Inter-American Development Bank
Banco Interamericano de Desarrollo (BID)
Office of the Chief Economist
Oficina del Economista Jefe
Working Paper # 395

Sibling Correlations and Social Mobility in Latin America

by

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Washington, D.C. 20577
February 1999

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Abstract

This paper uses sibling correlations in schooling to measure differences in intergenerational mobility for 16 Latin American countries. The results indicate that there are substantial differences in mobility within Latin America. On the whole, social mobility increases with mean schooling and income per capita, but is only mildly associated with public expenditures in education.

JEL codes: J62 and O54.

1. Introduction

In life, there is not a fresh start for each generation. Quite the opposite, life, one might say, is akin to a relay race in which parents hand the baton to their children. If we approach social justice problems from this perspective, we must accept at least two important implications. First, we must accept that policy interventions in this realm should aim at "leveling the playing field" rather than at redistributing resources from winners to losers. And second, we must accept that social mobility is a much more accurate measure of social justice than inequality--the latter, after all, focuses only on the finish line, ignoring what happens in the middle of the race.

Interestingly, the debate about social justice in developing countries (and especially in Latin America) has been mainly concerned with inequality. This is important because we can argue that had it been otherwise (i.e., had social mobility been given more preeminence), policies would have been different: perhaps more concerned with the availability of opportunities and less concerned with compensating the losers (IDB, 1998). The neglect of social mobility is not entirely a matter of principle, however. Social mobility, to be sure, is much more difficult to measure than income distribution. At least two reasons can be mentioned as to why. First, there is not an obvious way to measure social mobility and, second, most measures require information for at least two generations of the same family (usually in the form of long panels). These difficulties may, of course, go a long way towards explaining why social mobility has often been set aside in the debates about social justice in developing countries.

In this paper, we measure social mobility by looking at the extent to which family background determines socioeconomic success. Roughly speaking, social mobility can be measured by means of two distinct types of correlations: intergenerational correlations and sibling correlations.[1] Both measures rely on a simple premise. If family background

[1] Solon (1998) provides a comprehensive summary of the empirical research on sibling and intergenerational correlations.

does matter, we should observe some connection between the fates of parents and children on the one hand and the fates of siblings on the other. These two measures differ greatly in terms of data requirements. While computing intergenerational correlations often requires repeated observations of the same family over long periods of time, computing sibling correlations is possible on the basis of cross-sectional data sets.

In this paper, we propose an index of social mobility for developing countries based on the correlation of schooling outcomes between siblings. Our index measures the extent to which schooling outcomes can be explained by family background. If there were perfect social mobility, family background wouldn't matter, siblings wouldn't be more alike than two people taken at random, and our index would be close to zero. If there were little mobility, family background would matter very much, siblings would be very similar and our index would be close to one.

The main advantage of our index is that it can be computed on the basis of the information found in most household surveys. Our index is based on the assumption that those children who by their late teens have fallen behind in terms of schooling will have the worst socioeconomic outcomes later in life. Computing our index involves two main steps. First, we have to identify those children who have been irremediably left behind. Then we have to determine the extent to which family background explains their poor performance. To this end, we compute first what we call a leading indicator of socioeconomic failure, and then we compute the correlation among siblings of this indicator. We interpret this correlation as an index of social mobility.

We apply our index to a sample of 16 Latin American countries (we also include the United States as a benchmark). We find that social mobility is highly correlated with average country-wide education levels. Countries with more schooling and less inequality of schooling allow greater mobility. We also find that social mobility is uncorrelated with public expenditures in education as a percentage of GDP, and tenuously correlated with GDP per capita.

There have been a few recent studies looking at the connection between family background and schooling in developing countries. Thus, Behrman, Birdsall, and Sz Jkely (1998) study the connection between parental attributes (income and education) and children outcomes. They measure social mobility as the proportion of the children's differences in schooling due to observable parental attributes. Filmer and Pritchet (1998) study the connection between levels of education and family wealth. They compute, for a large sample of developing countries, median schooling differences of teenagers coming from rich and poor households. Both studies find a strong connection between education levels and mobility; that is, countries with higher levels of education exhibit higher intergenerational mobility.

Other studies have examined social mobility within specific countries. These studies include that of Lam and Schoeni (1993) on family background and the returns to education in Brazil and that of Woodruff and Binder (1999) on the intergenerational transmission of schooling in Mexico, among others. Because these studies use different methodologies and dissimilar data sets, few general conclusions can be drawn. One point remains clear, however. Social mobility seems to increase steadily with income both across countries and over time within the same country.

Finally, we also study in this paper the connection between assortative mating and inequality. We find a strong connection between the overall level of inequality and the degree of sorting in marriage markets (measured by the correlation of spouses' schooling). Although definitive interpretations are difficult, this result is consistent with a wealth of recent studies that underscore the role sorting and segregation in the creation of inequality.

The organization of this paper is as follows. Section 2 describes the main data sources; Section 3 presents the empirical strategy; Section 4 presents our mobility results along with some exploratory correlations; Section 5 presents the evidence on assortative mating; and Section 6 concludes.

2. Data

Most of the data used in this paper comes from household surveys. A description of the surveys, including names, coverage and sample sizes, is presented in Table 1. All the surveys are for the late 1990s and all are representative of each country's population with the exceptions of Argentina and Uruguay, where only urban data is available. The sample sizes differ widely across countries. They are very large in Brazil, Chile and Colombia, and much smaller in Argentina, Nicaragua, and Peru.

Although the surveys use different sampling methodologies and include different questions, they allow meaningful cross-country comparisons, at least in terms of income and education outcomes. The same set of surveys have been used before to study the levels and sources of inequality (IDB, 1998), and the interplay between labor supply and demographics (Duryea and Szekely, 1998).

3. Empirical strategy

In this paper we propose an index of intergenerational mobility for developing countries that, unlike the standard measures of social mobility, can be computed on the basis of the information found in most household surveys. In this way, we are able to circumvent, at least to some degree, the lack of panel information that have hitherto hindered the study of intergenerational mobility in all but a few developed countries.

At first glance, we can learn very little about intergenerational relations from household surveys. Not only do we observe parents and children at very different ages, but also we observe children so early in their lives that little can be inferred about their socioeconomic performance later in life. Put it differently, household surveys provide a snapshot so early in the race for socioeconomic success that little can be said about what will happen at the finish line.

The previous problem notwithstanding, there is a group of children for whom a prediction regarding future socioeconomic outcomes can be made on the basis of the education levels reported by all household surveys--those who have fallen so far behind that any hope of catching up seems impossible. So even though the race for socioeconomic status is long and unsteady, and even though our vantage point into the race is far from the finish line, we can safely identify the losers as those who have been largely outdistanced right from the beginning. Once we have identified them, we can examine the extent to which family background determines their bad outcomes, and hence compare the degree of mobility among the countries under scrutiny.

Thus, the main hypothesis of this paper (the hypothesis that allows us to use household surveys to study intergenerational mobility) is predicated on a simple premise. In life, as in sports, we don't have to wait until the end of the race to identify who will arrive last--or very close to last, for that matter. We certainly have to wait until the end to know who will win, but if we are interested only in those who will arrive last, a glimpse early on in the race may suffice.

The problem is, of course, how to identify the losers--those who have fallen so far behind that their socioeconomic fate is, as it were, sealed. We deal with this problem as follows. We first compute the median schooling for each cohort (we define cohorts on the basis of age and gender), and then we use these values to define the relevant thresholds. We assign a value of one to those children whose schooling is greater than the median minus one (those whose fate is still uncertain), and we assign a value of zero to all the others (those who have fallen so far behind that socioeconomic success is improbable).[2]

By following the procedure sketched above, we compute a leading indicator of socioeconomic failure. Note that our indicator is very conservative. We venture to make a guess about future outcomes only for those children who have fallen behind the median levels of education. Figure 1 illustrates our methodology. The figure shows the

[2] We will show later that the results of the paper are robust to changes on the arbitrary thresholds used to identify those who, in our view, have fallen behind beyond redemption.

distribution of years of schooling for 18-year-old Brazilian males along with our leading indicator of socioeconomic failure. Those with six or more years of schooling are given a value of one, and those with five or fewer years of schooling are given a value of zero.

We impose two sample restrictions in our analysis. First, we restrict all samples to children between 16 and 20 years of age. This restriction reflects a compromise between two opposing factors: narrow age groups reduce sample sizes, on the one hand, but allow more meaningful comparisons of schooling outcomes, on the other (ideally, we should compare only those children making the same marginal schooling decisions). And second, we restrict the samples to those households with two or more children in the specified age range.

It is important to emphasize that our indicator of socioeconomic failure is based on the median of schooling within specific age and gender categories. We do not compare males against females. Nor do we compare children of different ages. This is important not only because schooling varies with age as children move from one grade to the next, but also because schooling may also vary with gender. If we don't take these variations into account, we may misjudge the importance of family background in important ways. For example, a society in which girls get much more education than boys will appear more mobile than it actually is if we don't control for gender differences. Similarly, a society in which most people don't leave schooling until they are well into their twenties will appear more mobile if we don't control for age.

In this paper we compare countries that differ substantially in terms of average education levels. While in some countries almost the entire population finishes high school and many go to college, in other countries most of the population does not finish high school and only a minority goes to college. So while in the former case we will observe children too early to appreciate substantial differences in schooling, in the latter case we will observe children late enough to elucidate most of the schooling differences. We assume

throughout that we are able to identify those who have fallen behind irrespective of the average educational attainment of the country in question.[3]

As mentioned earlier, we use sibling correlations of schooling outcomes (as summarized by our leading indicator of socioeconomic failure) to measure intergenerational mobility. The standard correlation coefficient is not appropriate in this context because there are always families in which there are three (or even four) children in the specified age range. Our correlation index is based on the proportion of the variance of schooling outcomes that can be explained by differences between families (as opposed to differences within families):[4] the higher this proportion, the lower the degree of social mobility in the country in question.

Our index of correlation is defined as follows:

$$r_g = \frac{\sum_{f=1}^{F}\sum_{s=1}^{S_f}(g_{sf} - \bar{g})^2 \sum_{k=1}^{S_f}(g_{kf} - \bar{g})^2 / S_f}{\sum_{f=1}^{F}\sum_{s=1}^{S_f}(g_{sf} - \bar{g})^2}, \qquad (1)$$

where F is the number of families in the sample, S_f is the number of teenage siblings in family f, g_{sf} is the binary indicator of socioeconomic failure of individual s in family f, and $\bar{g}$ is the average indicator in the entire sample. As shown by Kremer ans Maskin (1996), ρ_g corresponds to the R^2 obtained by regressing the schooling gaps on a set of dummy variables for all families in the sample.[5]

It is worth noting that positive values of ρ_g do not necessarily mean that family background has a discernible effect in the variable of interest. Indeed, ρ_g could yield

[3] To use the same metaphor, we are assuming that from our vantage point we will be able to identify those who will finish last irrespective of the length the race. So whether we are observing an 800-meter-long race or a one-mile-long race, we can predict that those that were largely outdistanced after 400 meters will finish last.

[4] Our index is closely related to the intra-class correlation coefficient (see Kendall and Stuart, 1958, Vol. II). When there are only two children per family, our index coincides with the standard correlation coefficient.

[5] Kremer and Maskin (1996) use this index to measure segregation by skills in US industries. They also discuss how confidence intervals can be constructed around the estimated correlation.

positive values even if family background is inconsequential, as will be the case, for example, when children are assigned to families randomly. To solve this problem, we follow Kremer and Maskin and define an alternative index as follows:

$$r_a = 1 - (1 - r_g)\frac{S-1}{S-F}, \qquad (3)$$

where S is the number of children in the sample. The new index (ρ_a), which corresponds now to the adjusted R^2 obtained by regressing earnings on family dummies, will yield positive values only if the previous index (ρ_g) is greater than would be expected purely by chance. Positive values of ρ_a can thus be unambiguously interpreted as evidence that family background does play a role in the determination of schooling outcomes.

A word about the interpretation of sibling correlations in general and ρ_a in particular is in order. Sibling correlations summarize all influences common to all children in a given family. These influences include not only parental characteristics but also community characteristics such as school quality and neighborhood norms. Sibling correlations, on the other hand, leaves out all family influences not shared by siblings. Non-shared influences are potentially important. Psychologists, for example, have long argued that birth order exerts much influence on the frequency and type of interactions between parents and children (Sulloway, 1997). Economists, for their part, have argued that parents may treat their children very differently for pecuniary reasons.[6]

4. Results

In this section, we compare the degrees of intergenerational mobility for several Latin American countries. We use the correlation index proposed in Section 3. Higher values of the index entail lower degrees of intergenerational mobility. Or, more precisely, higher

[6] Becker and Tomes (1976) show that, under some assumptions, parents reinforce the differences in ability of their children by investing disproportionately in those children with greater innate abilities. Dahan and Gaviria (1998) show that parents may invest unequally in their children even when they do have identical innate abilities.

values allow a higher fraction of the differences in socioeconomic performance among children to be explained by family background. [7]

Figure 2 displays the values of our index for 16 Latin American countries and the United States. As shown, mobility is the highest in the United States and Costa Rica, and the lowest in Colombia, Mexico and El Salvador. Mobility is also relatively high in Peru and relatively low in Nicaragua and Ecuador. For most Latin American countries, up to 50 percent of the differences in socioeconomic performance (as measured here) can be accounted merely to family background.

Figure 3 compares intergenerational mobility and income inequality for the same sample of countries.[8] Most Latin American countries exhibit high inequality of income and low levels of intergenerational mobility (at least in comparison to the United States).[9] The exceptions are Uruguay, which have low inequality and moderate levels of mobility, and Costa Rica, which has low inequality and relatively high mobility.

How robust are these results to small changes in the methodology? This question is important because, as explained earlier, our index is based on arbitrary thresholds in the distribution of schooling: we assume that those children whose education is above the median education minus one year are fine, and that those below that threshold are doomed. Needless to say, if the results change drastically when we marginally change the thresholds, the credibility of our index will come into question.

Figure 4 shows the association between two indices that use different thresholds. One uses the median minus one year of schooling and the other the median minus two years. As shown, the two indices yield very similar results (the correlation coefficient between the two is greater than 0.96). The ranking of countries is identical at the extremes, only in

[7] Sample sizes and descriptive statistics are presented in Tables A.1 in the appendix.
[8] Gini coefficients are used to measure income inequality. The same surveys used to compute the indices of mobility are used to compute the Ginis.
[9] This result is also consistent with a few cross-country studies that show a positive connection between income distribution and earnings mobility (see, for example, Erikson and Goldthorpe, 1991 and Bjorklund and Jantti, 1997).

the middle where the differences are tiny to begin with, the ranking can change depending on what index is used. Similar results are obtained for other cutoffs, dispelling most doubts about the fragility of our index to small changes in arbitrary definitions.

The previous results make it clear that there are sizable differences in intergenerational mobility from one Latin American country to another. This raises the question as to what country-wide variables are associated with these differences. At a basic level, one should expect at least some association between educational attainment and mobility--education, after all, has long been regarded as the foremost instrument of social ascension.

Figure 5 shows the relationship between social mobility and average schooling gaps. Schooling gaps are defined as the difference between the years of schooling that a child would have completed had she entered school at age six and advanced one grade each year and her actual years of schooling. The average gap is computed over all children between 16 and 20 years of age in the country in question. Higher average gaps are, of course, indicative of faulty or insufficient educational systems. As shown, there is a positive association between schooling gaps and our correlation index (or, put differently, between country-wide schooling averages and intergenerational mobility).[10] The association is linear and strong for most countries. Brazil, Nicaragua, El Salvador and Paraguay exhibit, however, higher degrees of mobility than would be expected given their relative backwardness in terms of education.

Figure 7 shows the association between the coefficient of variation of schooling and our correlation index.[11] A strong positive association between these two variables is apparent, meaning that countries with high schooling inequality also tend to be less mobile. Given the previously uncovered association between inequality of schooling and average schooling, Figure 6 just reiterates a point already made; namely, social mobility increases as education becomes the right of many, not simply the privilege of few.

[10] The correlation coefficient is 0.62 and is significant at the one-percent level.
[11] The correlation coefficient is 0.67 and is also significant at the one-percent level.

Figure 7 shows the association between social mobility and public expenditures in education as a percentage of GDP.[12] There is not clear relationship between these two variables, which is hardly surprising given the tenuous association between current public spending in education and overall education levels. Thus, spending more money in education may not be the most expeditious way to equalize opportunities. Money is, of course, part of the equation, but may be rather ineffectual in the presence of widespread waste and corruption and in the absence of appropriate institutions.

Figure 8 shows the association between social mobility and per capita GDP.[13] At least in Latin America, development and social mobility appear to be positively associated. The two main exceptions are the Southern countries and Venezuela (where mobility is greater than expected) and Mexico (where mobility is lower than expected). Figure 8 is somewhat consistent with some theoretical studies that posit that intergenerational mobility should grow steadily as countries become more developed.[14]

5. Assortative Mating and Mobility

Marriage markets and intergenerational mobility are connected through various channels. For one thing, marriage offers a quick way to overcome inherited misfortunes--or to dilapidate inherited fortunes, for that matter. For another, low rates of assortative mating can increase mobility by spreading the educated population across more households (Kremer, 1997). In sum, marriage markets can, at least to some extent, reshuffle the fortunes we are dealt at the moment of birth.

Table 2 shows the correlation coefficient of spouses' schooling for 16 Latin American countries and the United States. Two different coefficients are shown. The first corresponds to all couples in the sample and the second only to couples for which the head of household is under 40 years of age. Two remarks are worth mentioning. First,

[12] The expenditure data is from the early nineties and was taken from the World Development Indicators (1999).
[13] The data on GDP per capita are from IDB (1998).

assortative mating varies much less across countries than intergenerational mobility: the ratio between the two polar countries is 1.3 in the former case and 3.7 in the latter case. And second, sorting by education in marriage markets has declined in Latin America, at least in light of the differences between young and old couples implied by the differences between columns (2) and (3) of the table.

Figure 9 shows the association between assortative mating and mobility and between assortative mating and inequality.[15] While the connection between the first two variables is noticeable but not overwhelming (the correlation coefficient is 0.60), the connection between the last two variables is very high (the correlation coefficient is 0.81). Thus, sorting by education in marriage markets seems to be increase sharply with inequality, which suggests that either more unequal societies will tend to be more stratified (perhaps due to the presence of spatial segregation and discrimination) or, alternative, that more stratified societies will tend to accentuate inequalities (perhaps due to the presence of externalities in the transmission of human capital between generations).[16]

6. Conclusions

We argue in this paper that by comparing sibling correlations of schooling, we can learn about the differences in the degrees of social mobility among countries (that is, we can learn about the extent to which family background determines socioeconomic success in different countries). Our analysis is limited for obvious reasons. First, schooling is an imperfect measure of child outcomes. School quality, for example, is conspicuously absent from our analysis, as are differences in parental investments. Second, schooling doesn't capture all possible channels through which family background affects socioeconomic success. Family connections, for example, can make all the difference when children enter the labor force. Parental wealth also can make a big difference later in life. Both factors, however, have been left out of our analysis.

[14] The relationship between GDP growth and social mobility has been studied by Galor and Tsiddon (1997) and Maoz and Moav (1998), among others.
[15] The rates of assortative mating are for the younger households.

The above-mentioned problems notwithstanding, we believe that, especially for developing countries, schooling provides an early glimpse of what is to come, and hence it can be used to gauge differences in social mobility. Our results are non-controversial in that they reiterate a piece of conventional wisdom: education is perhaps the most expeditious way to enhance equality of opportunity. We find, in particular, that access to education (measured, for example, by average schooling gaps) is a powerful predictor of the importance of family background in socioeconomic performance. We also find that in Latin America social mobility i is only loosely related to income per capita; and that inequality is strongly associated with sorting in marriage markets.

Of course, additional research is needed to answer the main questions of this paper: who gets ahead in Latin America? and what does family have to do with it? Although the absence of panel data remains an important hurdle in answering these questions, there is much that can be done. In some countries, for example, some household surveys have regularly included information on parental schooling and occupational status that can be used to shed some light on these and related matters (Colombia, Peru, Mexico, and Brazil are cases in point). Similarly, the 1998 version of Latinobarometer, a public opinion survey for Latin America, contains data on parental schooling for 17 Latin American countries that can also prove very useful. Needless to say, only by combining these different sources of information will we be able to get a clear view of the still blurred picture of intergenerational relations in Latin America.

[16] This mechanism has been recently emphasized by Durlauf (1998), Fernandez and Rogerson (1998), and Cutler and Glaeser (1998), among others.

References

Becker, Gary S. and Nigel Tomes, 1976, "Child Endowments and the Quantity and Quality of Children," *Journal of Political Economy*, 84, 143-62.

Behrman, Jere R., Nancy Birdsall and Miguel Sz Jkely, Miguel, 1998, "Intergenerational Schooling Mobility and Macro Conditions and Schooling Policies in Latin America," Inter-American Development Bank, Office of the Chief Economist, Working Paper # 386.

Bjorklund, Anders and Markus Jantti, 1997, "Intergenerational Income Mobility in Sweden Compared to the United States," *American Economic Review*, 87, 1009-18.

Cutler, David M. and Edward L. Glaeser, 1997, " Are Ghettos Good or Bad?" *Quarterly Journal of Economics* 112, 827-72.

Erikson, Robert and John Goldthorpe, 1991, *The Constant Flux: A Study of Class Mobility in Industrial Societies*, Oxford: Clarendon Press.

Dahan, Momi and Alejandro Gaviria, 1998, "Parental Action and Siblings' Inequality," Inter-American Development Bank, Office of the Chief Economist, Working Paper # 389.

Durlauf, Steve, 1997, "The Membership Theory of Inequality: Theory and Applications." Santa Fe Institute WP # 97-05-47.

Duryea, Suzanne, and Miguel Sz Jkely, 1998, "Labor Markets in Latin America: A Supply Side Story," Inter-American Development Bank, Office of the Chief Economist, Working Paper # 374.

Fernandez, Raquel and Richard Rogerson, 1992, "Income Distribution, Communities and The Quality of Public Education: a Policy Analysis," NBER Working Paper # 4158.

Filmer, Deon and Lant Pritchett, 1998, "The Effects of Household Wealth on Educational Attainment Around the World. Demographic and Health Survey Evidence," World Bank, Mimeo.

Galor, Oder and Daniel Tsiddon, 1997, "Technological Progress, Mobility and Economic Growth," *American Economic Review*, 87, 363-82.

Inter-American Development Bank (IDB), 1998, *Facing up to Inequality in Latin America*, Washington D.C.: John Hopkins University Press.

Kendall, Maurice G. and Alan Stuart, 1958, *The Advanced Theory of Statistics*. 3 Vols., New York: Hafner.

Kremer, Michael, 1997, "How Much Does Sorting Increase Inequality?" *Quarterly Journal of Economics* 12, 15-39.

Kremer, Michael and Eric Maskin, 1996, "Wage Inequality and Segregation by Skill," NBER Working Paper # 5718, August.

Lam, David and Robert F. Schoeni, 1993, "Effects of Family Background on Earnings and Returns to Schooling: Evidence from Brazil," *Journal of Political Economy*, 101, 710-40.

Maoz, Yishay and Omer Moav, 1998, "Intergenerational Mobility and the Process of Development," Hebrew University, Mimeo.

Solon, Gary, 1998, "Intergenerational Mobility in the Labor Market," Mimeo, Forthcoming in the *Handbook of Labor Economics*.

Sulloway, Frank J., 1997, *Born to Rebel: Birth Order, Family Dynamics, and Creative Lives*, Vintage Books.

Woodruff, C. and Melissa Binder, 1999, "Intergenerational Mobility in Educational Attainment in Mexico," Unpublished Manuscript.

Table 1. Main Features of Household Surveys used in the Paper

Country	Year	Sample size		Coverage	Month	Name of the survey
		households	individuals			
Argentina	1996	3,459	11,749	Urban	April-May / October -November	Encuesta Permanente de Hogares
Bolivia	1997	8,461	36,752	National	November	Encuesta Nacional de Empleo
Brazil	1996	105,059	331,263	National	September	Pesquisa Nacional por Amostra de Domicilios
Chile	1996	33,636	134,262	National	November	Encuesta de Caracterizacion Socioeconomica Nacional
Colombia	1997	32,441	143,398	National	September	Encuesta Nacional de Hogares-Fuerza de Trabajo
Costa Rica	1995	9,631	40,613	National	July	Encuesta de Hogares de Propositos Multiples
Dominican Republic	1996	5,548	24,041	National	February	Encuesta Nacional de Fuerza de Trabajo
Ecuador	1995	5,810	26,941	National	September	Encuesta de Condiciones de Vida
El Salvador	1995	8,482	40,004	National	January through December	Encuesta de Hogares de Propositos Multiples
Mexico	1996	14,042	64,916	National	August through November	Encuesta Nacional de Ingreso Gasto de los Hogares
Nicaragua	1993	4,458	24,542	National	April	Encuesta Nacional de Hogares sobre Medicion de Niveles de Vida
Panama	1997	9,875	40,320	National	August	Encuesta de Hogares
Paraguay	1995	4,667	21,910	National	August through November	Encuesta de Hogares
Peru	1997	3,843	19,745	National	September through November	Encuesta Nacional de Hogares sobre Medicion de Niveles de Vida
Uruguay	1995	20,057	64,930	Urban	January through December	Encuesta Continua de Hogares
USA	1996	50,311	131,854	National	March	Consumer Expenditure Survey
Venezuela	1997	15,948	76,965	National	July through December	Encuesta de Hogares por Muestreo

Table 2. Assortative Mating in Latin America

	All Ages		Age<40	
Country	ρ	N	ρ	N
Argentina	0.644	19,402	0.630	7,933
Bolivia	0.791	5,767	0.745	2,596
Brazil	0.720	60,994	0.683	29,086
Chile	0.741	24,269	0.654	10,427
Colombia	0.755	22,423	0.728	10,170
Costa Rica	0.658	7,016	0.578	3,534
Dominican R.	0.698	3,674	0.628	1,602
Ecuador	0.758	4,247	0.717	2,040
El Salvador	0.717	5,527	0.687	2,520
Mexico	0.732	10,653	0.662	5,366
Nicaragua	0.732	3,076	0.728	1,714
Panama	0.723	6,450	0.653	2,791
Paraguay	0.735	3,388	0.723	1,597
Peru	0.740	12,329	0.692	5,498
Uruguay	0.631	13,150	0.564	3,887
Venezuela	0.703	12,491	0.626	5,412
Average	0.717	13,429	0.668	6,011
USA	0.648	26,942	0.658	10,002

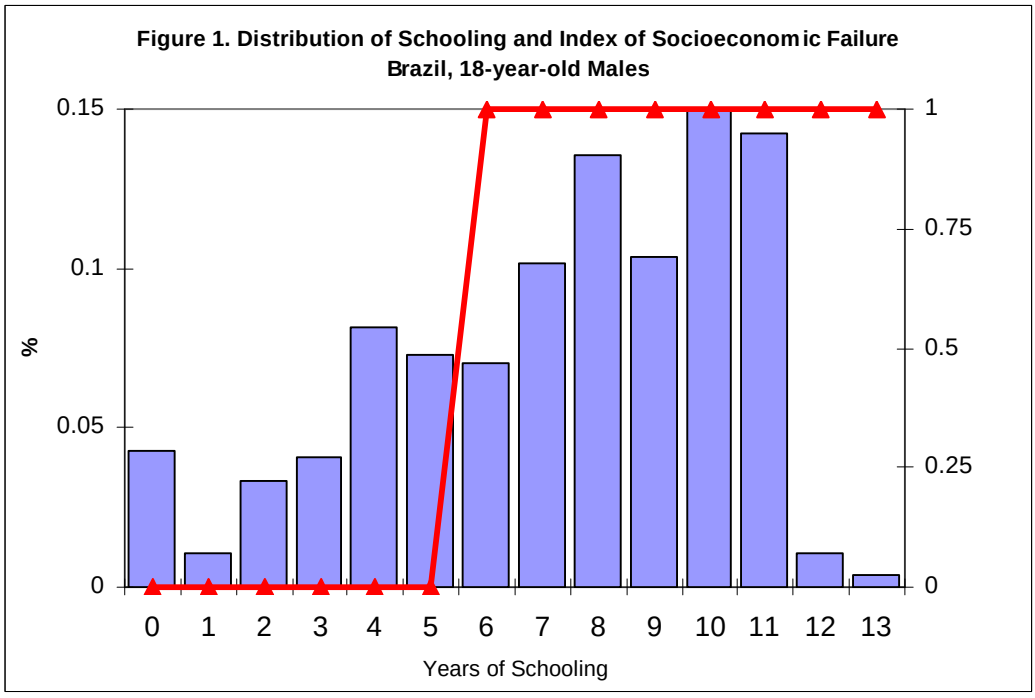


Figure 1. Distribution of Schooling and Index of Socioeconomic Failure
Brazil, 18-year-old Males
0.15
0.1
0.05
0
%
1
0.75
0.5
0.25
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13
Years of Schooling

Figure 2. Social Mobility in the Americas

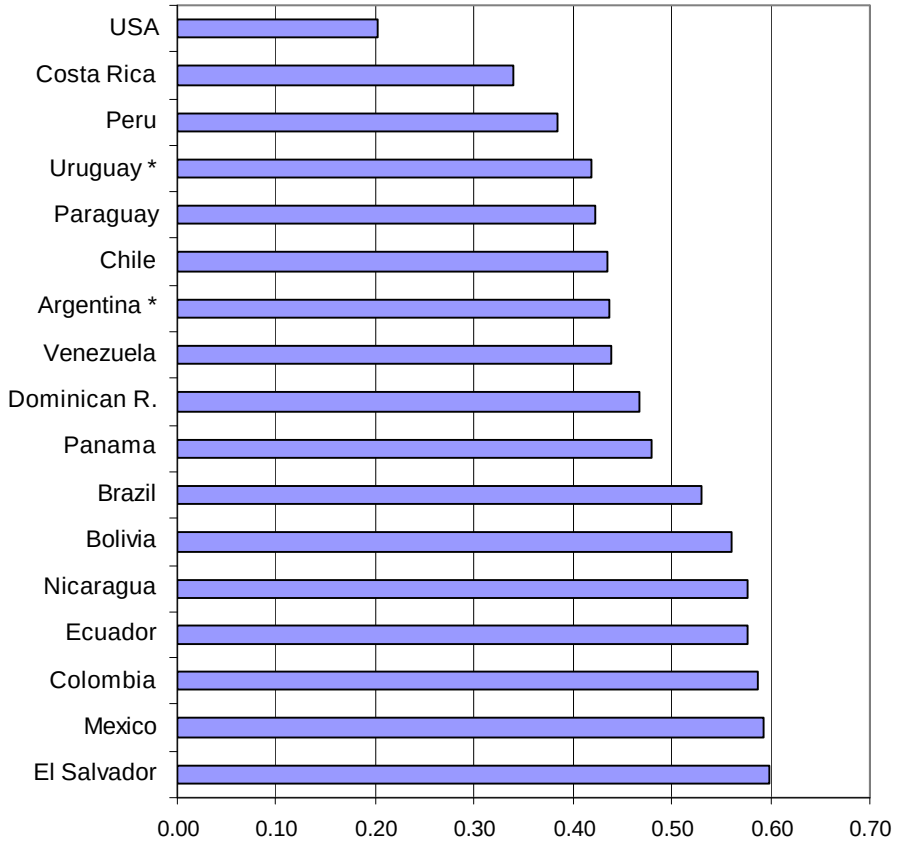


Figure 3

Inequality and Mobility

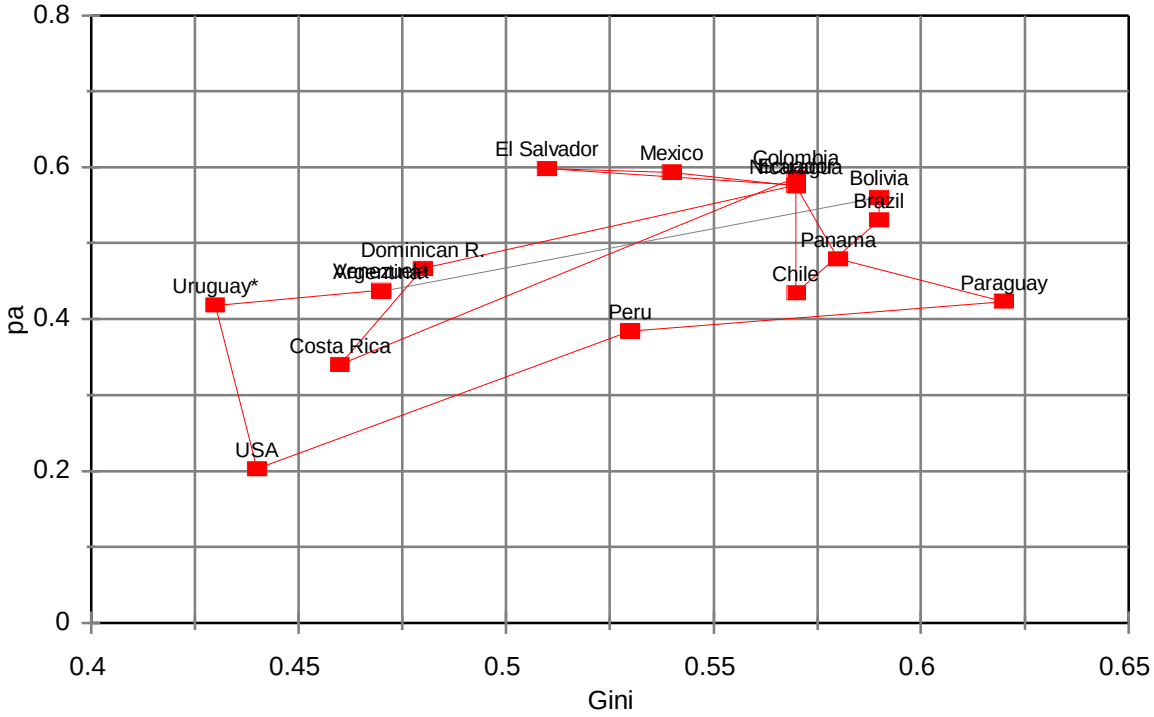


Figure 4

Mobility for Different Thresholds

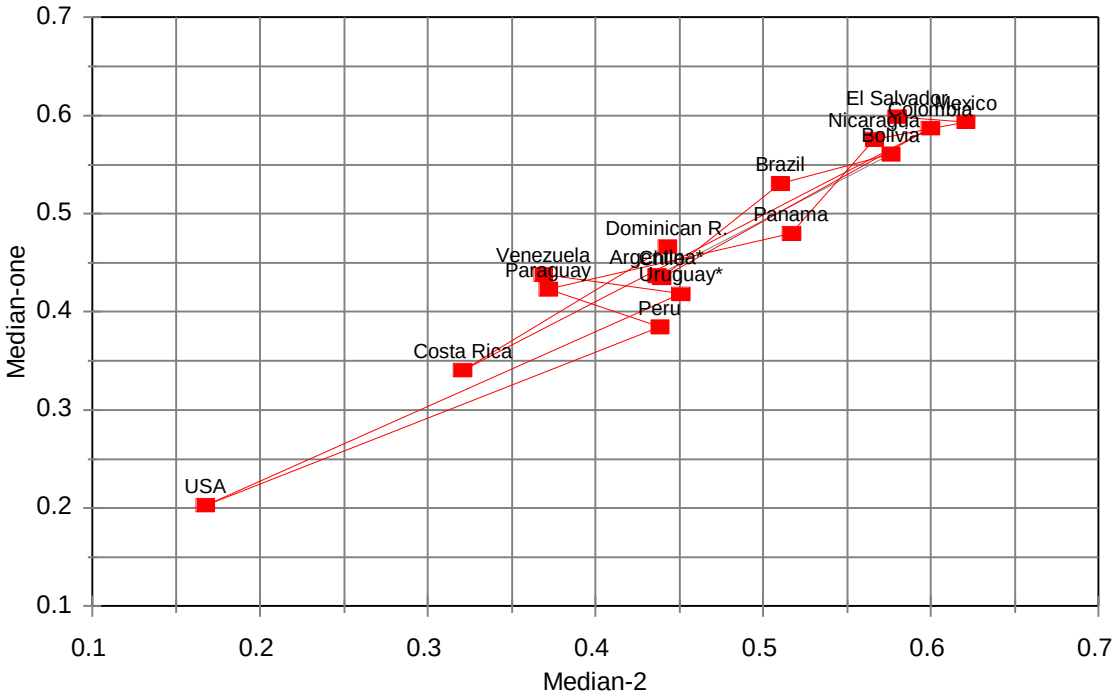


Figure 5
Schooling Gaps and Mobility

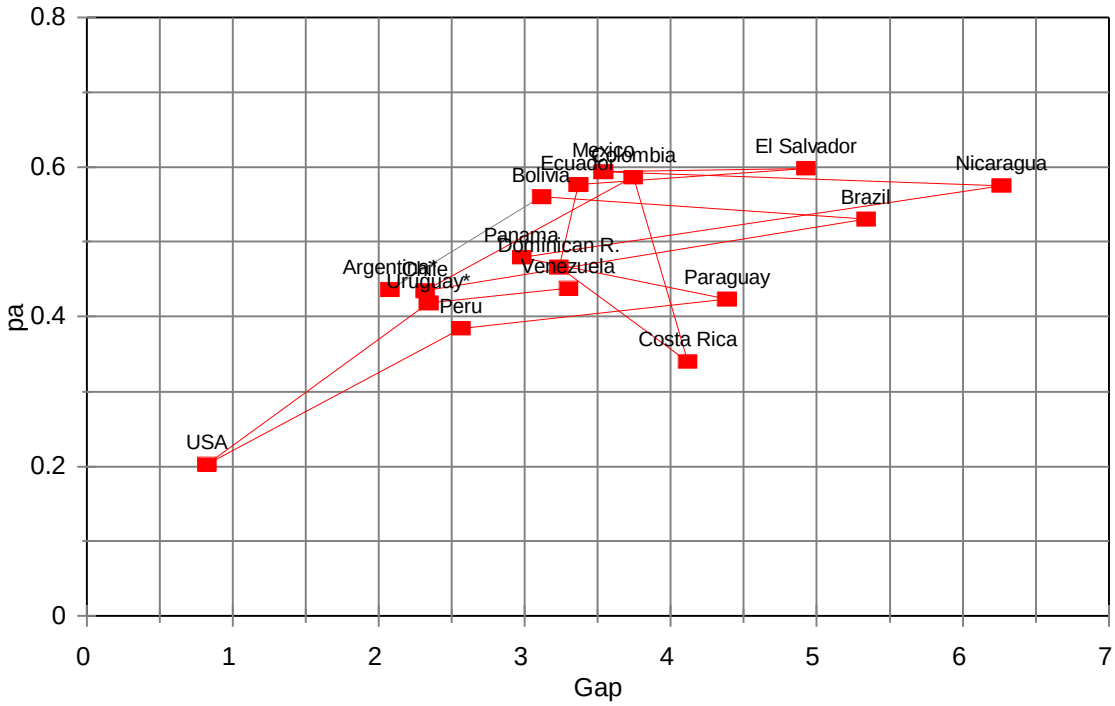


Figure 6

Inequality of Schooling and Mobility

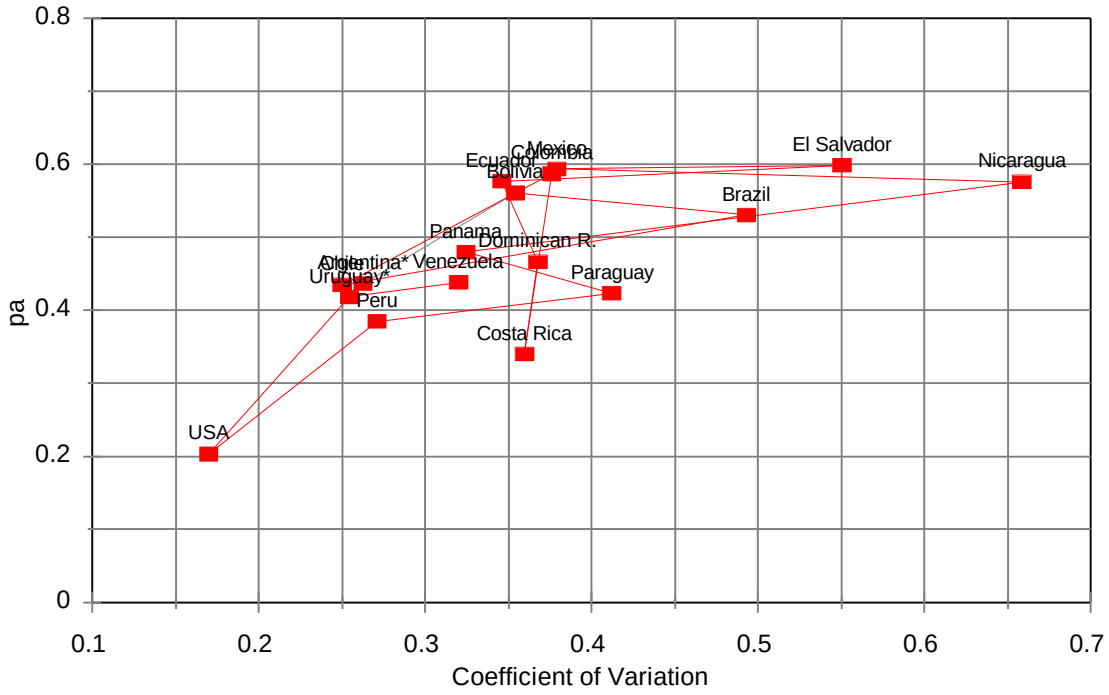


Figure 7

Spending in Education and Mobility

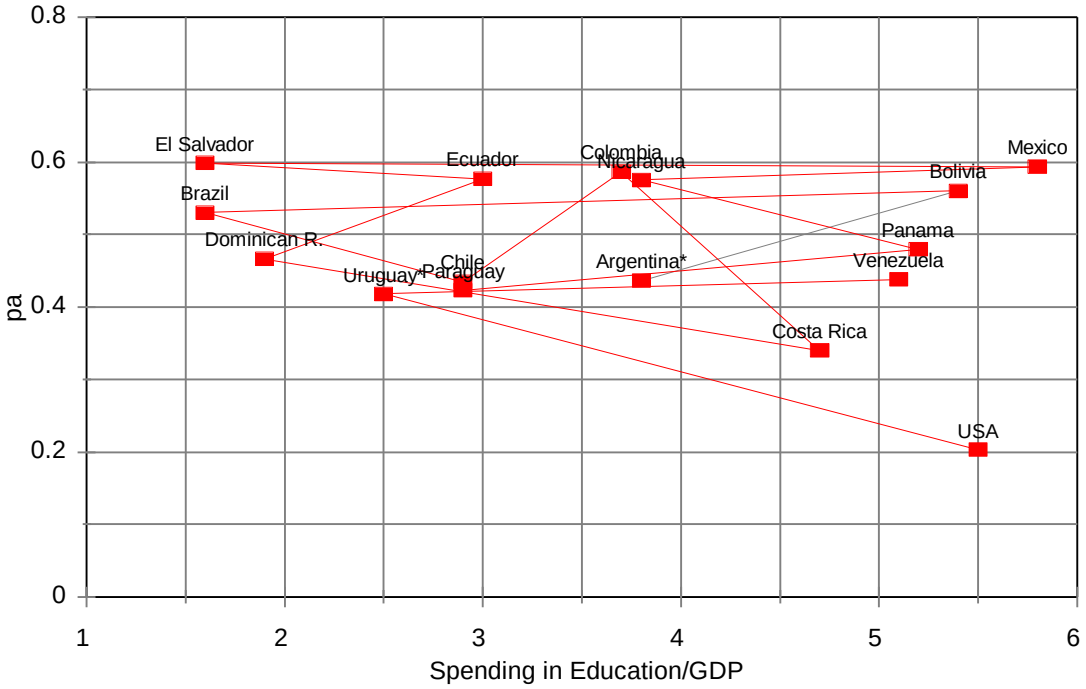


Figure 8

GDP per capita and Mobility

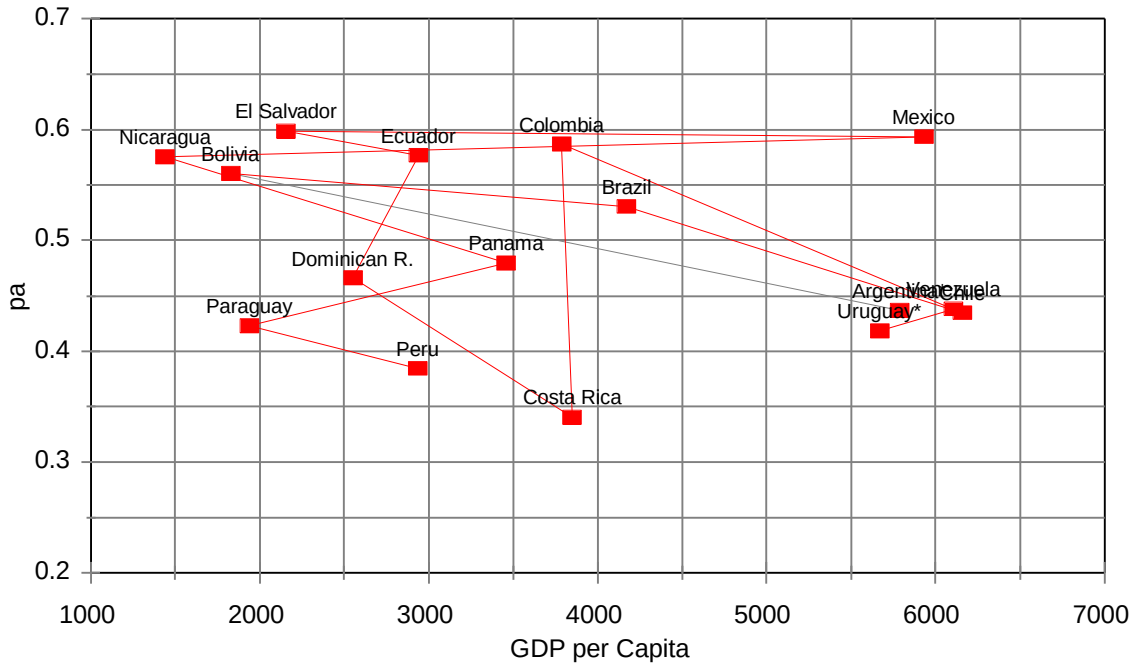


Figure 9 (a)
Mobility and Assortative Mating

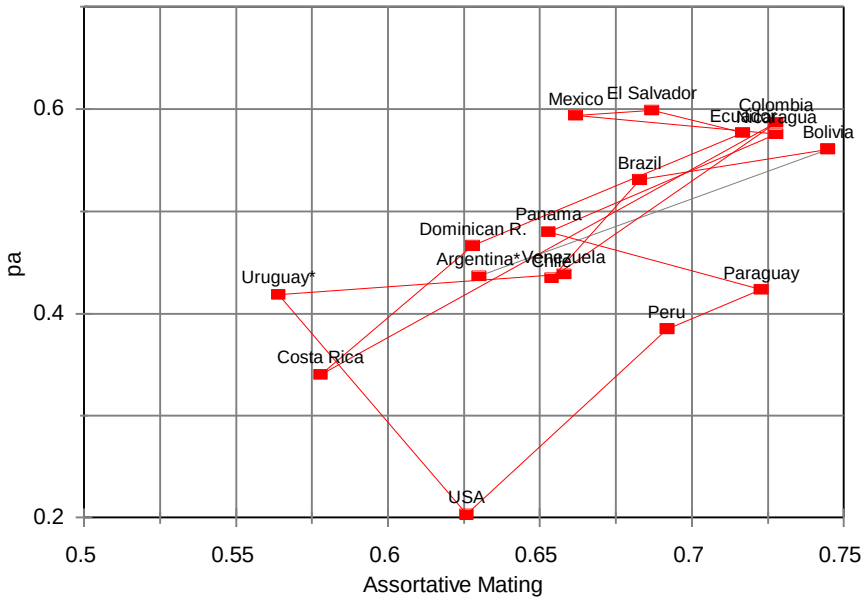
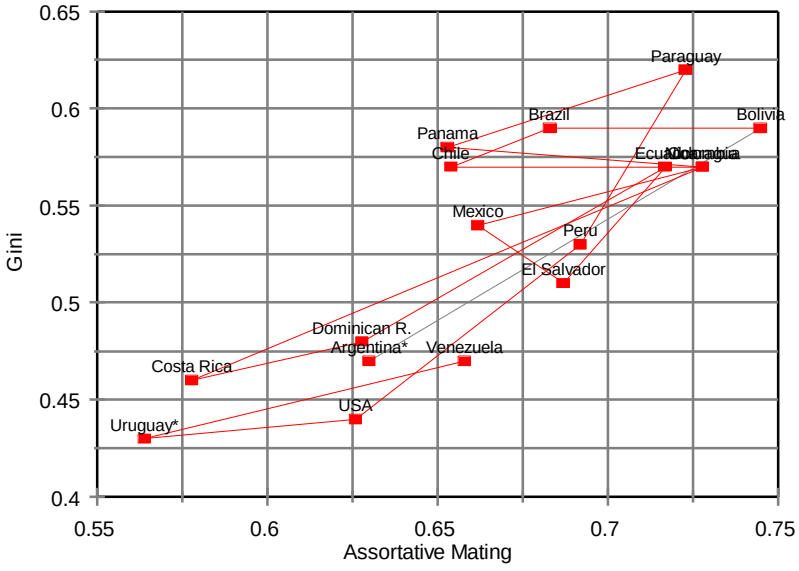


Figure 9 (b)
Inequality and Assortative Mating



Appendix

Table A1. Sibling Correlations of Schooling Outcomes: Latin America and the U.S.

Country	Year	r_a	Average kids per family	Number of families	Gap (years of schooling)	Average years of schooling	Inequality of schooling
Argentina *	1996	0.437	2.18	2,098	2.1	10.0	0.26
Bolivia	1997	0.561	2.14	647	3.1	8.6	0.35
Brazil	1996	0.531	2.20	5,906	5.3	6.4	0.49
Chile	1996	0.435	2.12	1,801	2.3	9.6	0.25
Colombia	1997	0.587	2.18	2,426	3.7	8.1	0.38
Costa Rica	1995	0.340	2.18	679	4.1	7.7	0.36
Dominican R.	1996	0.466	2.19	439	3.2	8.7	0.37
Ecuador	1995	0.577	2.19	506	3.4	8.4	0.35
Mexico	1996	0.594	2.21	1,352	3.5	8.4	0.38
Nicaragua	1993	0.576	2.23	442	6.3	5.5	0.66
Panama	1997	0.480	2.18	565	3.0	8.9	0.32
Peru	1997	0.385	2.17	377	2.6	9.3	0.271
Paraguay	1995	0.423	2.13	279	4.4	7.4	0.41
El Salvador	1995	0.599	2.17	791	4.9	6.9	0.55
Uruguay *	1995	0.418	2.15	863	2.3	9.7	0.25
Venezuela	1995	0.438	2.20	1,737	3.3	8.6	0.32
Average		0.490	2.18	1,307	3.6	8.3	0.37
USA	1996	0.203	2.10	1,214	0.8	11.0	0.17

Children between 16 and 20 years of age were used in the computations.