Intergenerational mobility of economic well-being in Latin America

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We estimate long-run trends in intergenerational economic mobility for a multitude of countries in Latin America going beyond parent-child correlations in educational attainment. We use several indicators of well-being, such as the socio-economic situation of individuals, job stability, housing and assets. Unlike estimates based on education, which mostly show increasing social mobility trends, we find that opportunities to achieve a certain level of economic well-being and climb up the social ladder have not changed much over time in Latin America.

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Keywords: Inequality, Intergenerational Mobility, Equality of Opportunity, Well-being, Latin America.

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1. Introduction

Latin America has historically been one of the world's most unequal regions with low levels of social mobility and high inequality of opportunity (Alvaredo et al., 2015; Behrman et al., 2001; Brunori et al., 2013; Daude and Robano, 2015; Hertz et al., 2008; Torche, 2014). However, recent contributions found that educational mobility has been steadily increasing during the past decades (Neidhöfer et al., 2018; Torche, 2021). Although these advances have improved our understanding of the intergenerational transmission of advantage in the region, there may be additional dimensions that education alone cannot capture, especially in presence of educational expansions, such as the ones experienced by Latin America (Torche, 2021). Studies for other countries have shown, for example, that compulsory schooling laws did not increase occupational mobility (Rauscher, 2016) and that approximately one-third of children's earnings differences are not mediated by human capital accumulation (Rothstein, 2019). Indeed, parental background has a persistent and direct effect on their children over the entire process of human capital formation, at labor market entry, and potentially also on other dimension affecting economic well-being (e.g. Heckman and Mosso, 2014).

One important branch of the social mobility literature is aimed at studying the strength of the overall association between parents' and children's socio-economic status in a society to approximate inequality of opportunity. Permanent income of a family over two generations is arguably the ideal measure to estimate this association. However, longitudinal data on earnings, income or wealth of parents and children is seldom available (see Black and Devereux, 2012; Blanden, 2013; Jäntti and Jenkins, 2015). As a consequence of this limitation, studies—especially for developing countries—often rely on cross-sectional household surveys where parents and children can be linked by retrospective questions about parental education, and in some cases occupation. In these studies, intergenerational mobility is mostly measured by the correlation between the education of parents and children.

While the educational dimension is important and relevant *per se* and measuring educational mobility is informative about how equally distributed are the early life opportunities for human capital formation, it provides an only partial picture; a picture that hides the transmission of advantage at later stages, such as at labor market entry or in access to wealth, which contribute to inequality in future life-chances. In this paper, we go beyond measuring the intergenerational mobility of education by exploring the evolution of inequality in other dimensions of economic well-being depending on parental background. For this purpose, we pool 17 waves of the Latinobarometro survey, which in

each wave provides harmonized information for representative samples of 18 Latin American countries, and use several variables included in the survey as indicators for the economic situation of individuals—such as housing, the amount of certain goods at home, employment, job security, and self-perceived socio-economic status—to estimate the likelihood to attain certain levels of well-being for children with different parental background.

Our study complements previous contributions of intergenerational mobility in Latin America, and in developing countries more in general, where economic mobility estimates beyond educational correlations are scant (see the reviews by Torche, 2014, and Brunori et al., 2023). Some studies used household surveys to approximate intergenerational income mobility for single Latin American countries using the two-stage-two-sample method (Björklund and Jäntti, 1997), where parental incomes (or earnings) are predicted based on the included retrospective information; e.g. Ferreira and Veloso (2006) and Dunn (2007) for Brazil; Nunez and Miranda (2010) for Chile; Grawe (2004) for Peru and Ecuador; Doruk, Pastore and Yavuz (2022) for Brazil and Panama; and Daza Baez (2021) for Mexico. Income mobility estimates obtained by the two-stage-two-sample method usually suggest a lower degree of mobility than educational correlations, but across countries both measures are usually highly correlated and do not change the patterns in cross-country rankings (Blanden, 2013; Neidhöfer, 2021). Furthermore, our results also complement the literature on inequality of opportunity in Latin America, which shows that the share of income inequality explained by circumstances beyond individual control in the region is rather high, but also rather heterogeneous across countries (Bourguignon et al., 2007; Ferreira and Ginoux, 2011; Nunez and Tartakowsky, 2011).

Existing studies on income mobility and inequality of opportunity in Latin America usually provide estimates for the full working-age population in single years and do not enable to draw conclusions about mobility trends across cohorts. The contribution of our study is to provide such trends for people born over a span of 50 years, for a large number of countries and with several dimensions of economic well-being. We use indicators for socioeconomic situation, employment, job security, and standard of living. Additionally, we construct an index which summarizes the information included in

¹ A recent exception is Leites et al. (2022) where intergenerational mobility of income is estimated with tax-social security data for Uruguay. This study also shows that income obtained in the informal sector, which is hardly included in administrative data, plays an important role to obtain consistent estimates. Hence, the use of surveys stands out as an important source of information to study intergenerational mobility in developing countries. Another exception using administrative data to estimate income mobility is Britto et al. (2022) for Brazil.

² Studies on inequality of educational opportunities in Latin America include Andersen (2003), Ferreira and Gignoux (2014) and Gamboa and Waltenberg (2012).

these indicators and estimate the association between parental background and the rank of individuals on the distribution of this well-being index. Hereby, we further analyze the mediating role of education for economic mobility by obtaining also estimates that abstract from it.

Our findings provide new striking evidence on social mobility in Latin America. Unlike estimates based on education, which show a remarkable rise in educational mobility, we find that the opportunities to achieve a certain level of economic well-being in Latin America have not changed significantly over time. Hence, these results raise the question whether the substantial increase in access to education and completion rates among low-status families experienced in the region actually lowered the transmission of advantage between generations and improved equality of opportunity. From a policy perspective, this calls for the need to complement the rise in educational opportunities with improvements in those mechanisms that enable equality of opportunity in the labor market and in the generation of income and wealth.

The remainder of this paper is organized as follows: Section 2 describes the data and the methodology. Section 3 discusses our main findings. Section 4 concludes.

2. Methodology and Data

Formally, the economic mobility (M) of individuals with parental background PB = j is estimated as their likelihood to attain a level of economic well-being W at least equal to k, conditional on their level of education E:

$$M^{j} = Prob(W \ge k | PB = j, E). \tag{1}$$

M is obtained by estimating the probability to attain a level of well-being equal or higher than k while controlling for education and parental background. We obtain the estimates applying Probit regressions separately for each cohort and country, and controlling for sex and survey year. We approximate parental background by the level of education attained by parents. Indeed, as shown by studies including several circumstances in the analysis of inequality of opportunity, both for inequality of income and educational attainments, parental education stands out as the single circumstance with the strongest influence (e.g. Brunori et al., 2013; Brunori et al., 2023; Gamboa and Waltenberg, 2012). Here, parental background is defined in two categories, advantaged and disadvantaged individuals. The former are individuals whose parents have at least a completed secondary school degree. The latter are individuals whose parental level of education is lower than that. Then, the likelihoods are obtained by predicting the marginal effects for each of the two levels of parental educational background at the

mean of the other covariates. Probit is preferred over other methods (e.g. a linear probability model) to avoid that subgroups with small numbers of observations drive the results.

The analysis outlined above requires information on parental background and children's education and well-being. In most household surveys the education of parents and children can be linked only for people living in the same household. However, it has been shown that co-residency is a significant source of bias in intergenerational mobility estimates (Emran et al., 2016; Emran and Shilpi, 2019). Furthermore, economic well-being indicators, which usually refer to the household, would not be meaningful about the socioeconomic situation of families over two subsequent generations. Considering this, our selection criteria is based on data that includes retrospective questions about parental education of adult individuals and information about their well-being.

The analysis is based on microdata from the 1998-2018 waves of the Latinobarómetro survey.³ This survey has significant advantages for our analysis: (i) it comprises 18 Latin American countries, (ii) the questionnaire is similar across all included countries and years, (iii) it includes retrospective questions on parental education and (iv) it includes a wide array of items that can be used as indicators for economic well-being. For instance, Latinobarómetro includes questions on the subjective perception of respondents about the probability to lose their job and the interviewers' perceptions on the socioeconomic situation of the responding household; variables that are usually not included in Latin American national household surveys. Latinobarómetro also includes information on housing and on the number and quality of certain goods available to the household, for instance warm water, a sewerage system, a car, a computer, etc. Hence, the threshold level k in equation (1) may mirror different dimensions of well-being, depending on the item used to measure it. For instance, k may measure the probability to own a house, to be in a bad socioeconomic situation or to perceive a high probability to lose employment within the next months. First, we use these indicators separately. Then, in the second step of the analysis displayed and discussed in Section 3.3, the information contained in these items is summarized by computing a well-being index using principal component analysis, following Filmer and Pritchett (2001), McKenzie (2005) and Ferreira et al. (2011).

The sample comprises individuals born between 1940 and 1989, who were at least 25 years old and younger than 65 when surveyed. The age limit ensures that individuals have a higher likelihood to be active on the labor market. Since parental education is retrieved through retrospective questions,

³ Retrospective questions on parental education were included for the first time in the 1998 survey wave.

whether individuals and their parents reside in the same household is not relevant for inclusion in the sample. The level of parental education included is that of the parent with the highest level among both. The estimates are obtained weighting each observation by the inverse probability of selection, normalizing the weights over the survey waves, and controlling for survey year fixed effects. The full sample comprises overall 195,687 observations, although not all have information on all used survey items. Hence, the sample size may slightly vary depending on the analyzed indicator. In order to increase sample size, we focus on items that are included in the highest possible number of survey waves. Table 1 shows the variables used to measure the economic well-being of individuals, and the corresponding values, averages, number of non-missing observations, and information on the survey waves it was included.

Table 1 – Survey items used to measure well-being

Item	Categories	Weighted average	Non-missing observations	Available in following survey waves
of job loss	1/ very concerned			
	2/ concerned			
	3/ a little concerned			
	4/ not at all concerned			
Socioeconomic level	1/ Very good	2.73	195,564	1995-2018
(evaluated by	2/ Good			
interviewer)	3/ Average			
	4/ Bad			
	5/ Very Bad			
Goods	Own House	0.73	194,271	1997-2018
	Hot water	0.36	193,431	1995-2018
	Sewerage system	0.68	193,517	1995-2018
	Car	0.28	192,985	1995-2018
	Washing machine	0.51	193,784	1995-2018
	Computer	0.28	193,438	1995-2018

Source: Latinobarómetro, 1998-2018. Own estimates.

3. Mobility of Economic Well-Being in Latin America

This section shows the results of the analysis, namely economic mobility for each cohort and country, as well as the average for Latin America. First, in Section 3.1 the trends in economic mobility are displayed for three dimensions of economic well-being: socioeconomic level, job stability, and homeownership. Then, in Section 3.2 inequality of opportunity is approximated by the average difference between these probabilities between advantaged and disadvantaged individuals. Last, in Section 3.3 economic mobility is analyzed constructing an index that encompasses the distinct dimensions of economic well-being studied before.

3.1. Mobility in single dimensions of well-being

In this Section we show the trends in economic mobility separately for three dimensions of economic well-being: socioeconomic level, job stability, and homeownership. We capture the first dimension by measuring the probability of individuals to be in a bad socioeconomic situation; the second by measuring the probability of individuals to be concerned of losing employment and to be unemployed; the third by measuring the probability of individuals to own a house. As mentioned, we estimate these probabilities depending on one important circumstance faced by individuals, namely their parents' educational background; i.e. we estimate these probabilities separately for individuals with low and high parental educational background (where low means less than completed secondary education and high means at least a secondary school degree). Hereby, to abstract from the mediating role of individual educational attainments, the probabilities are estimated separately for individuals who completed at least a secondary schooling degree and those who did not complete it. The two main groups of interest are individuals that experienced educational upward mobility and individuals from high-education families that persisted at the top of the educational distribution. As further benchmarks about the overall state of the economy, we include the estimated probabilities for individuals with low education (less than a secondary degree) and low parental background, as well as for individuals with low education and a high parental background.

All probabilities are measured for each cohort separately to observe the trend. However, age effects related to the lifecycle could play a role to explain differences in probabilities between cohorts. The average age of respondents is 59 for the cohort 1940-49, 52 for the cohort 1950-59, 42 for the cohort 1960-69, 34 for the cohort 1970-79, and 29 for the cohort 1980-89. Surely, because of average age differences among respondents belonging to each cohort the analysis of trends have to be taken cautiously. Because of this, we mainly focus on the analysis of within-cohort gaps between advantaged

and disadvantaged individuals and on the development of this gap over time. To further highlight this crucial aspects of the analysis, Section 3.2 will show the evolution of inequality in the estimated likelihoods between advantaged and disadvantaged individuals. To improve the legibility of the graphs, we omit confidence intervals. Standard errors are provided in a separate Data Appendix.

Socioeconomic level

Figure 1 shows the trends in the estimated probability to be in a bad or very bad socioeconomic situation depending on parental educational background. The socioeconomic situation is hereby evaluated by the interviewer. The upper graph shows the regional average, while the lower graph the trend for each country. In all countries, the likelihood to be in a bad economic situation is very low for high-educated individuals and substantially higher for low-educated individuals. However, significant differences are observed in most countries among advantaged and disadvantaged individuals with high education. Countries with a constantly large gap over time are, for instance, Bolivia, Chile, Honduras, Mexico, Nicaragua, Peru, and Venezuela. On average for the entire region, the likelihood of being in a bad socioeconomic situation for disadvantaged individuals with high education is increasing, while the same likelihood of their peers with high-educated parents is constant at very low levels.

Job stability

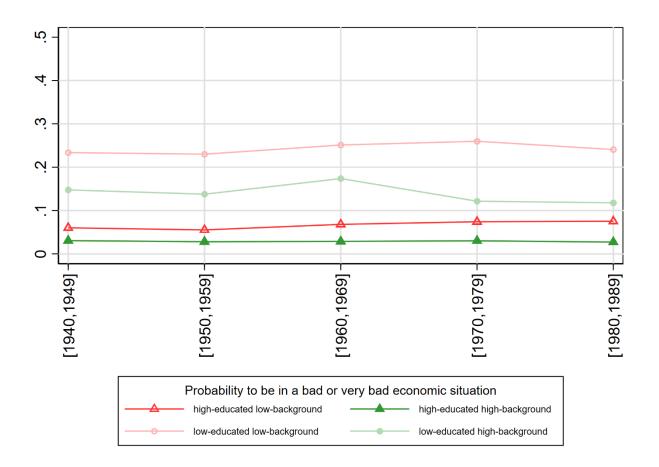
Figure 2 shows the estimated probabilities to be unemployed and to be concerned of losing employment for employed individuals. Hereby, the group of unemployed also includes inactive individuals as we cannot distinguish between the two conditions. For the four groups under examination, the likelihood to be concerned to lose employment are relatively high. However, a downward trend across cohorts can be observed in this dimension, as well. Again, within-cohort inequality—i.e. between individuals with low and high parental educational background—is rather constant over time in the region. However, the gap across socioeconomic groups is less pronounced for the probability to be unemployed (or inactive) and higher for the perceived probability to lose the job when employed. Among countries, the probability to be unemployed or concerned of losing employment across groups usually follow similar developments and trends. However, in some countries, such as Bolivia, El Salvador, Honduras, and Nicaragua, the gap is decreasing not because of an improvement in job stability for low-background individuals, but instead because of a deterioration of the job stability of high-background individuals.

Homeownership

Figure 3 shows the likelihood to own a house. The likelihood of homeownership in Latin America in our sample is rather high, consistent with past investigations on the topic (see UN-HABITAT, 2011). For the case of homeownership as indicator of economic well-being, the age effect is particularly evident; younger people are less likely to own a house than older people. Indeed, a decreasing likelihood to own a house can be observed for each group over time. Anyway, interesting differences in inequality across groups can be noticed. On average, inequality in homeownership rates are higher for younger cohorts, while almost not existent among individuals with high education belonging to older cohorts. These findings are in line with current evidence for developed countries. In some countries, such as Argentina, Costa Rica, El Salvador, and Honduras, the opposite situation can be observed; in these countries, the gap closes over time. However, so far we do not take into account the quality of housing. In Appendix C, we include the same analysis, but where the outcome variable is one if the individual owns a house with hot water and sewerage system and zero otherwise. In this case, considering the quality of housing, the results show a substantial gap by parental background in each cohort.

⁴ Blanden et al (2023) show that the intergenerational persistence of homeownership has significantly increased over time in the UK as individuals with non-homeowning parents experienced a disproportionate decline in home ownership rates.

Figure 1 – Economic mobility of socioeconomic level



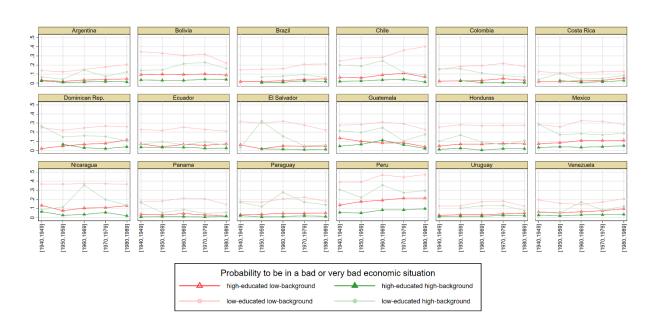


Figure 2 – Economic mobility of job stability

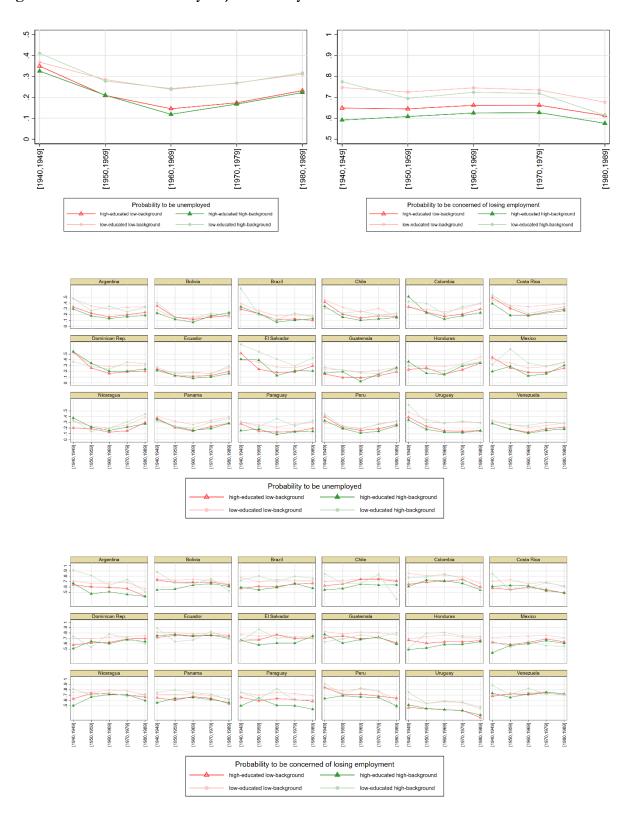
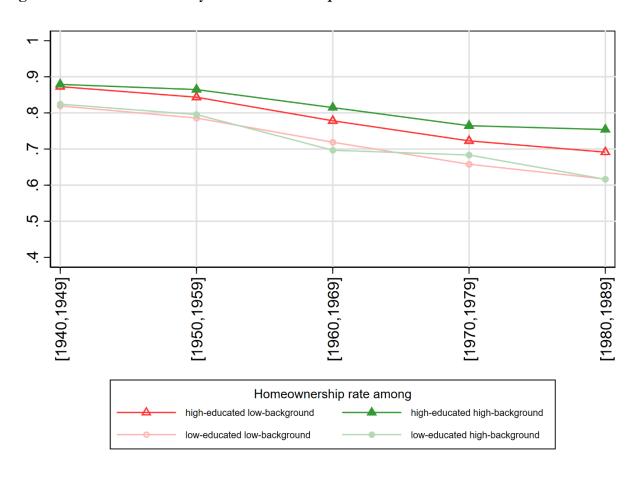
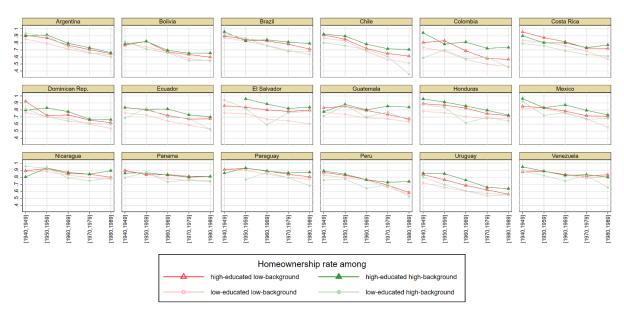


Figure 3 – Economic mobility of homeownership





3.2. Conditional and Unconditional Estimates

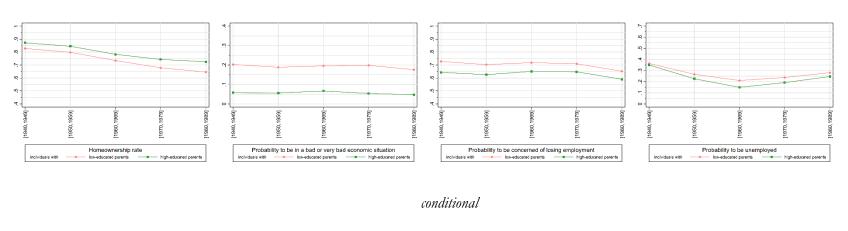
In the estimates shown so far, although the groups are subdivided into individuals that completed secondary education and those that do not, the difference in probabilities could in part be explained by different likelihoods to attain tertiary education of individuals depending on their parental background. Hence, to yield further interesting insights on the role of education as mediator for intergenerational inequality in economic well-being and social mobility, we report the unconditional estimated probabilities, for individuals with all levels of education and only controlling for survey year and age of the respondent, and then the same estimated probabilities conditional on the years of education completed by the individual (ranging from 0 for illiterate individuals to 15 for those with completed tertiary education). Hence, the conditional estimates show the estimated likelihoods for low and high-background individuals at the mean of the distribution of years of education, while to obtain the unconditional estimates we do not include education among the set of covariates.

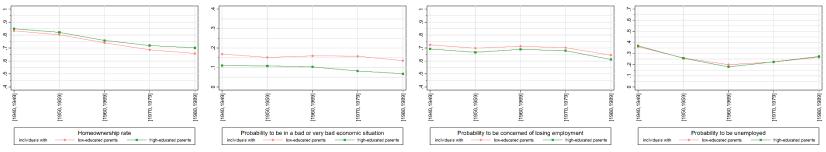
Figure 4 shows the unconditional estimates of the estimated likelihoods for the items described in the previous section (upper part), and the same likelihoods controlling for education (lower part).⁵ Although part of the gap by parental background is driven by education, especially in the variables related to employment, a substantial distance between advantaged and disadvantaged individuals still persists after controlling for their levels of education. This evidence suggests a somewhat limited impact of educational expansions on decreasing inequality of economic well-being.

⁵ Appendix A and B include the conditional and unconditional likelihoods separately for each dimension and country, respectively.

Figure 4 – Conditional and unconditional estimates (on individual education)

unconditional



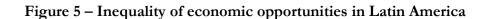


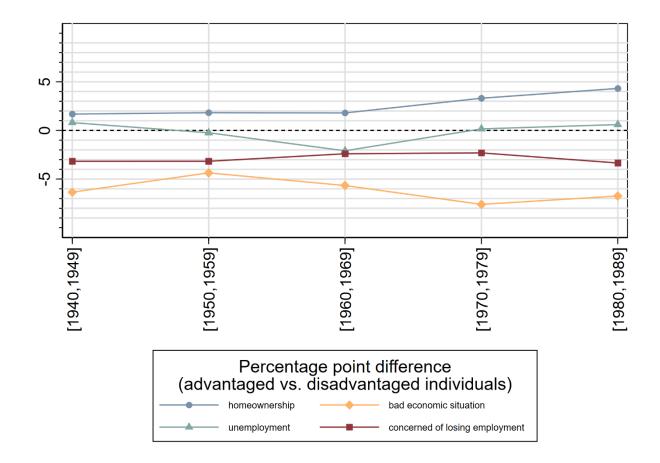
3.3. Inequality of Opportunity

This section shall be indicative of inequality of opportunity in Latin America, displaying within-cohort inequality in attaining the different dimensions of well-being discussed above. Inequality is measured among individuals with low and high parental educational background and controlling for own education.

Figure 5 shows the difference in percentage points in the likelihoods of homeownership, bad economic situation, unemployment, and concerns of losing employment between individuals with low and high parental educational background. To abstract from the role of educational mobility as mediator of mobility in economic well-being, the estimates considered here are the ones obtained controlling for individual education. Hence, a difference, for instance, by -5 percentage points means that, abstracting from the mediating role of education, the likelihood of individuals with low parental background is five percentage points higher than the likelihood of individuals with high parental background.

The results show that, on average, inequality of opportunity in socioeconomic level and in the concerns to loose employment are almost constant, around three percentage points difference and between four and eight percentage points difference, respectively, to the disadvantage of low-background individuals. The gap in the likelihood to be unemployed fluctuates around zero with some ups and downs. Instead, homeownership inequality is even increasing from about one to almost five percentage points. This suggests that the likelihood to own a house is particularly unequally distributed among younger individuals and partly closes over the lifetime. However, as mentioned, this measure does not take into account the quality of housing (shown in Appendix C), where the gap is substantially higher. Generally, the trends suggest that economic mobility and equality of opportunity did not improve in Latin America over the past decades.





3.4. Aggregate Measure of Well-being

In this Section we provide a further benchmark indicator for intergenerational mobility of economic well-being by summarizing the dimensions of well-being studied separately so far into an aggregate measure, following Filmer and Pritchett (2001), McKenzie (2005) and Ferreira et al. (2011). We do so by adopting a principal component analysis of the items included in Table 1. For this analysis, besides of homeownership, we also include several other indicators of assets, such as hot water, sewerage system, car, washing machine and computer.

Figure 6 shows the cumulative density functions of the computed well-being index for each type; where a type is defined as a group of individuals sharing the same circumstances, following the terminology commonly used in the equality of opportunity literature (see e.g. Roemer and Trannoy, 2016). Each type is defined by the level of parental education. The graph is computed on the entire sample including all individuals living in Latin American countries. Visual inspection suggests—a huge amount of inequality between types, in particular between the most advantaged and the most disadvantaged types. The distribution of the outcome for more advantaged types almost in all cases stochastically dominate the one of the less advantaged types. The two types defined by the circumstance of having parents with complete primary and incomplete secondary show a similar outcome distribution. The same applies for the two types defined by the circumstance of having parents with complete secondary and incomplete tertiary education.

To provide a more comparable measure across countries and cohorts, we also estimate the rank of each individual in the distribution of the well-being index within his or her reference group. Reference groups are hereby defined by individual born in the same year and that participated in the survey at the same age. Figure 7 shows for each level of education and parental educational background the average rank in the distribution of individuals. Interestingly, for each educational category we observe inequality in well-being between individuals depending on their parents' educational background. To give an example, among individuals with complete tertiary education, the average rank in the distribution of well-being of individuals whose parents are illiterate is lower than 60, while the average rank of children of parents with complete tertiary is more than 80.

Figure 6 – Cumulative distribution of well-being by parental background

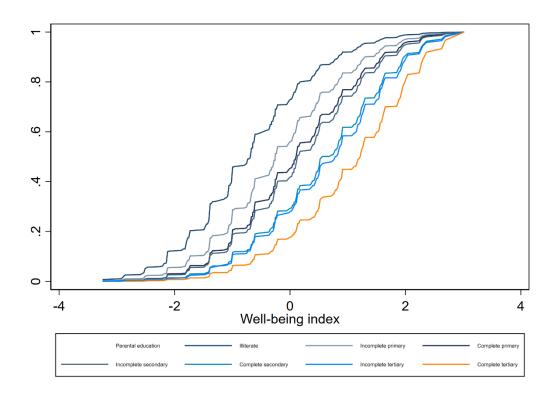
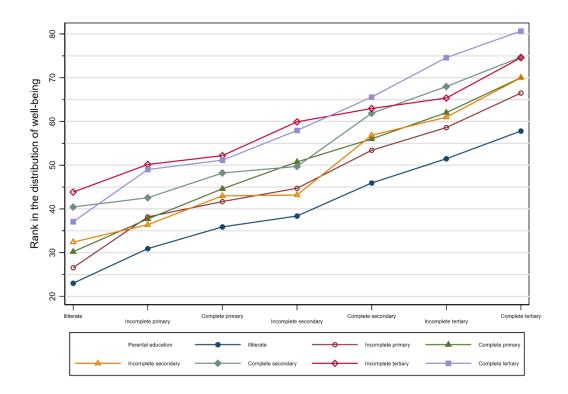


Figure 7 – Economic returns to education by parental background

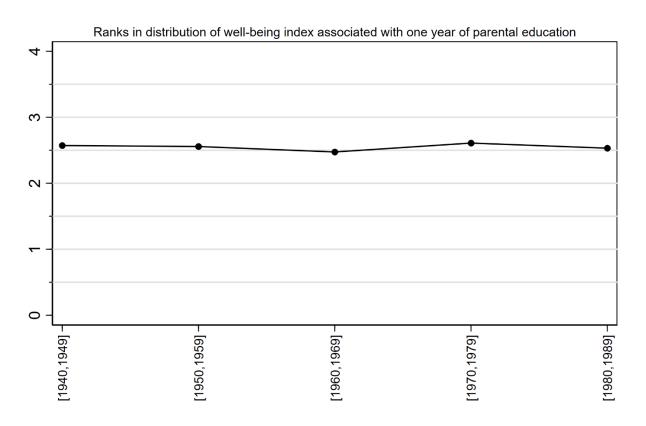


With the help of the summarized well-being index, we again analyze trends in economic mobility. In order to do so, we regress the rank of children on the years of education of their parents. The resulting coefficient of the relationship yields the average number of ranks that are associated with an increase in one year of parental education. Again, we report the estimates of this association unconditional, and conditioning on education.

Figure 8 shows the estimated coefficients of the unconditional model. The upper graph shows the Latin American average and the lower graph the trends for each country. The average across all countries is constantly around 2.5 ranks associated with one year of parental education, while the trend is rather flat. The lowest coefficient is obtained for the cohort 1950-59 in the Dominican Republic (approximately 1.5). The highest coefficient is obtained for the cohort 1980-89 in Chile (approximately 4). Although in most countries there is not much variation in the coefficient over time, in some countries an upward trend in persistence, defined as a higher number of ranks associated with one year of parental education, can be observed. Increases by approximately one rank or more are observed in Argentina, Chile, Colombia, Panama, Peru. A rather steadily decreasing trend can be observed in El Salvador.

Figure 9 shows the estimated coefficients of the model controlling for years of education of the individual. Again, the upper graph shows the Latin American average and the lower graph the trends for each country. In this case, the average across all countries is around one percentile rank associated with one year of parental education and rises to 1.5. Again, the lowest coefficient is obtained for the Dominican Republic and the highest coefficient is obtained for Chile. Conditional on education, in most countries an upward trend in persistence, defined as a higher number of ranks associated with one year of parental education, can be observed, and in the other countries a rather consistent degree of persistence without much variation. Again, the evidence points at decreasing, rather than increasing intergenerational mobility in Latin America over time.

Figure 8 – Ranks in well-being distribution associated with parental background, unconditional estimates



Latin America (unweighted average). Source: Latinobarometro, 18 countries.

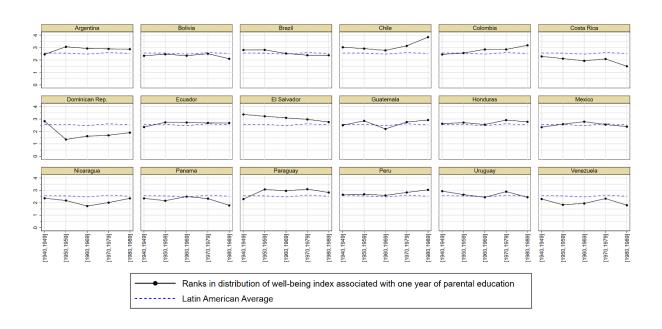
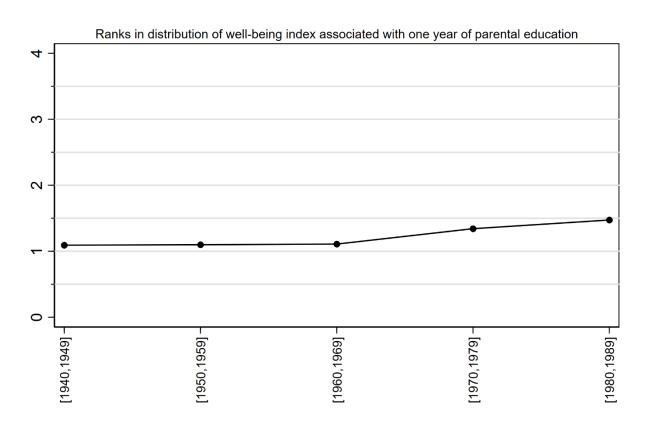
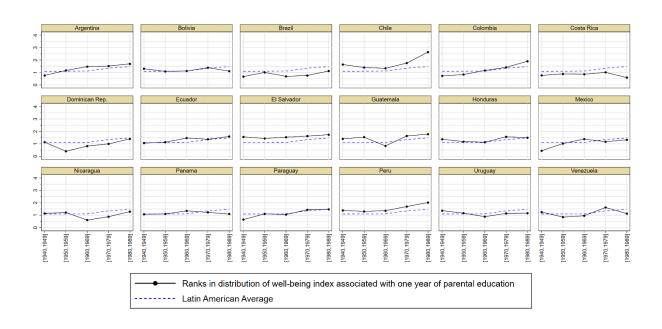


Figure 9 – Ranks in well-being distribution associated with parental background, conditional on education



Latin America (unweighted average). Source: Latinobarometro, 18 countries.



4. Conclusions

Rising intergenerational mobility is a sign for improving inequality of opportunity in a society. Past analyses have shown that intergenerational mobility of education has been rising in Latin America in the last decades. Using highly comparable information for 18 Latin American countries over 50 years, we analyzed, for the first time, whether this evolution is also associated with a rise in the equality of chances of individuals to attain higher levels of well-being.

Our analysis suggests that despite of the remarkable rise in educational mobility, the opportunities to attain a certain level of economic well-being are rather unequally distributed and did not change much over time. This new picture highlights the importance, for researchers, of focusing more attention to the topic of intergenerational mobility in Latin America measuring mobility on several dimensions of well-being and economic success, and for policy makers, of dedicating efforts and resources to the improvement of mechanisms that contribute to equality of opportunity on the labor market and for income generation, such as the quality of education, training, anti-discrimination policies and financial literacy. Otherwise the remarkable progress made in improving educational mobility and educational achievements will not be sustainable over time and could soon come to an end.

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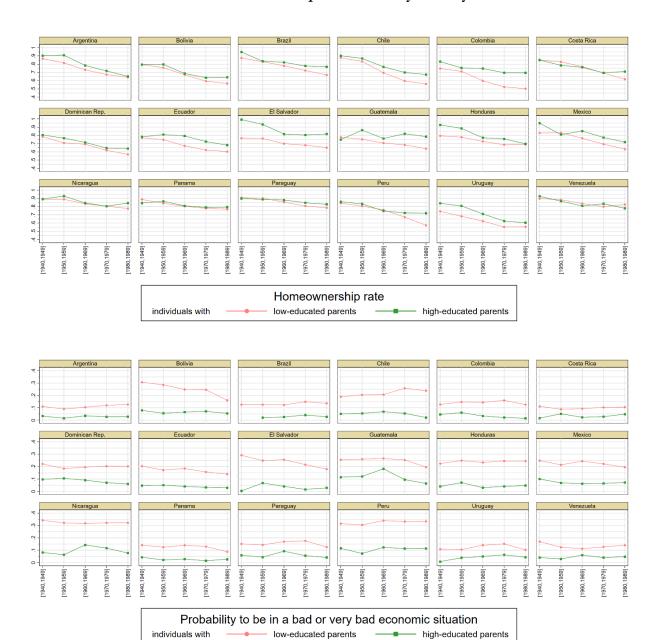
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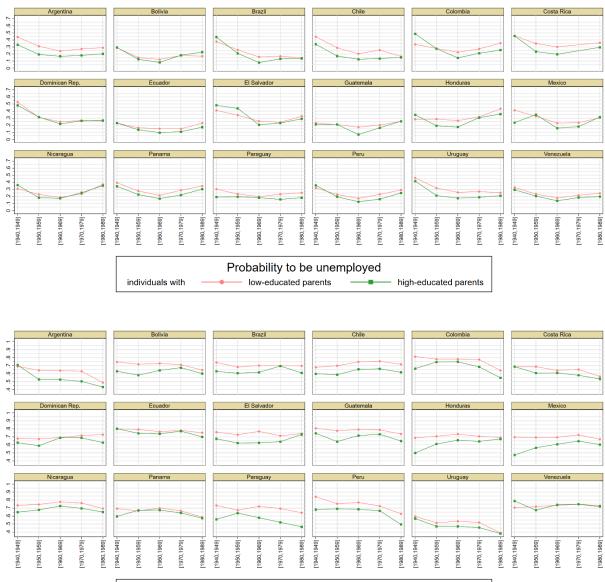
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APPENDIX

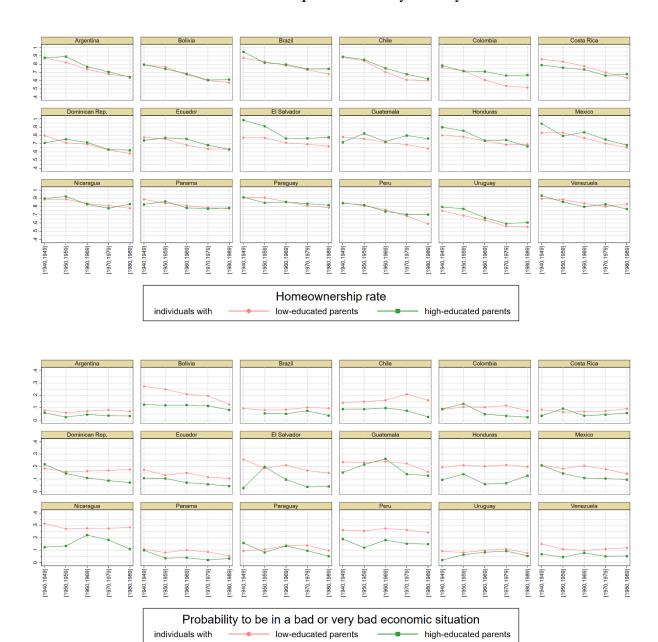
A. Unconditional probabilities by country

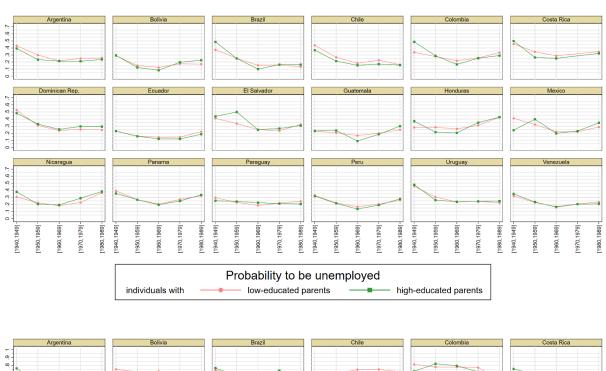


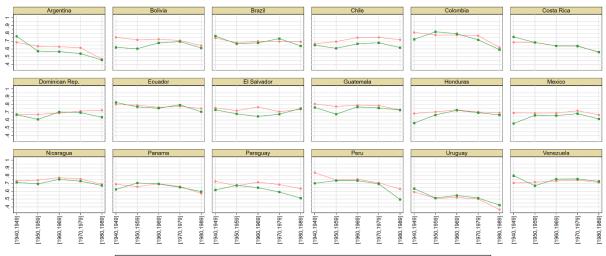


Probability to be concerned of losing employment individuals with Iow-educated parents high-educated parents

B. Conditional probabilities by country







Probability to be concerned of losing employment individuals with low-educated parents high-educated parents

C. Quality of property housing

