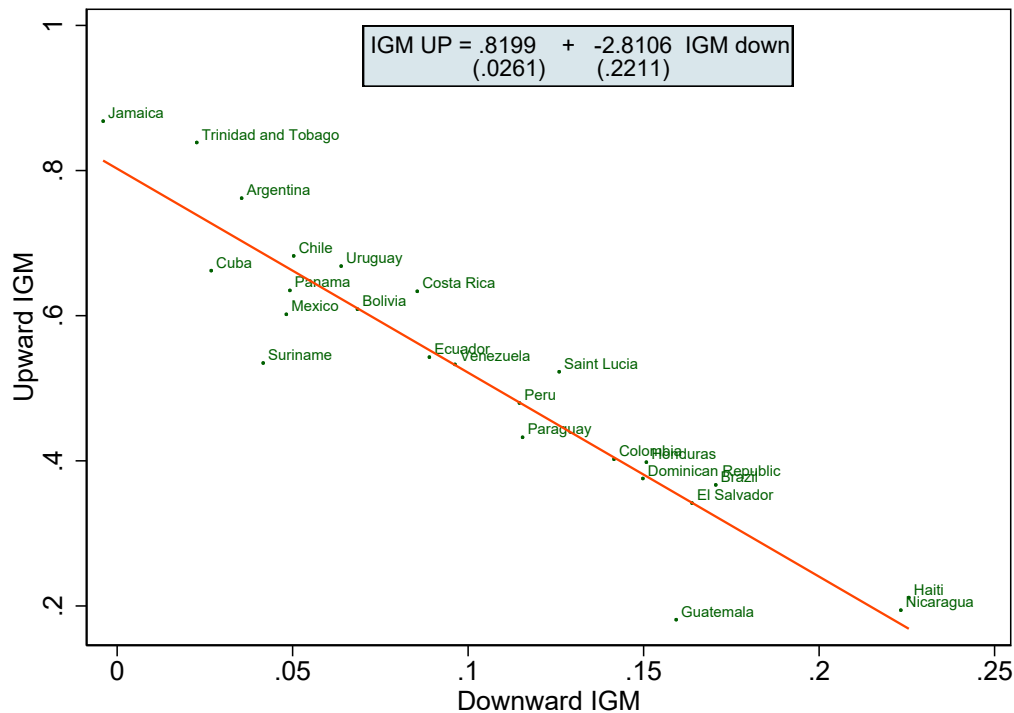
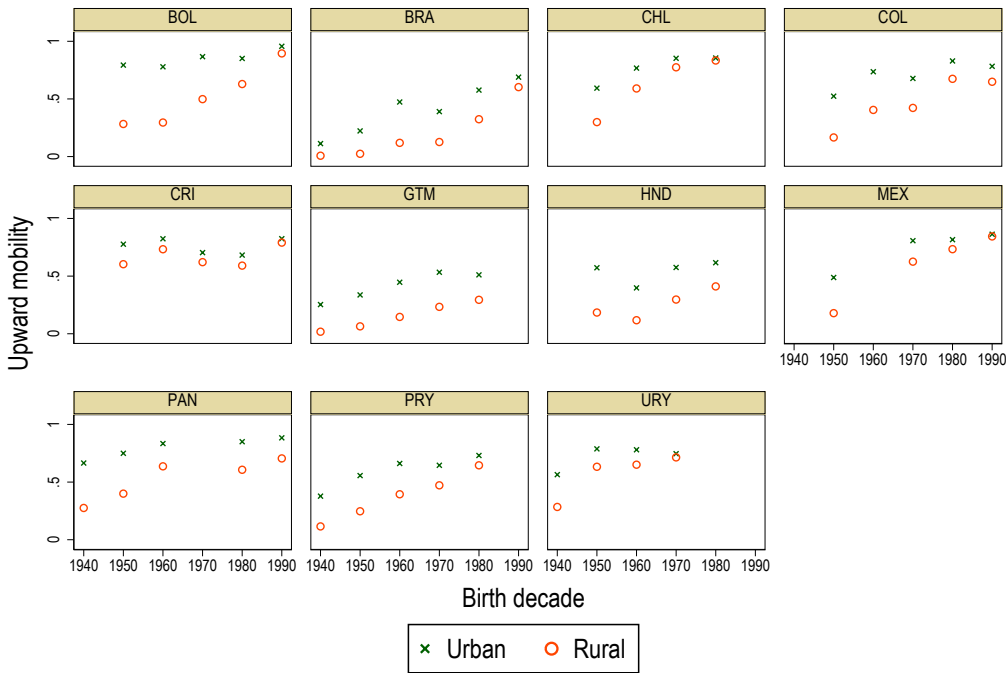
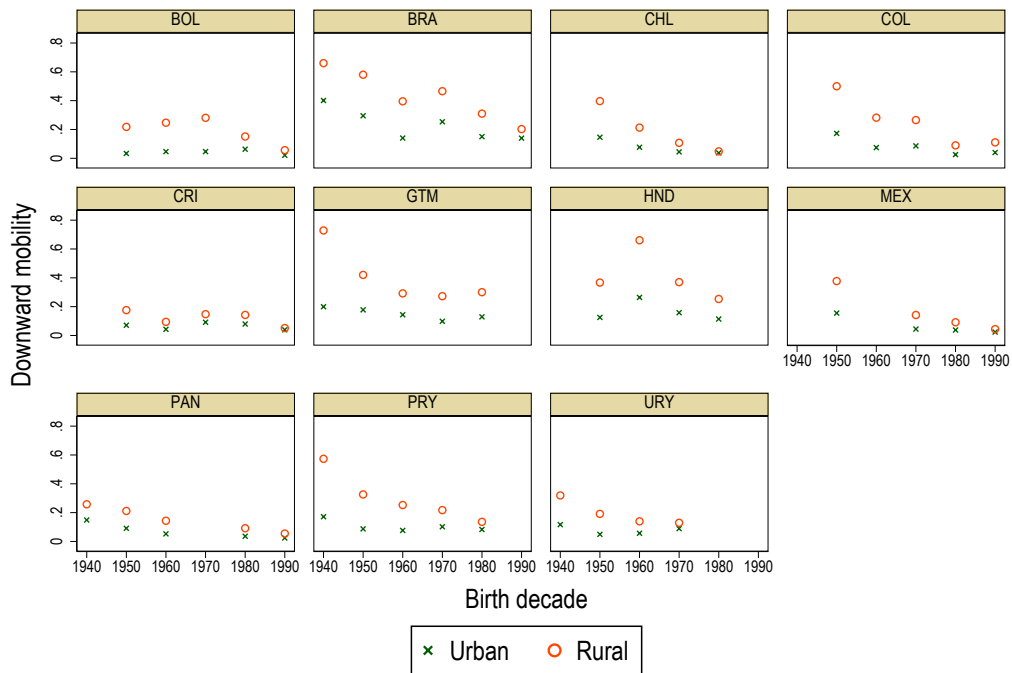


Figure A17: Upward mobility by urban/rural status



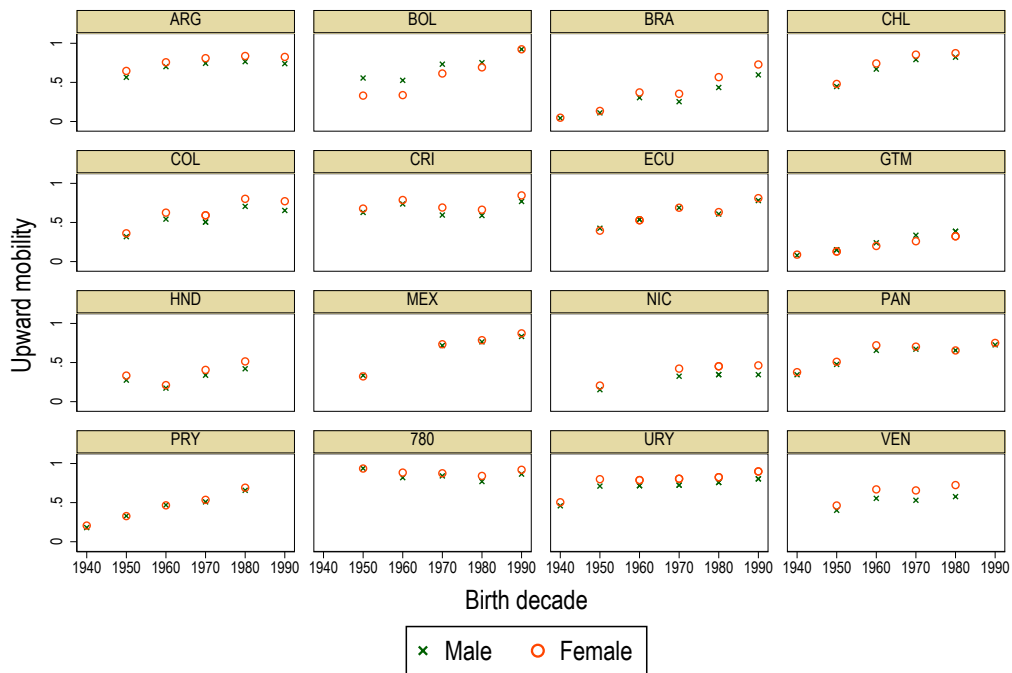
Graphs by Country

Figure A18: Downward mobility by urban/rural status



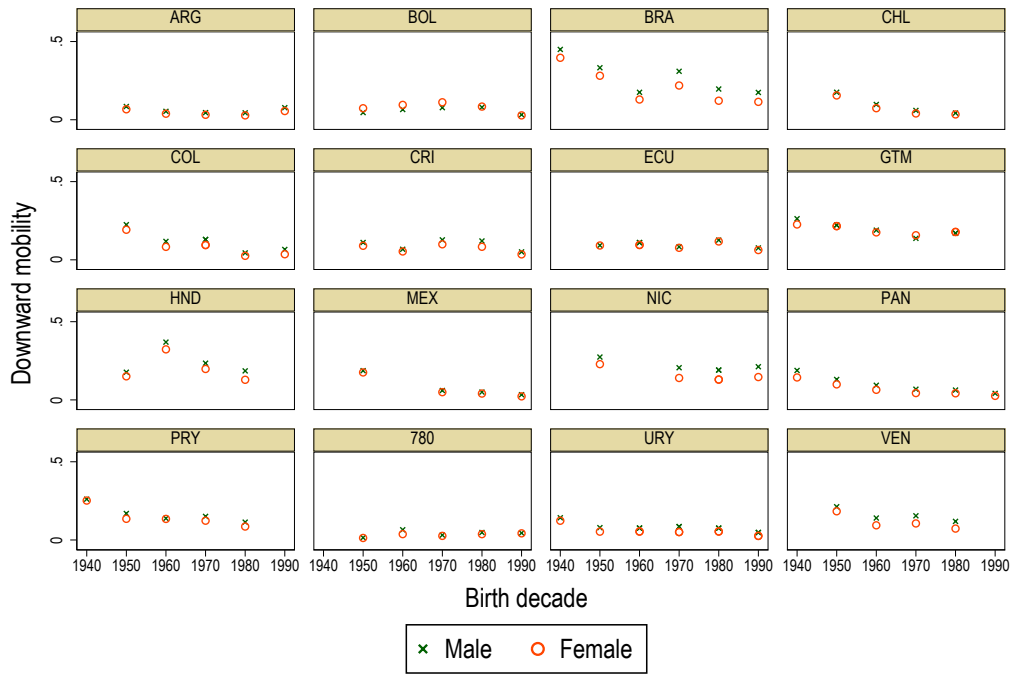
Graphs by Country

Figure A19: Upward mobility by gender



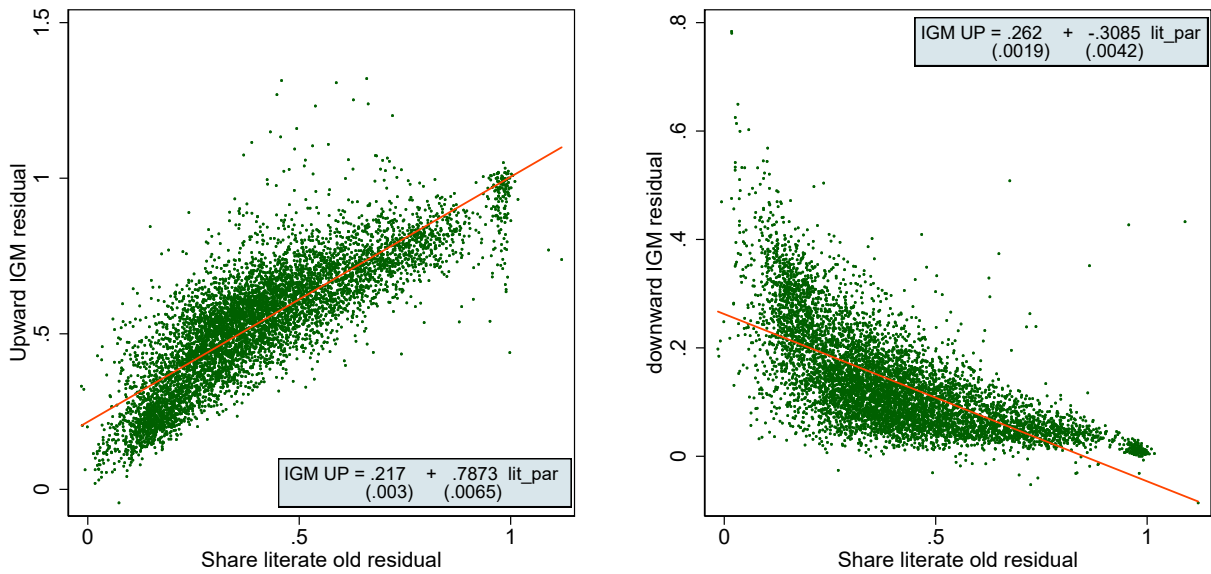
Graphs by Country

Figure A20: Downward mobility by gender



Graphs by Country

Figure A21: Intergenerational mobility and literacy of preceding generation

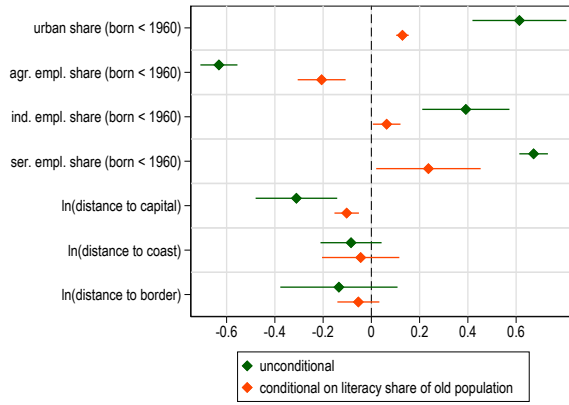


(a) Upward mobility

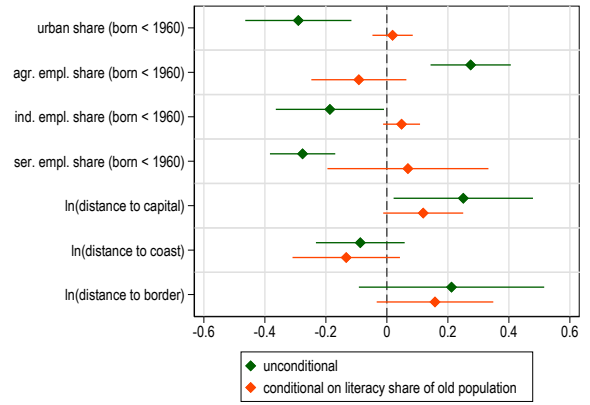
(b) Downward mobility

Notes: This graph uses district-level data, netting out country fixed effects.

Figure A22: IGM using secondary education and correlates



(a) Upward mobility



(b) Downward mobility

Notes: This graph plots the estimated coefficients and 95% confidence intervals computed with standard errors clustered by country. The analysis is done at the district level, running regressions by covariate as in equations 4 and 6. The coefficients are standardized. IGM is estimated with a sample of individuals ages 19–25 and with secondary education as the level of interest (i.e., upward mobility and downward mobility are respectively the likelihood of completing secondary when parents did not achieve that level and the likelihood of failing to complete secondary when parents were able to do so).