



02

UNDP LAC
WORKING PAPER SERIES

**INTERGENERATIONAL
MOBILITY IN LATIN
AMERICA**

IN COMPARATIVE PERSPECTIVE

MARCH 2021

Florencia Torche
Stanford University

INTERGENERATIONAL MOBILITY IN LATIN AMERICA IN COMPARATIVE PERSPECTIVE¹

Florencia Torche²

Abstract

We examine trends in intergenerational educational mobility in Latin America using an international comparative perspective that considers cohorts born between 1940 and 1990. Education is a relevant dimension of mobility because educational attainment is the main predictor of economic well-being, and it also predicts a wide range of outcomes, including health and mortality, longevity, marriage and political participation. The findings indicate that absolute and relative mobility have increased substantially in Latin America over the last few decades in the context of large educational expansion. The increase in educational mobility is entirely driven by expansion, which creates room at the top among individuals with disadvantaged social origins, rather than by widening opportunity net of educational expansion. Given that educational expansion is likely to weaken in the future, this finding is problematic and suggests that governments will need to intervene with aggressive strategies to equalize opportunity if the attempt is to foster mobility. We also suggest the need to consider, in examining educational mobility, not only the amount of education, but also the quality and type of schooling, including private or public sector of education, institutional selectivity and the field of study.

JEL Code: I24, I26, I28, I38, J24, J62, N36

Key Words: Intergenerational mobility, educational attainment, Latin America, educational expansion, inequality

Background Paper for the UNDP LAC Regional Human Development Report 2021. The views and recommendations presented in this paper are from the authors and do not necessarily represent the official position of UNDP.

¹ The author is grateful to the World Bank for making the Global Database on Intergenerational Mobility (GDIM) publicly available, to the Instituto Brasileiro de Geografia e Estatística for allowing access to Brazil's 2014 National Household Sample Survey (PNAD) and to the Centro de Estudios Espinosa Yglesias for allowing access to Mexico's 2017 Social Mobility Survey (EMOVI). She is also grateful to Carlos Costa-Ribeiro, who provided guidance and code to analyse the 2014 PNAD survey.

² Professor of Sociology. Department of Sociology, Stanford University. United States. torche@stanford.edu

Recommended citation: Torche, F. (2021). Intergenerational Mobility in Latin America in Comparative Perspective. UNDP LAC Working Paper No. 02. Background Paper for the UNDP LAC 2021 Regional Human Development Report.

1. Introduction

Intergenerational mobility captures the association between the economic well-being of parents and level of economic well-being attained by their adult children. A strong intergenerational association signals that success in reaching a high level of socio-economic well-being has been largely determined by the advantages of birth. A weak association indicates that everyone, regardless of household educational resources, has a similar chance of attaining a high level of well-being. Several types of mobility have been considered by researchers, including mobility in educational attainment, occupational status, class, earnings and income. These measures of mobility are correlated and provide valuable information about the equality of opportunity in a society. However, the correlation is far from perfect, and countries may be found to be more or less mobile depending on the measure used (Torche 2015).

This study focuses on intergenerational educational mobility in Latin America. Educational attainment is the main predictor of earnings in contemporary societies, and the earnings returns to schooling are greater in Latin America than in affluent countries (Psacharopoulos and Patrinos 2018; Torche 2014). Educational attainment also predicts a range of non-pecuniary outcomes, including health and mortality, fertility, marriage and parenting, crime and political participation, in both the developing and the developed world (Cutler and Lleras-Muney 2008; Lochner 2011; Omariba 2006; Oreopoulos and Salvanes 2011).

In addition to a relevant outcome in its own right, educational attainment plays a central role in the process of intergenerational economic and occupational mobility. Education is the main vehicle both for economic persistence across generations and for intergenerational mobility (Hout and DiPrete 2006). Education is the main vehicle for persistence because advantaged parents are able to afford more and better education for their children, which pays off in the labour market and other markets. At the same time, education is the main vehicle for economic mobility because most of the variance in educational attainment across individuals does not depend on social origins.

Studying educational mobility also has practical advantages compared with the study of economic mobility. Most people complete their education in early adulthood. As a result, measures of educational attainment among adults at a single point in time provide highly valid and stable information about completed schooling. This contrasts with measures of earnings, which can vary widely from year to year. While researchers usually need to average multiple measures of earnings or income over time for each individual to approach a stable measure of permanent income (Friedman 1957), a single measure of educational attainment among adults supplies acceptable information. Furthermore, questions about educational attainment are usually not perceived as sensitive by survey respondents, and these questions have good recall, refusal, and reliability properties. This is particularly advantageous if information about parental education is retrospectively reported by adult children, which is the case in most surveys used for mobility analysis in Latin America. Given these practical advantages, measures of educational intergenerational mobility are available for a large number of Latin American and other countries around the world.

This review focuses on intergenerational educational mobility in Latin America using an international comparative perspective. We proceed as follows. Section 2 discusses concepts and measures of intergenerational educational mobility and reviews prior studies of educational mobility in Latin America. Section 3 introduces the data and variables used in this analysis. Section 4 offers empirical findings about the level and trends of educational mobility in Latin America in comparative perspective, as well as a brief complementary analysis of occupational mobility in two Latin American countries. Section 5 concludes.

2. Concepts and measures in the study of intergenerational mobility in Latin America¹

Educational mobility captures the association between the educational attainment of parents and the educational attainment of the parents' children. Two types of mobility are usually distinguished by scholars: absolute and relative mobility. Absolute mobility captures the total observed change in educational attainment across generations. Absolute mobility is driven by educational expansion benefiting subsequent cohorts over time and the allocation of education based on the education of the parents, net of overall expansion. Typical measures of absolute mobility include the proportion of individuals with higher educational attainment relative to their parents (upward mobility) and the proportion of individuals with less educational attainment than their parents (downward mobility). Relative mobility captures the association between the education of parents and children's education, net of any change in the distribution of schooling across generations.

The analysis of educational mobility tends to focus on relative mobility. This is understandable given that this measure provides a direct assessment of the equality of opportunity in society. However, educational expansion provides an important impetus for absolute educational mobility as experienced by individuals, particularly in contexts such as Latin America, where access to formal education has expanded greatly across cohorts. Absolute and relative mobility do not necessarily occur together. It is possible for countries to experience substantial gains in absolute upward mobility driven by educational expansion, along with unchanged relative mobility. This review considers both dimensions of educational mobility in Latin America.

2.1. How is educational mobility measured?

The most common approach is to operationalize educational attainment as a continuous measure of the total number of years of schooling completed and to capture mobility by means of the intergenerational regression coefficient (IER) or the intergenerational correlation coefficient (IEC) that link the schooling of parents and the schooling of adult children. These measures provide simple summary accounts that are easy to interpret. Their validity is based on the assumption that the intergenerational educational association is linear, which may be an oversimplification in some contexts, (For example, there is evidence that the intergenerational association might be stronger among parents with high levels of education).

The main difference between the IER and the IEC is that the former is affected by the dispersion of the education of parents and children, and the latter nets out the dispersion in both generations, creating a standardized metric that ranges between -1 and $+1$. The correlation coefficient is obtained by multiplying the regression coefficient by the ratio of the standard deviations of parents' schooling and children's schooling.

Both measures provide valuable, complementary information. The IER has a straightforward interpretation. It captures the average change in an adult child's years of schooling associated with each one-year increase in the parents' schooling. For example, an IER of 0.6 indi-

¹ This section relies on Torche (2019).

cates that, for each additional year of parents' education, children's education is expected to increase by 0.6 years, on average. The IEC uses a standardized metric. An IEC of 0.4, for example, indicates that, for each standard deviation increase in parents' schooling, children's schooling is predicted to increase on average by 0.4 standard deviations. Even though it is less intuitive, the IEC appears to be more stable and less prone to bias than the IER (Emran, Greene, and Shilpi 2018).

The distinction between the IER and the IEC is not merely a statistical detail, and it is particularly important if one is comparing mobility across countries or over time. For example, Hertz et al. (2008) report that the intergenerational persistence measured by the IER declined in many countries of the world, but the IEC remained relatively constant. To explain this discrepancy, they show that, at least among cohorts born between the 1930s and the 1980s, the dispersion of parents' schooling increased monotonically across cohorts around the world, while the dispersion of adult children's schooling followed an inverted-U pattern: an increase and then a decrease. As a consequence, the ratio of these measures of dispersion rose among more recent cohorts, resulting in a constant correlation even as the regression coefficient was declining. This technical point is important in interpreting trends in educational mobility and examining the factors driving these trends, particularly, the extent to which educational expansion produces changes in the dispersion of schooling in both generations.

2.2. How to measure parents' education?

Many surveys collect information on the education of both fathers and mothers, which raises the meaningful, but neglected question about how to measure parental education while examining intergenerational mobility. Most empirical analyses use the dominance approach (Erikson 1984), selecting the parent with the highest level of educational attainment. This choice is based on the assumption that the educational advantages provided by parents are defined by the highest level of human capital within the family. Another alternative is to use a joint approach (Sorensen 1994), which combines the educational attainment of both parents. Most commonly, this strategy is implemented by taking a simple average of the years of schooling of both parents. A more sophisticated version of this approach computes weights for each parent to maximize the explained variation in the dependent variable (Lubotsky and Wittenberg 2006).

Another criterion for selecting how to measure parental education is the sex of the parent. Many studies suggest that mothers are more influential than fathers on children's educational attainment given that mothers spend more time with children, particularly at early ages. Given the higher proportion of women who care for their children at home in Latin America relative to other regions, this might be especially the case in Latin America. This approach has been used in both the developing and the developed world (Behrman and Rosenzweig 2002; Haveman and Wolfe 1995; Schultz 1993). According to another approach, it is the education of the parent of the same sex that is more influential among children, which suggests the use of a measure of the father's schooling for sons and of the mother's schooling for daughters. Given that there is no clear consensus yet about which version of parental schooling is preferred and that there is reason to believe that the best measure depends on context, we suggest using several measures, if available, and evaluating whether the results are sensitive to this choice.

2.3. When to measure children's education?

Most analyses of educational mobility only consider adults in their mid-20s or older to reduce right-censoring of the education measure. However, it is also possible to evaluate mobility among younger respondents who are still in school and who are co-residing with their parents. In this case, education is measured as timely grade progression, for example, as the difference between the number of years of school the children would have completed if they had entered school at the normative age and advanced one grade every subsequent year and the number of years of school that they have actually completed, as early studies of mobility in Latin America have done (Behrman, Birdsall, and Székely 2000).

Even if this approach does not capture the final completed schooling of young people, it has two important advantages for the study of intergenerational educational mobility in the developing world. First, it does not require intergenerational data from panel surveys or retrospective reports of parental education by adult respondents. Rather, it only requires survey information on the educational attainment of all household members, which is usually available in the roster of household surveys widely available in Latin America. Second, because this measure of mobility captures educational attainment among children and adolescents, it provides information about recent mobility trends and the associated determinants. This is particularly relevant in regions, such as Latin America that have experienced vast and rapid educational upgrading and policy changes with a potential impact on mobility.

The use of co-residential parent-child dyads to measure educational mobility needs to be restricted to children younger than the normative age at which children leave the parental household, which is usually in late adolescence. If older co-resident children are included in the analysis, this induces the risk of bias insofar as children who continue to live with their parents after late adolescence might not be a representative sample of their cohorts. Emran, Greene, and Shilpi (2018) show that co-residence bias affects the IER much more strongly than the IEC. Selection bias induced by including co-resident older children is a concern even if the sample is restricted to children who are young adults (Francesconi and Nicoletti 2006).

2.4. Occupational mobility

Along with studies on educational mobility, a vast literature examines mobility using alternative measures of socio-economic status, including social class, occupational status, earnings, income and wealth (Torche 2015). While the focus of this study is educational mobility, we also consider mobility in terms of occupational status in two countries, Brazil and Mexico, in which detailed information about occupations is available on parents and adult children.

Occupational status is a weighted average of the mean level of earnings and education of the occupational incumbents in the occupation that the individual holds. Occupational status has important advantages as a measure of economic standing. Collecting information about occupations is relatively easy and faces fewer issues in terms of recall, reliability, refusal and stability than measures of earnings or income (Hauser and Warren 1997). Furthermore, occupational information about parents can be reported retrospectively by adult children, circumventing the need for long-term panel data. Occupational status strongly correlates with other social and economic variables, and it remains relatively stable over the individual occupational career, so a single measure provides adequate information of long-run standing (Hauser et al. 2000; Hauser 2010). Some scholars have claimed that occupational status

might even be a better indicator of long-term economic standing than single-year income measures (Goldberger 1989; Zimmerman 1992).

The analysis of occupational status mobility focuses on relative mobility, usually measured using the IER. The regression coefficient captures the average change in children's status associated with a one-unit increase in parents' status, assuming a linear relationship.

3. Educational mobility in Latin America: data, variables, and prior research

3.1. Data and variables

The main data source for the comparative analysis of intergenerational educational mobility in Latin America is the Global Database on Intergenerational Mobility (GDIM) compiled by the Development Research Group at the World Bank.² The GDIM compiles information on mobility for a large number of countries based on national surveys. For the birth cohorts of the 1980s, data are available for 148 economies that account for 96 percent of the world's population. For 111 of these economies (87 percent of the world's population), mobility data exist for cohorts born between the 1940s and the 1980s.

Our analysis focuses on measures of absolute and relative intergenerational mobility across regions. In addition to Latin America, we consider the following regions: East Asia, Europe and Central Asia, the Middle East and North Africa, South Asia, sub-Saharan Africa, and high-income countries. Chile and Uruguay, the two Latin American countries considered high income, are included in the Latin American region instead of the high-income group. Mobility figures across groups reflect simple averages across countries, without weighting by population.

The educational attainment of parents and adult children is defined as the total number of years of schooling. Parental education refers to the maximum level of education attained by either parent. Change over time is captured by a cohort comparison, considering five birth cohorts: those born in the 1940s, 1950s, 1960s, 1970s and 1980s. Given that most individuals complete their education in their 20s or earlier and that a return to school after the normative age of school completion is rare, cohort analysis provides a suitable measure of change over time, largely purged of age effects. Mobility estimates based on fewer than 50 observations are dropped from the analysis. Some of the national samples in the database include adult children co-residing with parents. These observations are dropped to avoid co-residential bias in mobility estimates.

We complement the analysis of educational mobility with an examination of occupational mobility in two Latin American countries—Brazil and Mexico—as well as the United States as a benchmark for comparison. The data for Brazil come from the 2014 Brazilian National Household Survey. For Mexico, we use the 2017 Survey of Social Mobility, and, for the United States, we rely on the 2014, 2016 and 2018 waves of the General Social Survey. All surveys use a probability sampling design and are nationally representative. We restrict the analytic

² GDIM (Global Database on Intergenerational Mobility), Development Research Group, World Bank. Washington, DC, <https://www.worldbank.org/en/topic/poverty/brief/what-is-the-global-database-on-intergenerational-mobility-gdim>.

sample to adults ages 25–65 and use sample weights to render the sample representative of the national populations. The occupational information on parents and adult children was recoded into the 1988 International Standard Classification of Occupations (ISCO-88) codes of the International Labour Organization and then transformed into scores of the international socio-economic index of occupational status (ISEI) (Ganzeboom, De Graaf, and Treiman 1992). ISEI scores are designed to be internationally comparable. The construction of the index relies on an optimal scaling procedure, assigning status scores to detailed occupations to maximize the role of occupations as an intervening variable between education and income (Ganzeboom, De Graaf, and Treiman 1992). ISEI scores range from 16 to 90. Low values between 16 and 18 identify occupations such as domestic helpers and cleaners, forestry laborers, and agricultural and fishery laborers. High scores between 88 and 90 identify occupations such as judges and medical doctors.

3.2. Educational mobility in Latin America: prior findings

Because of the practical advantages of measuring educational as opposed to economic mobility, intergenerational educational mobility has been measured in many countries using a comparative perspective (Hertz et al. 2008; Narayan et al. 2018). Evidence from these analyses has shown that Latin America features the highest level of intergenerational persistence in the world, even higher than poorer regions. However, intergenerational persistence has declined in the recent past, and Latin America is currently catching up with the rest of the world in terms of educational mobility.

In addition to comparative analyses of educational mobility across the globe (Hertz et al. 2008), there is a specific literature on educational mobility in Latin America (see Torche 2014). A landmark study by Behrman, Gaviria, and Székely (2001) examines intergenerational educational mobility in four countries (Brazil, Colombia, Mexico and Peru) using the IER. The authors find mobility to be much more limited in Latin America than in the United States. The association of the years of schooling of parents and the years of schooling of adult children was approximately 0.5 in Mexico and Peru and approximately 0.7 in Brazil and Colombia, compared with 0.35 in the United States. At the same time, the authors find that the IER declined among cohorts born between the 1940s and the 1970s. More recently, Daude and Robano (2015) and Neidhöfer, Serrano, and Gasparini (2018) have replicated and extended the comparative analysis of intergenerational educational association to 18 Latin American countries using the Latinobarómetro dataset.³ Their findings on trends are consistent with those of Hertz et al. (2008) and Narayan et al. (2018): The intergenerational educational regression coefficient used to be extremely high in Latin America, but it has declined across cohorts.

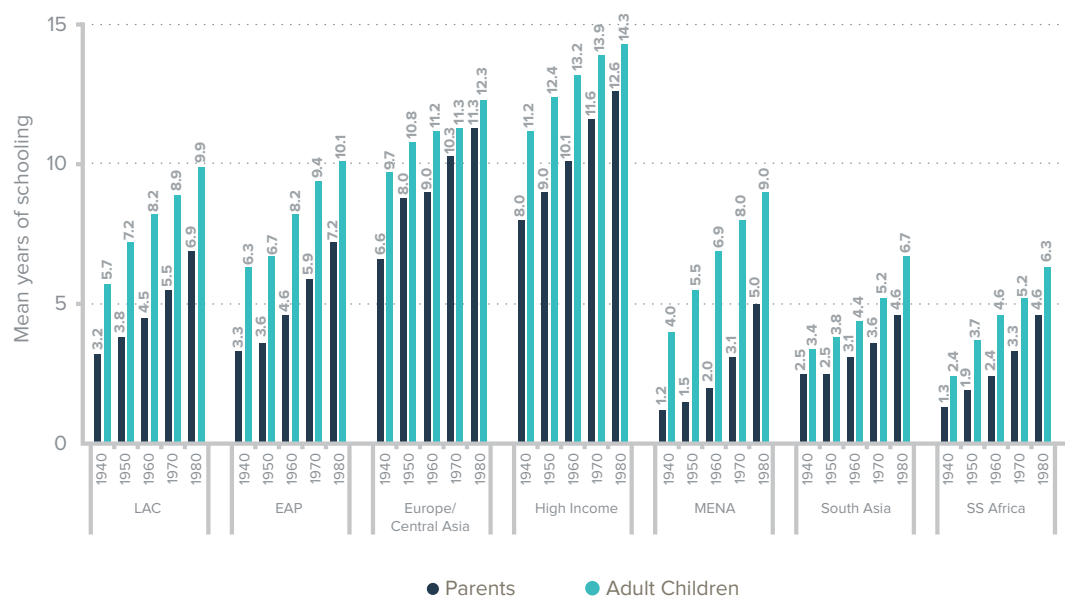
Several studies have also considered mobility among younger cohorts who are still in school and co-residing with their parents. Measuring mobility as the association between parental resources and children’s timely grade progression, these studies have found substantial variation in mobility across Latin American countries, as well as a correlation between levels of mobility and macroeconomic and policy factors (Andersen 2001; Behrman, Birdsall, and Székely 2000; Conconi et al. 2008).

³ See Latinobarómetro (dashboard), Corporación Latinobarómetro, Santiago, Chile, <http://www.latinobarometro.org/lat.jsp>.

4. Findings: educational mobility in Latin America in comparative perspective

A central determinant of educational mobility is educational upgrading across birth cohorts and between generations. Figure 1 shows the mean years of schooling attained by parents and children birth cohorts in Latin America and other regions of the world from the 1940s to the 1980s. In all regions of the world, each subsequent cohort attains substantially more education than the previous cohort, and, in all regions, children attain substantially more education than their parents. Within this general pattern, there are visible differences across countries. In Latin America, the mean years of schooling rose from 5.7 years among cohorts born in the 1940s to 9.9 years among cohorts born in the 1980s. The magnitude of educational upgrading across cohorts is slightly less pronounced in Latin America than in East Asia and much less than in the Middle East and North Africa, which started at a much lower aggregate level of educational attainment. Given substantial educational expansion, the gap in educational attainment between parents and children is striking. For example, among the youngest cohort born in Latin America in the 1980s, parents attained an average of 6.9 years of schooling, while their children reached 9.9 years of schooling.

Figure 1. Educational expansion across birth cohorts, Latin America and other regions, 1940s–1980s



Source: Data of GDIM (Global Database on Intergenerational Mobility), Development Research Group, World Bank. Washington, DC, <https://www.worldbank.org/en/topic/poverty/brief/what-is-the-global-database-on-intergenerational-mobility-gdim>.

Note. Regional data are unweighted averages across countries. Educational attainment is the total number of years of schooling. Parental education is the maximum level of education attained by either parent. Mobility estimates based on fewer than 50 observations are dropped from the analysis. Adult children co-residing with parents are excluded.

It is clear from the change in high-income countries that educational upgrading both across cohorts and across generations declines as countries reach higher levels of aggregate schooling. This pattern is most obvious in high-income countries and in Europe and Central Asia where the educational gap between parents and children narrows among the youngest

cohorts. This pattern of reduced educational expansion from parents to children is also visible in Latin America among the cohort born in the 1980s. This is a worrisome sign because the aggregate levels of attainment are still considerably lower in Latin America than in high-income countries, although it is too early to determine whether this is indicative of a trend.

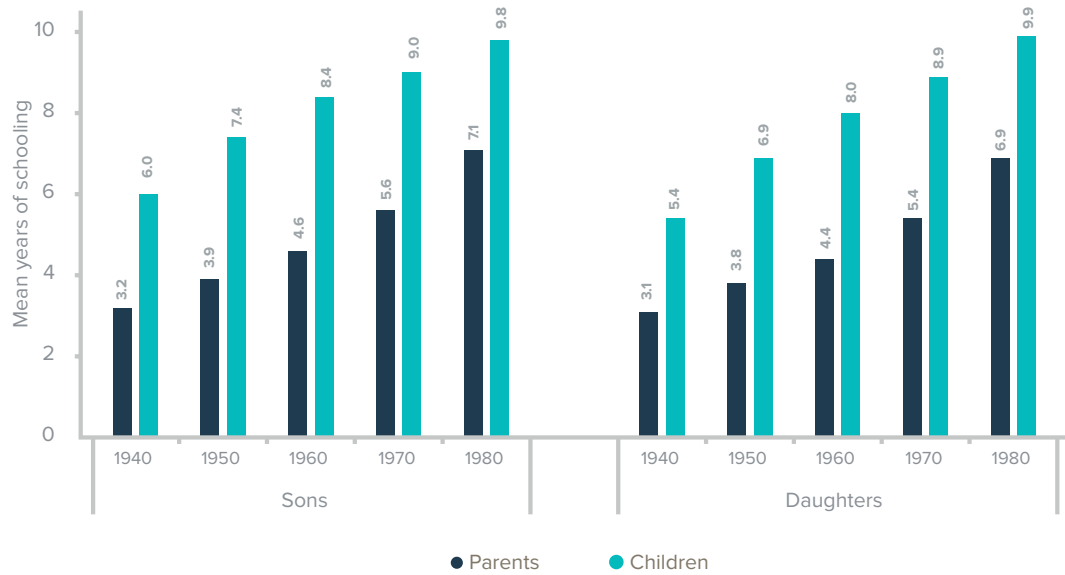
This pattern of educational upgrading was driven by educational expansion policies in Latin America over the 20th Century. Across Latin America, governments pushed alphabetization and access to primary schooling. This process started in more advanced countries, such as Argentina, Chile and Uruguay, in the context of economic growth and urbanization in the first half of the 20th Century and later in other countries. In many cases, primary education expansion was embedded in political processes, such as the revolutionary movements in Bolivia and Mexico, the democratic process in Venezuela and a socialist project in Bolivia, and was supported by international organizations, particularly the United Nations (Reimers 2002). The largest increase in primary education expansion occurred between the 1950s and 1970s and benefited cohorts born between the 1940s and 1970s. The rapid expansion of primary education may have had, however, unintended negative consequences on secondary school expansion. First, it reduced the quality of schooling (for example, by reducing instruction times to accommodate two daily shifts in school buildings and by straining teachers), and, second, it was not matched by the necessary public investments in the expansion of secondary schooling (Frankema 2009; Reimers 2002).

Figure 2 examines educational upgrading among men and women in Latin America and addresses the issue of gender disparities in schooling. The results are clear. Men and women gained schooling at comparable rates. Women had a slight disadvantage among earlier cohorts, but reached parity in the 1970s and even surpassed men in the 1980s birth cohort. The substantial gender parity and an emergent female advantage in recent cohorts is not surprising. Research has documented the closing of the gender gap in Latin America at early levels of education already in the 1980s and the shift towards women's advantage thereafter (Grant and Behrman 2010). Detailed analysis by country shows substantial heterogeneity across countries, however. Bolivia showed a persistent gap favouring men across cohorts, and Brazil featured a growing advantage among women already among the cohorts of the 1940s.

The measures of upward absolute mobility are defined as the proportion of adult children who attain a higher level of education than the maximum level of education among their parents. To measure absolute mobility, data on total years of schooling is recoded into an ordinal variable with the following categories: less than primary education, primary, lower secondary, upper secondary or post-secondary non-tertiary, and tertiary education. Upward mobility is defined as the attainment of at least one level of education above the level of the parents. (To account for ceiling effects, individuals whose parents attained the highest level of schooling—tertiary education—are coded as upwardly mobile if they remain in the top category.)

Figure 3 shows trends in absolute upward mobility across birth cohorts in Latin America and other regions from those born in the 1940s to those born in the 1980s. White circles identify the cohorts of the 1940s; black circles identify the cohorts of the 1980s, and gray circles identify middle cohorts. Latin America shows a stark improvement in upward educational mobility. This increase is particularly noticeable early on, from the cohorts of the 1940s to the cohorts of the 1960s and is much reduced thereafter. This pattern is fully consistent with the timing of the massive expansion in primary education led by Latin America in the mid-20th Century.

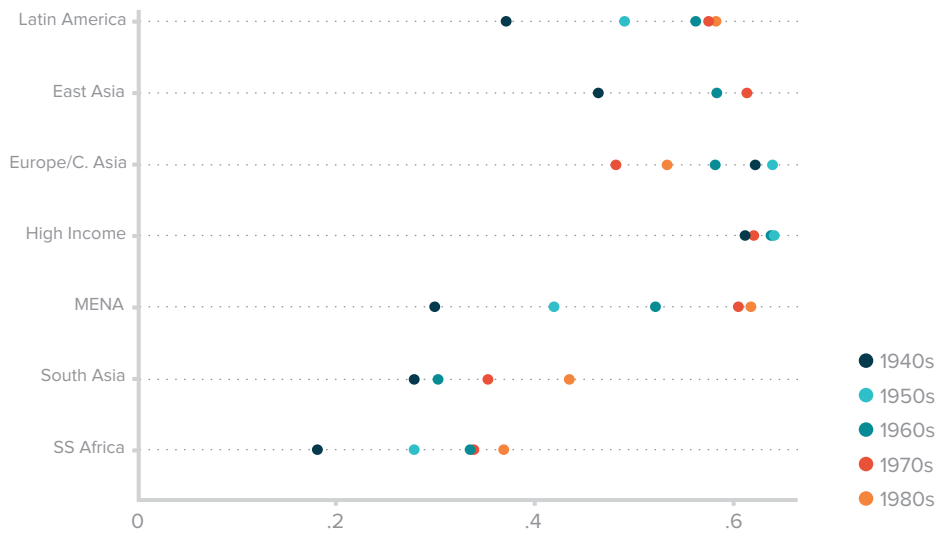
Figure 2. Educational expansion across birth cohorts, by sex, Latin America, 1940s–1980s



Source: Data of GDIM (Global Database on Intergenerational Mobility), Development Research Group, World Bank, Washington, DC, <https://www.worldbank.org/en/topic/poverty/brief/what-is-the-global-database-on-intergenerational-mobility-gdim>.

Note. Regional data are unweighted averages across countries. Educational attainment is the total number of years of schooling. Parental education is the maximum level of education attained by either parent. Mobility estimates based on fewer than 50 observations are dropped from the analysis. Adult children co-residing with parents are excluded.

Figure 3. Absolute mobility across birth cohorts, Latin America and other regions, 1940s–1980s



Source: Data of GDIM (Global Database on Intergenerational Mobility), Development Research Group, World Bank, Washington, DC, <https://www.worldbank.org/en/topic/poverty/brief/what-is-the-global-database-on-intergenerational-mobility-gdim>.

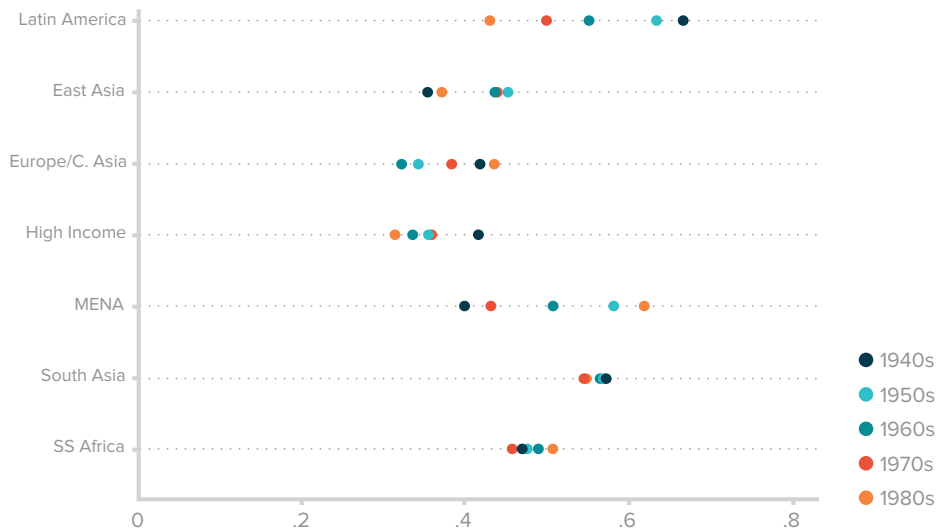
Note. Absolute mobility is defined as the proportion of children who have attained more education than their parents or who remain in the top educational category if parents reached a level of attainment in the top educational category. The following categories are distinguished: less than primary education, primary, lower secondary, upper secondary or post-secondary non-tertiary, and tertiary education. Regional data are unweighted averages across countries. Parental education is the maximum level of education attained by either parent. Mobility estimates based on fewer than 50 observations are dropped from the analysis. Adult children co-residing with parents are excluded.

The Latin American trend of growing upward educational mobility is exceptional in a comparative perspective. It is only comparable with the increase in upward educational mobility in East Asia and in the Middle East and North Africa. Other regions show more moderate improvements in upward mobility across cohorts, and the case of high-income countries and of Europe and Central Asia—no improvement at all—is partially accounted for by the already high levels of schooling attained by the parental generation and the ceiling effects in educational attainment. Both Latin America and the Middle East and North Africa show, however, virtually no improvement among the cohorts born in the 1980s, despite the fact that the levels of educational attainment are still much lower there than in high-income countries. This is a worrisome trend that requires close attention in research on more recent birth cohorts.

Absolute mobility captures aggregate progress across generations, which is driven by overall educational expansion and by any changes in the intergenerational association. Relative mobility involves the analysis of the intergenerational educational association net of changes in the distribution of education across generations. Relative mobility is usually measured by the IER or the IEC.

Figure 4 describes relative mobility trends in Latin America relative to other regions using the IER as a measure of persistence. It shows that Latin America has made substantial progress in reducing intergenerational persistence across cohorts. Latin America used to be the least mobile region of the world, with an IER of .67 among the cohorts of the 1940s. The intergenerational association then declined monotonically across cohorts to only .43 among those born in the 1980s. This is consistent with analyses restricted to Latin America (Daude and Robano 2015; Neidhöfer, Serrano, and Gasparini 2018) and shows that the increase in educational mobility in Latin America is substantial in a comparative context.

Figure 4. Relative mobility measured by the IER across birth cohorts, Latin America and other regions, 1940s–1980s



Source: Data of GDIM (Global Database on Intergenerational Mobility), Development Research Group, World Bank. Washington, DC, <https://www.worldbank.org/en/topic/poverty/brief/what-is-the-global-database-on-intergenerational-mobility-gdim>.

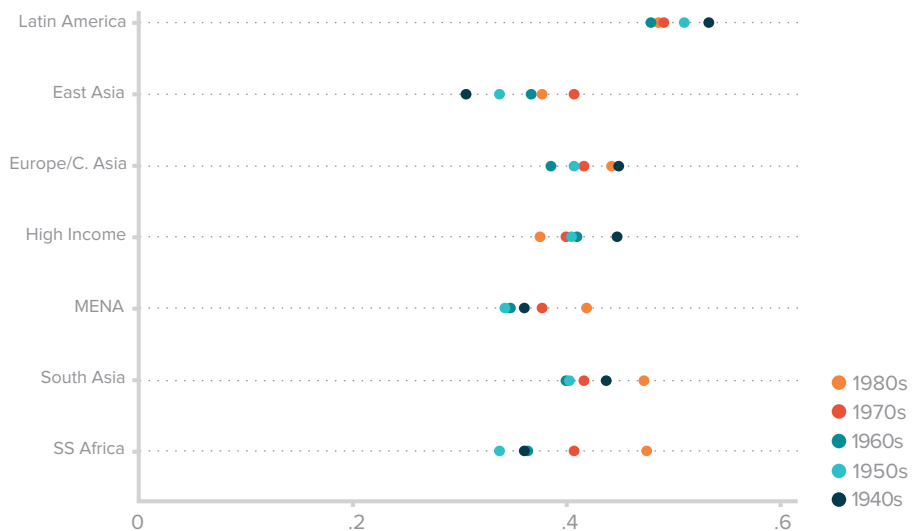
Note. The intergenerational regression coefficient (IER) is the parameter estimate of parental educational attainment in a linear regression predicting the educational attainment of adult children. Regional data are unweighted averages across countries. Educational attainment is the total number of years of schooling. Parental education is the maximum level of education attained by either parent. Mobility estimates based on fewer than 50 observations are dropped from the analysis. Adult children co-residing with parents are excluded.

This increase in relative mobility is only comparable with the trend in countries in the Middle East and North Africa, where the regression coefficient dropped from .62 to .40. All other regions experienced smaller increases in relative mobility and, in the case of Europe and Central Asia and of sub-Saharan Africa, a small decline in mobility. Even with this remarkable trend, Latin America has not become one of the most mobile regions for the youngest cohort. Measured by the IER among those born in the 1980s, the region displays an average level of relative mobility close to the world's average of .41.

An important issue revolves around whether the decline in intergenerational educational persistence is replicated if intergenerational correlation (IEC) is used as a measure of mobility. Because intergenerational correlation changes to reflect the changing dispersion in the years of schooling of parents and children, the replication of a finding would indicate that increased mobility is not solely driven by the changing distribution of schooling.

Figure 5 shows trends in the IEC in Latin America and other regions. The rise in relative mobility in Latin America is still apparent, but much reduced. The IEC declined from .54 among the cohorts of the 1940s to .50 among the cohorts of the 1980s. Indeed, if the IEC is used as a measure of mobility, Latin America still emerges as the least mobile region of the world among the cohorts of the 1980s. Its IEC was .50 then, closely followed by South Asia (.48) and sub-Saharan Africa (.48). High-income and East Asian countries have much higher levels of mobility, with IECs reaching only .38 among the cohorts of the 1980s.

Figure 5. Relative mobility measured by the IEC across birth cohorts, Latin America and other regions, 1940s–1980s

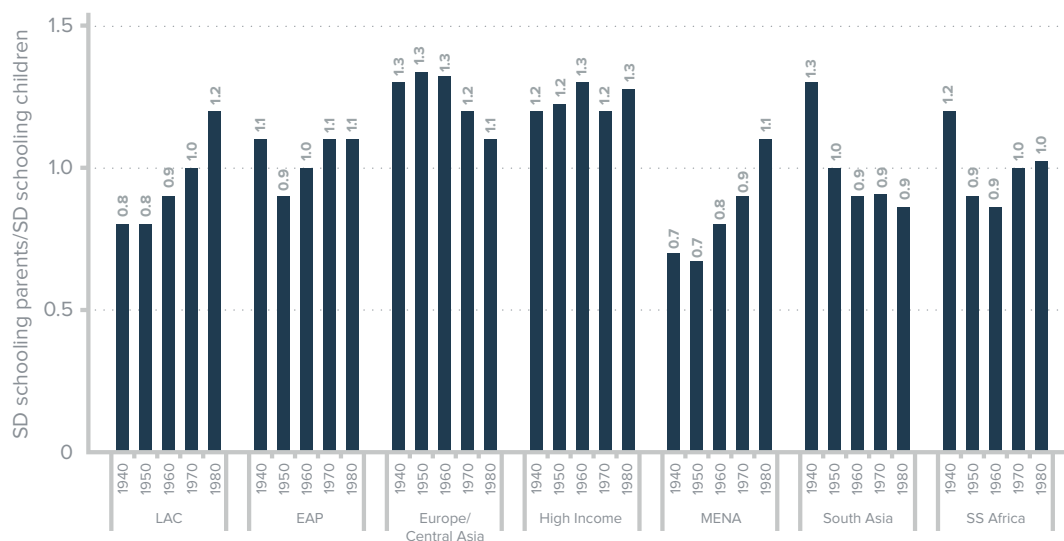


Source: Data of GDIM (Global Database on Intergenerational Mobility), Development Research Group, World Bank. Washington, DC, <https://www.worldbank.org/en/topic/poverty/brief/what-is-the-global-database-on-intergenerational-mobility-gdim>.

Note. Regional data are unweighted averages across countries. Educational attainment is the total number of years of schooling. Parental education is the maximum level of education attained by either parent. Mobility estimates based on fewer than 50 observations are dropped from the analysis. Adult children co-residing with parents are excluded.

A comparison of the IER and the IEC provides a comprehensive assessment of relative educational mobility in Latin America: Latin America used to be the least mobile region of the world among the cohorts born in the 1940s, but mobility has improved substantially in a few decades, reaching levels similar to the world average. The IEC shows, however, that this improvement is largely driven by the trends in the dispersion of schooling in the parental and children's generations. Remember that the IEC adjusts the IER by the ratio of dispersion in the years of schooling of the parental and children's generations. The ratio of standard deviations in the schooling of parents and children has grown dramatically in Latin America, offsetting some of the decline in the IER (figure 6). The same trend is observed in the Middle East and North Africa, which also shows a substantial discrepancy between the IER and the IEC as measures of relative mobility. In contrast, the ratio of standard deviations of schooling in the parental and children's generations has remained relatively constant or declined in other regions, contributing to the improvement in mobility or at least not offsetting it.

Figure 6. Ratio of the standard deviation of parental and children's years of schooling across birth cohorts, Latin America and other regions, 1940s–1980s



Source: Data of GDIM (Global Database on Intergenerational Mobility), Development Research Group, World Bank. Washington, DC, <https://www.worldbank.org/en/topic/poverty/brief/what-is-the-global-database-on-intergenerational-mobility-gdim>.

Note. Regional data are unweighted averages across countries. Educational attainment is the total number of years of schooling. Parental education is the maximum level of education attained by either parent. Mobility estimates based on fewer than 50 observations are dropped from the analysis. Adult children co-residing with parents are excluded.

What explains the sharp increase across cohorts in the intergenerational ratio of standard deviations in Latin America and in the Middle East and North Africa? Both these regions experienced vertiginous intergenerational upgrading starting from low levels of schooling. However, educational expansion weakened across cohorts (see figures 1 and 2). Early expansion moved the parental distribution of education from homogeneously low levels of education among early cohorts (effectively, many parents had no education) to more highly dispersed educational attainment. Among children, in contrast, the weakening of educational expansion across cohorts resulted in an unchanged (or even declining) dispersion in schooling. As a result, the standard deviation of parental schooling rose across cohorts, while the standard deviation of children's schooling stayed constant (or even declined). The final outcome is an

increase in the ratio of standard deviations. Although this point appears technical, it reflects important trends in educational upgrading in these regions that are characterized by massive early educational expansion that weakened over time. In recent decades, higher education has substantially expanded in some Latin American countries, which is likely to generate an increase in the dispersion of education among cohorts born in the 1990s and 2000s, with consequences for educational mobility among these cohorts (Ferreira et al. 2017).

Which measure of relative mobility should be used to compare Latin America with other regions? We argue that both the IER and the IEC provide important information. These measures show that the association between the schooling of parents and the schooling of children has declined and that this decline is largely a by-product of educational expansion. As education expanded across subsequent cohorts of parents, the distribution of the schooling of parents moved from homogeneously low levels of dispersion to increased dispersion, resulting in an increase in the standard deviation in the schooling of parents across cohorts. Among their more well educated children, further educational upgrading has resulted in convergence into higher levels of schooling and the resulting decline in the dispersion of schooling. The end result is an increase in the dispersion ratio. If we account for these changes by producing a metric-less measure such as the correlation, the Latin American improvement is less impressive. But these changes in dispersion are real, and they result in increased measured mobility.

Both the IER and the IEC provide aggregate measures of the intergenerational association of schooling, with no information on the direction of the movements experienced by individuals. We have examined absolute upward mobility, but we could also examine measures of relative directional mobility. These include the probability of moving upward and acquiring a higher relative level of educational attainment compared with one's parents, and the probability of moving downward and acquiring a level of schooling that results in a lower position relative to one's parents and compared with one's cohort peers.

To account for directional relative mobility, we examine transition matrices. Specifically, we examine two measures: The probability of moving upward from the bottom half of the educational distribution in the parental generation to the top quartile of the schooling distribution (the top 25 percent) in the adult children's generation as a measure of upward mobility, and the probability of moving downward from the top educational quartile in the parental generation to the top half of the educational distribution in the adult children's generation. These probabilities capture relative mobility because educational attainment is expressed in terms of a relative position in the educational distribution (bottom half, top quartile) rather than an absolute level of attainment. Educational expansion would result in less selectivity over time in the absolute levels of attainment. For example, whereas a high school diploma once marked exceptionally high educational attainment, the diploma is becoming increasingly common and less selective as education expands.

Figure 7 shows upward relative mobility from the bottom half to the top quartile and downward mobility from the top quartile to the bottom half in Latin America and other regions across cohorts. For both types of mobility, there has been little change in Latin America over time. The proportion of upwardly mobile Latin Americans has remained constant, at about 13 percent across cohorts, and the proportion of those people who are downwardly mobile has remained constant, at approximately 20 percent. These levels of directional mobility depart substantially from a situation of perfect mobility, which would result in shares of 25 percent in upward mobility and 50 percent in downward mobility. Other regions have experienced greater change over time, usually in the direction of less mobility. The case of the Middle

East and North Africa is particularly remarkable, with declines in upward mobility from 20 percent to 14 percent and declines in downward mobility from 36 percent to 22 percent. Sub-Saharan Africa and South Asia also experienced reductions in mobility. The only region experiencing some rise in directional mobility is the high-income countries, where upward mobility expanded from .14 to .16.

Figure 7. Intergenerational directional educational mobility across birth cohorts, Latin America and other regions, 1940s–1980s



Source: Data of GDIM (Global Database on Intergenerational Mobility), Development Research Group, World Bank. Washington, DC, <https://www.worldbank.org/en/topic/poverty/brief/what-is-the-global-database-on-intergenerational-mobility-gdim>.

Note. Upward mobility involves the probability of attaining a level of educational attainment in the top quartile of the educational distribution conditional on the schooling of one’s parents placing them in the bottom half of the distribution. Downward mobility is the probability of attaining a level of educational attainment in the bottom half of the distribution conditional on the schooling of one’s parents placing them in the top quartile of the educational distribution. Regional data are unweighted averages across countries. Educational attainment is the total number of years of schooling. Parental education is the maximum level of education attained by either parent. Mobility estimates based on fewer than 50 observations are dropped from the analysis. Adult children co-residing with parents are excluded.

However, a comparison of levels of directional relative mobility across regions shows that Latin America was by far the region with the least mobility among cohorts born in the 1940s and 1950s. By the cohorts of the 1980s, other countries had reduced directional mobility and closed the gap with Latin America, but the region remains the least mobile in the world. This analysis of relative directional mobility is fully consistent with the IEC. It shows that, if we use a measure of mobility that accounts for changes in the distribution of education driven by expansion (by standardizing or by using a relative measure), the improvement shown by the IER disappears, indicating that it is entirely driven by educational expansion rather than by a change in the association between parental and children’s schooling, net of expansion.

In sum, the findings emerging from this analysis paint a mixed picture of educational mobility in Latin America in comparative perspective. Latin America has experienced substantial ab-

solute upward mobility across cohorts. A growing proportion of children have attained higher levels of education than their parents. The upward mobility is substantial in Latin America, comparable with East Asia and with the Middle East and North Africa, and greater than in South Asia and sub-Saharan Africa. Educational expansion has effectively created enormous opportunities for Latin Americas to surpass the educational attainment of their parents.

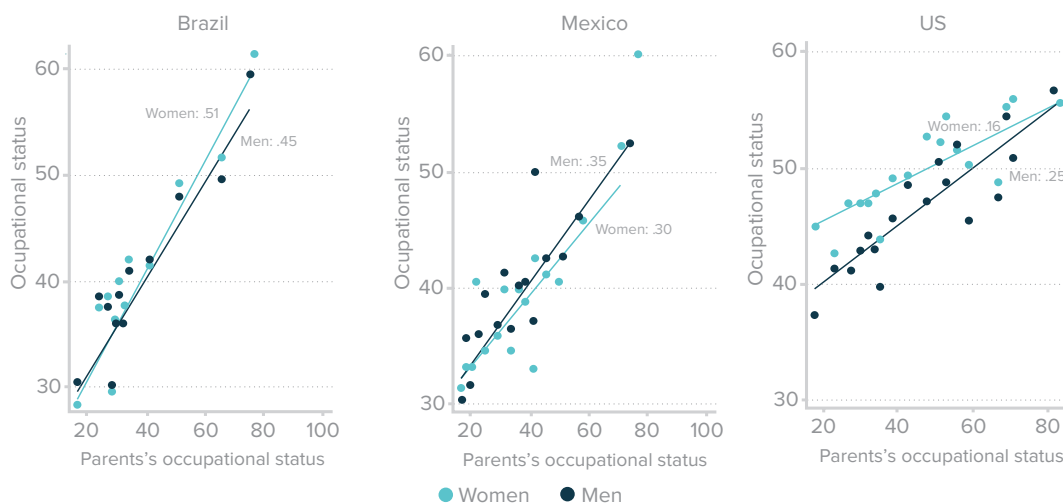
The improvements in relative mobility measured using the well-known IER have also been remarkable. The IER shows that Latin America was by far the least mobile region in the past, but mobility has increased dramatically across cohorts, and Latin America's level of intergenerational educational persistence is currently close to the world average. However, measures of relative mobility that adjust for the dispersion of schooling show that this improvement is largely driven by the changing variance between parental and children's schooling as education expands. Latin America once featured the highest level of intergenerational persistence and continues to be the least mobile region in the world, but the difference with respect to other regions has diminished substantially.

So far, our analysis has focused on educational mobility. Educational attainment is a key asset, valuable in itself and also the main determinant of economic well-being. However, substantial variation in measures of occupational and economic attainment exists within educational categories. To complement our analysis, we examine occupational mobility in two Latin American countries—Brazil and Chile—and compare them to the United States. Occupational mobility is measured by occupational status, a ranking of occupations based on the mean education and income of the incumbents. We use the ISEI, which has been devised for international comparison. We have selected the United States as a benchmark for Latin American countries because it provides an example of a wealthy country with higher levels of mobility than Latin America (Corak 2013) and because comparable data for a similar period are available.

Occupational status scores vary across countries, reflecting differences in occupational structures. The mean occupational status among parents is 31.0 in Brazil, 31.2 in Mexico and 45.5 in the United States. Among men and women respondents, respectively, the mean scores are 36.4 and 36.2 in Brazil, 38.0 and 37.2 in Mexico, and 46.2 and 49.2 in the United States. This indicates that occupational structures are relatively similar in Brazil and Mexico. By comparison, occupations with higher levels of economic status—non-manual occupations requiring substantial specialized training—are overrepresented in the United States.

Figure 8 shows the analysis of occupational status mobility using the occupational status IER for men and women ages 25–65 in Brazil, Mexico, and the United States. Intergenerational persistence is greater in the Latin American countries than in the United States. Brazil displays the highest level of intergenerational association, reaching .45 among men and .51 among women. Mexico features rates of persistence of .35 among men and .30 among women. In contrast, the level of intergenerational association in the United States is .25 among men and .16 among women.

Figure 8. Occupational status mobility: the IER, Brazil, Mexico, and the United States, around 2017



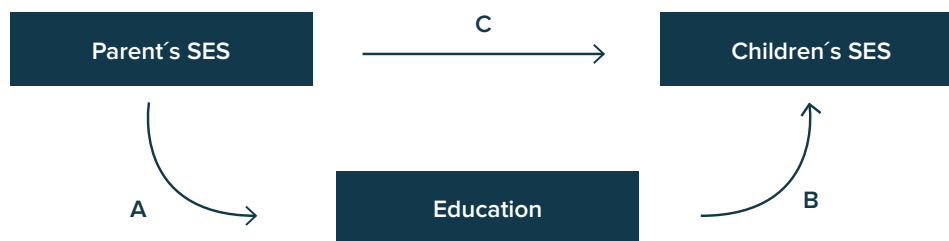
Sources: Brazil: 2014 Brazilian National Household Survey (PNAD). Mexico: 2017 Survey of Social Mobility (EMOVI). United States: 2014, 2016 and 2018 waves of the General Social Survey (GSS).

Note. The panels combine lines and binned scatterplots. These divide parental occupational status into 20 intervals of equal size that capture the intergenerational occupational status association.

These findings show limited occupational mobility in the selected Latin American countries. They are consistent with international comparisons of earnings mobility (Corak 2013) that show less mobility in Latin America. The results are also consistent with the international comparisons of relative educational mobility offered in this analysis: The IEC is higher in Latin America than in high-income countries across all birth cohorts (see figure 5). Even if we consider the educational IER (figure 4), persistence across generations was exceedingly high in Latin America among earlier birth cohorts and dropped to world-average levels only among more recent cohorts born in the 1970s and 1980s.

We should not expect the mobility rankings across regions to be fully isomorphic, however, across different kinds of mobility (occupational, educational, earnings). The evaluation of educational and occupational mobility raises the issue of the mechanisms of occupational mobility and, specifically, the extent to which educational persistence accounts for the high level of occupational persistence. As scholars of mobility have suggested, education may provide the main mechanism for the intergenerational transmission of advantage if well-off parents are able to afford more education for their children, and the children's educational attainment results in higher occupational status, earnings, and other measures of well-being. The association of occupational status between parents and adult children can be decomposed into the pathway mediated by educational attainment and a direct pathway that is net of education (figure 9). The education pathway includes the association between parental socio-economic standing and the individual's educational attainment (inequality of educational opportunity) and the association between educational attainment and adult children's socio-economic position (returns to education). These pathways are indicated by arrows A and B, respectively, in figure 9.

Figure 9. The role of education in socio-economic mobility



Note. SES = occupational socio-economic status.

The direct pathway for intergenerational persistence (pathway C in figure 9) captures multiple factors that are net of education, such as the direct inheritance of property, the use of family-based social networks or cultural capital for occupational placing, variations in the probability of marrying and assortative mating patterns based on family advantage, and differences in the quality of education attained by individuals growing up in poor and wealthy households. To address the issue of the mediating role of education in Latin America, we examine the amount of occupational persistence that remains in Brazil, Mexico, and the United States after we account for the educational attainment of respondents (measured as number of years of schooling).⁴

The results show a substantial decline in the intergenerational occupational association in all countries after educational attainment is taken into consideration (figure 10). The magnitude of the decline varies by country, however. In the case of Brazil, after accounting for educational attainment, intergenerational persistence declines from .45 and .51 among men and women, respectively, to .22 and .24, a decline of approximately 50 percent. The decline is even more striking in Mexico, from .35 to .18 among men and from .30 to .07 among women, amounting to a decline of 50 percent and 75 percent, respectively. This finding indicates that education is a central mechanism for the intergenerational transmission of advantage in Mexican society, particularly among women. In the United States, the respective decline in the occupational intergenerational association is approximately 10 percent after accounting for the schooling of the respondents, indicating that a larger portion of occupational persistence occurs through pathways other than educational attainment.

This finding is consistent with earlier research suggesting that educational attainment plays a pivotal role in the intergenerational persistence of socio-economic advantage in Latin America (Torche 2014). From one perspective, the strong mediating role of education is good news. The transmission of advantage, net of education, reflects processes such as the use of social capital or the direct inheritance of wealth, which are seen as limiting equality of opportunity and difficult to modify through social policies. In contrast, the educational channel is, in principle at least, more prone to policy interventions. However, the strong mediating role of education may define a situation of inherited meritocracy—intergenerational persistence that is legitimized and naturalized by educational attainment—when, in fact, this situation emerges

⁴ This analysis relies on a multiple regression model whereby the occupational status of adult respondents is predicted using parental occupational status and the schooling of respondents.

from the strong barriers that disadvantaged households in Latin America face in pursuing education beyond compulsory schooling. This finding refers to occupational mobility only. It is possible and, in fact, likely, that factors other than educational attainment, such as family networks and intergenerational transfers of wealth, are more relevant in income mobility.

Figure 10. Occupational status mobility: the IER controlling for educational attainment, in Brazil, Mexico and the United States, around 2017



Sources: Brazil: 2014 Brazilian National Household Survey (PNAD). Mexico: 2017 Survey of Social Mobility (EMOVI). United States: 2014, 2016 and 2018 waves of the General Social Survey (GSS).

Note. The panels combine a line and binned scatterplots. These divide parental occupational status into 20 intervals of equal size that capture the intergenerational occupational status association. The models control for adult children's educational attainment measured as completed years of schooling.

5. Implications

We have shown that educational expansion has boosted absolute intergenerational educational mobility in Latin America, but that relative mobility remains low in a comparative perspective, signaling limited opportunity to overcome disadvantaged educational origins. What could decision makers do if the goal is to promote educational opportunity? Expanding the educational system is relevant, but it is not sufficient. Much research suggests that wealthier households are better equipped to take advantage of new educational opportunities unless policies strictly regulate access. Furthermore, demand barriers to educational attainment among the poor—deriving, for example, from the opportunity cost of schooling or from beliefs about the payoffs of education—may be equally or more important than the availability of affordable schools and would need to be specifically addressed.

Our findings also suggest the possibility of discrepancies between educational mobility and occupational opportunity. In contexts of rapid economic expansion, the opportunity cost of education among disadvantaged groups with newly found job prospects will increase, potentially depressing educational mobility. In other contexts, youth with much more education than their parents will not find jobs because of economic stagnation. These discrepancies highlight that educational opportunity should not be a goal separated from economic pros-

perity and that promoting educational mobility may require targeted strategies to assist disadvantaged youth.

Mobility is a backward-looking measure in the sense that it provides information about the past educational careers of individuals who may have finished school decades ago under economic and policy circumstances that differ from current ones. Complementing standard mobility measures with the assessment of educational opportunity among school-age children and the evaluation of specific policies is critical to informing decision-making properly.

While this analysis focuses on the quantity of education that Latin Americans obtain based on their household circumstances, the quality and type of schooling received have also become an important consideration as education expands. In Latin America, a critical distinction exists between private and public schools at the primary and secondary levels. The public-private divide may provide a powerful avenue for intergenerational persistence even in contexts where educational attainment at a particular level is universal. As predicted by the effectively maintained inequality approach (Lucas 2001), different types of schooling become more relevant as access becomes universal and advantaged parents search for alternative strategies to favour their children. For example, Marteleto et al. (2012) find that the association between social origins and educational attainment declined across cohorts in Brazil and Chile, while the association between origins and the probability of attending expensive private schools rose. Sources of educational inequality and intergenerational persistence are also relevant at the post-secondary level as this level expands across Latin America, where differences based on institutional prestige and field of study could serve as vehicles for the intergenerational persistence of advantage if youth growing up in wealthy households have disproportionate access to the most prestigious universities and the most lucrative fields of study (Gerber and Cheung 2008). Studies on the heterogeneous returns to higher education degrees is emerging in some Latin American countries (for instance, Rodríguez, Urzúa, and Reyes 2016), but there is limited information linking differential access to various types of schooling to differential returns. This is an area where information is urgently needed to understand the possible pathways of intergenerational persistence in Latin America.

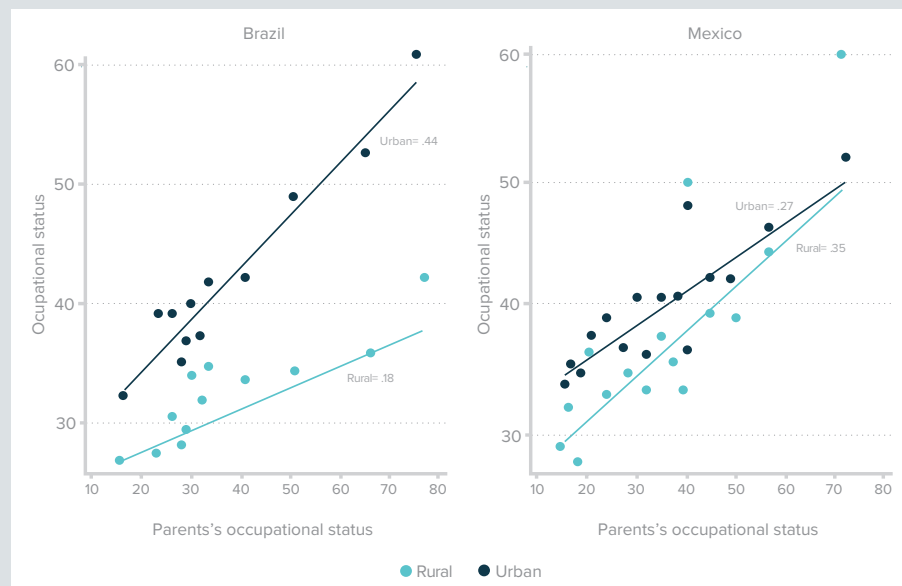
Box 1. Occupational mobility in Brazil and Mexico by rural-urban residence

Figure B.1.1 shows heterogeneity in occupational mobility in Brazil and Mexico based on whether respondents grew up in a rural or urban area. Rural residence has traditionally been considered a relevant circumstance beyond the control of the individual that shapes individual opportunities in Latin America (Barros et al. 2009; Bourguignon, Ferreira, and Menéndez 2007; Ferreira and Gignoux 2011). As shown in the figure, in Brazil and Mexico, there are marked differences in intergenerational occupational mobility based on rural origins, but these differences act in opposite directions. In Brazil, intergenerational persistence is much more pronounced in urban areas (intergenerational regression coefficient = .44) than in rural areas (.18). The opposite is the case in Mexico, where persistence among people with origins in urban and rural areas is, respectively, .27 and .35. Despite the substantial disadvantages associated

with rural origins in Mexico related, for example, to isolation and lack of educational and other institutions fostering human capital formation, Mexicans who grow up in rural settings have a much greater chance than rural Brazilians of overcoming their disadvantaged origins.

In addition to differences among countries, the most striking implication of this analysis is that, if one compares groups at different average levels of economic well-being, higher mobility in one of these groups does not necessarily indicate equality of opportunity (Mazumder 2011). The case of Brazil is striking. In Brazil, individuals from rural origins experience much lower intergenerational association (that is, much higher mobility) than individuals with urban origins. However, given the lower levels of occupational status among rural parents, the result is that Brazilians from rural origins converge to a different—and lower—occupational status mean than their urban counterparts. This results in a widening of the differences in economic well-being between rural and urban populations. This finding introduces an important note of caution about the importance of considering not only levels of mobility, but also absolute levels of well-being in comparing groups defined by different circumstances, such as rural origins, region of residence, and race or ethnicity.

Figure B.11. Occupational status mobility: Intergenerational regression coefficient, by rural-urban residence of respondents in childhood, Brazil and Mexico



Sources: Brazil: 2014 Brazilian National Household Survey (PNAD). Mexico: 2017 Survey of Social Mobility (EMOVI). United States: 2014, 2016 and 2018 waves of the General Social Survey (GSS). Note. The panels combine a line and binned scatterplots. These divide parental occupational status into 20 intervals of equal size that capture the intergenerational occupational status association. Rural-urban residence are measured at age 15 in Brazil and at age 14 in Mexico.

References

- Andersen, Lykke E. (2001). "Social Mobility in Latin America: Links with Adolescent Schooling". Research Network Working Paper R-433 (July), Inter-American Development Bank, Washington, DC.
- Barros, Ricardo Paes de, Francisco H. G. Ferreira, José R. Molinas, and Jaime Saavedra-Chanduví. (2009). *Measuring Inequality of Opportunities in Latin America and the Caribbean*. Washington, DC: World Bank.
- Behrman, Jere R., Nancy Birdsall, and Miguel Székely. (2000). "Intergenerational Mobility in Latin America: Deeper Markets and Better Schools Make a Difference". In *New Markets, New Opportunities? Economic and Social Mobility in a Changing World*, edited by Nancy Birdsall and Carol L. Graham, 135–168. Washington, DC: Brookings Institution Press.
- Behrman, Jere R., Alejandro Gaviria, and Miguel Székely. (2001). "Intergenerational Mobility in Latin America". *Economía*, 2 (1): 1–31.
- Behrman, Jere R., and Mark R. Rosenzweig. (2002). "Does Increasing Women's Schooling Raise the Schooling of the Next Generation?" *American Economic Review*, 92 (1): 323–334.
- Bourguignon, François J., Francisco H. G. Ferreira, and Marta Menéndez. (2007). "Inequality of Opportunity in Brazil". *Review of Income and Wealth*, 53 (4): 585–618.
- Conconi, Adriana, Guillermo Cruces, Sergio Olivieri, and Raúl Sánchez. (2008). "E Pur Si Muove? Movilidad, Pobreza y Desigualdad en América Latina". *Económica*, 54 (1–2): 121–159.
- Corak, Miles. (2013). "Inequality from Generation to Generation: The United States in Comparison". In *The Economics of Inequality, Poverty, and Discrimination in the 21st Century*, vol. 1, Causes, edited by Robert S. Rycroft, 107–123. Santa Barbara, CA: Praeger.
- Cutler, David, and Adriana Lleras-Muney. (2008). "Education and Health: Evaluating Theories and Evidence". In *Making Americans Healthier: Social and Economic Policy as Health Policy*, edited by Robert F. Schoeni, James S. House, George A. Kaplan, and Harold A. Pollack, 29–60. National Poverty Center Series on Poverty and Public Policy. New York: Russell Sage.
- Daude, Christian, and Virginia Robano. (2015). "On Intergenerational (Im)Mobility in Latin America". *Latin American Economic Review*, 24 (1): 1–29.
- Emran, M. Shahe, William H. Greene, and Forhad Shilpi. (2018). "When Measure Matters". *Journal of Human Resources*, 53 (3): 589–607.
- Erikson, Robert. (1984). "Social Class of Men, Women and Families". *Sociology*, 18 (4): 500–514.
- Ferreira, Francisco H. G., and Jérémie Gignoux. (2011). "The Measurement of Inequality of Opportunity: Theory and an Application to Latin America". *Review of Income and Wealth*, 57 (4): 622–657.
- Ferreira, María Marta, Ciro Avitabile, Javier Botero Álvarez, Francisco Haimovich Paz, and Sergio Urzúa. (2017). *At a Crossroads: Higher Education in Latin America and the Caribbean*. Directions in Development: Human Development Series. Washington, DC: World Bank.
- Francesconi, Marco, and Cheti Nicoletti. (2006). "Intergenerational Mobility and Sample Selection in Short Panels". *Journal of Applied Econometrics*, 21 (8): 1265–1293.
- Frankema, Ewout. (2009). "The Expansion of Mass Education in Twentieth Century Latin America: A Global Comparative Perspective". *Journal of Iberian and Latin American Economic History*, 27 (3): 359–396.
- Friedman, Milton. (1957). "The Permanent Income Hypothesis". In *A Theory of the Consumption Function*, 20–37. General Series, 63. Cambridge, MA: National Bureau of Economic Research; Princeton, NJ: Princeton University Press.

- Ganzeboom, Harry B. G., Paul M. De Graaf, and Donald J. Treiman. (1992). "A Standard International Socio-Economic Index of Occupational Status". *Social Science Research*, 21 (1): 1–56.
- Gerber, Theodore P., and Sin Yi Cheung. (2008). "Horizontal Stratification in Postsecondary Education: Forms, Explanations, and Implications". *Annual Review of Sociology*, 34 (August): 299–318. <https://www.annualreviews.org/doi/abs/10.1146/annurev.soc.34.040507.134604>.
- Goldberger, Arthur S. (1989). "Economic and Mechanical Models of Intergenerational Transmission". *American Economic Review*, 79 (3): 504–513.
- Grant, Monica J., and Jere R. Behrman. (2010). "Gender Gaps in Educational Attainment in Less Developed Countries". *Population Research and Policy Review*, 36 (1): 71–89.
- Hauser, Robert Mason. (2010). "Intergenerational Economic Mobility in the United States: Measures, Differentials, and Trends". *Euramerica*, 40 (3): 635–681.
- Hauser, Robert Mason, John Robert Warren, Min-Hsiung Huang, and Wendy Y. Carter. (2000). "Occupational Status, Education, and Social Mobility in the Meritocracy". In *Meritocracy and Economic Inequality*, edited by Kenneth Arrow, Samuel Bowles, and Steven N. Durlauf, 179–229. Princeton, NJ: Princeton University Press.
- Hauser, Robert Mason, and John Robert Warren. (1997). "Socioeconomic Indexes for Occupations: A Review, Update, and Critique". *Sociological Methodology*, 27 (1): 177–298.
- Haveman, Robert, and Barbara Wolfe. (1995). "The Determinants of Children's Attainments: A Review of Methods and Findings". *Journal of Economic Literature*, 33 (4): 1829–1878.
- Hertz, Tom, Tamara Jayasundera, Patrizio Piraino, Sibel Selcuk, Nicole Smith, and Alina Verashchagina. (2008). "The Inheritance of Educational Inequality: International Comparisons and Fifty-Year Trends". B.E. *Journal of Economic Analysis and Policy*, 7 (2): 1–48.
- Hout, Michael, and Thomas A. DiPrete. (2006). "What We Have Learned: RC28's Contributions to Knowledge about Social Stratification". *Research in Social Stratification and Mobility*, 24 (1): 1–20.
- Lochner, Lance J. (2011). "Non-Production Benefits of Education: Crime, Health, and Good Citizenship". In *Handbook of the Economics of Education*, vol. 4, edited by Eric Alan Hanushek, Stephen J. Machin, and Ludger Woessmann, 183–282. Handbooks in Economics Series. Amsterdam: North-Holland.
- Lubotsky, Darren, and Martin Wittenberg. (2006). "Interpretation of Regressions with Multiple Proxies". *Review of Economics and Statistics*, 88 (3): 549–562.
- Lucas, Samuel R. (2001). "Effectively Maintained Inequality: Education Transitions, Track Mobility, and Social Background Effects". *American Journal of Sociology*, 106 (6): 1642–1690.
- Marteleteo, Letícia, Denisse Gelber, Celia Hubert, and Viviana Salinas. (2012). "Educational Inequalities among Latin American Adolescents: Continuities and Changes over the 1980s, 1990s and 2000s". *Research in Social Stratification and Mobility*, 30 (3): 352–375.
- Mazumder, Bhashkar. (2011). "Black-White Differences in Intergenerational Economic Mobility in the US". Working Paper WP-2011-10, Federal Reserve Bank of Chicago, Chicago.
- Narayan, Ambar, Roy van der Weide, Alexandru Cojocaru, Christoph Lakner, Silvia Redaelli, Daniel Gerszon Mahler, Rakesh Gupta N. Ramasubbaiah, and Stefan Thewissen. (2018). *Fair Progress? Economic Mobility across Generations around the World*. Equity and Development Series. Washington, DC: World Bank.
- Neidhöfer, Guido, Joaquín Serrano, and Leonardo Gasparini. (2018). "Educational Inequality and Intergenerational Mobility in Latin America: A New Database". *Journal of Development Economics*, 134 (September): 329–349.

- Omariba, D. Walter Rasugu. (2006). "Women's Educational Attainment and Intergenerational Patterns of Fertility Behaviour in Kenya". *Journal of Biosocial Science*, 38 (4): 449–479. <https://doi.org/10.1017/S0021932005026489>.
- Oreopoulos, Philip, and Kjell G. Salvanes. (2011). "Priceless: The Nonpecuniary Benefits of Schooling". *Journal of Economic Perspectives*, 25 (1): 159–184.
- Psacharopoulos, George, and Harry Anthony Patrinos. (2018). "Returns to Investment in Education: A Decennial Review of the Global Literature". *Education Economics*, 26 (5): 445–458.
- Reimers, Fernando. (2002). "Tres paradojas educativas en America Latina: Sobre la necesidad de ideas publicas para impulsar las oportunidades educativas". *Revista Iberoamericana de Educación*, 29 (May–August): 131–155.
- Rodríguez, Jorge, Sergio Urzúa, and Loreto Reyes. (2016). "Heterogeneous Economic Returns to Post-Secondary Degrees: Evidence from Chile". *Journal of Human Resources*, 51 (2): 416–460.
- Schultz, T. Paul. (1993). "Returns to Women's Education." In *Women's Education in Developing Countries: Barriers, Benefits, and Policies*, edited by Elizabeth M. King and M. Anne Hill, 51–99. Washington, DC: World Bank; Baltimore: Johns Hopkins University Press.
- Sorensen, Annemette. (1994). "Women, Family, and Class". *Annual Review of Sociology*, 20 (August): 27–45.
- Torche, Florencia. (2014). "Intergenerational Mobility and Inequality: The Latin American Case". *Annual Review of Sociology*, 40 (July): 619–642. <https://doi.org/10.1146/annurev-soc-071811-145521>.
- Torche, Florencia. (2015). "Analyses of Intergenerational Mobility: An Interdisciplinary Review". *Annals of the American Academy of Political and Social Science*, 657 (1): 37–62.
- Torche, Florencia. (2019). "Educational Mobility in Developing Countries". WIDER Working Paper 2019/88 (November), United Nations University–World Institute for Development Economics Research, Helsinki.
- Zimmerman, David J. (1992). "Regression toward Mediocrity in Economic Stature". *American Economic Review*, 82 (3): 409–429.

COMPLETE LIST OF BACKGROUND PAPERS OF THE UNDP LAC REGIONAL HUMAN DEVELOPMENT REPORT 2021

Working paper 01

The Changing Picture of Inequality in Latin America: Evidence for Three Decades
Leonardo Gasparini / Guillermo Cruces

Working paper 02

Intergenerational Mobility in Latin America in Comparative Perspective
Florencia Torche

Working paper 03

Longer-run Perspectives on Intergenerational Mobility in Latin America: 1933-1992
Guido Neidhöfer

Working paper 04

The Latin American Growth Shortfall: Productivity and Inequality
Eduardo Fernández-Arias / Nicolás Fernández-Arias

Working paper 05

Big Business and the Inequality Trap in Latin America: Taxes, Collusion, and Undue Influence
Ben Ross Schneider

Working paper 06

Lobbying for Inequality? How Business Elites Shape Differently Policy in El Salvador, Honduras, and Guatemala
Mónica Pachón / Javier Brolo

Working paper 07

How do Labor Unions Affect Inequality and Efficiency in Latin America and the Caribbean?
Lucas Ronconi

Working paper 08

The Political Economy of the Telecommunications Reform in Mexico
Alejandro Castañeda / Daniel Ruiz

Working paper 09

The Impact of Labor Market Institutions on Markups and Markdowns: Evidence from Manufacturing and Service Sectors in Uruguay
Carlos Casacuberta / Néstor Gandelman

Working paper 10

Labor Market Concentration and Earnings: Evidence from Chile
Álvaro García-Marín

Working paper 11

Market Concentration, Market Fragmentation, and Inequality in Latin America
Marcela Eslava / Marcela Meléndez / Nicolás Urdaneta

Working paper 12

The Effects of Violence on Inequality in Latin America and the Caribbean: A Research Agenda
Ana Arjona

Working paper 13

Inequality and Crime in Latin America and the Caribbean: New Data for an Old Question
Ernesto Schargrodsky / Lucía Freira

Working paper 14

Mercados laborales fragmentados y el Sistema de Protección Social en Colombia
Francisco Alvarado / Marcela Meléndez / Marcela Pantoja

COMPLETE LIST OF BACKGROUND PAPERS OF THE UNDP LAC REGIONAL HUMAN DEVELOPMENT REPORT 2021

Working paper 15

¿Cuán eficaz es la protección social en Chile?

Matías Morales / Camila Olate

Working paper 16

Protección social, formalidad y subsidios cruzados: evidencia para la Argentina

María Laura Alzua / Ana Pacheco

Working paper 17

Políticas de protección social y laboral en el Perú. Una espiral de buenas intenciones, malos resultados y peores respuestas

Hugo Ñopo

Working paper 18

Políticas de protección social y laboral en la República Dominicana

Sócrates Barinas / Hugo Ñopo

Working paper 19

Políticas de protección social y laboral en Ecuador

Hugo Ñopo / Alejandra Peña

Working paper 20

Social Protection in Jamaica: Strengths and Limitations of its Redistributive Mechanisms

Manuel Mera

Working paper 21

¿Cuán efectiva es la protección social en Honduras?

Andrés Ham / Sergio Membreño-Cedillo

Working paper 22

Informal and Small: How Labor Market Institutions Affect Inequality, Income Volatility and Labor Productivity in Brazil

Sergio Firpo / Alysson Portella

Working paper 23

El sistema de protección social y laboral en México: contribución paradójica a la lucha contra la desigualdad

Alejandra Correa / Maite García de Alba /

Alejandra Martínez / Cynthia Martínez /

Annabelle Sulmont

Working paper 24

Time for a New Course: An Essay on Social Protection and Growth in Latin America

Santiago Levy / Guillermo Cruces

Working paper 25

Implications of Minimum Wage Policies for Labour Markets with High Informality and Frictions

Luca Flabbi