

Azevedo, Viviane; Bouillon, César P.

**Working Paper**

## Social mobility in Latin America: A review of existing evidence

Working Paper, No. 689

**Provided in Cooperation with:**

Inter-American Development Bank (IDB), Washington, DC

*Suggested Citation:* Azevedo, Viviane; Bouillon, César P. (2009) : Social mobility in Latin America: A review of existing evidence, Working Paper, No. 689, Inter-American Development Bank, Research Department, Washington, DC

This Version is available at:

<https://hdl.handle.net/10419/51506>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



*INTER-AMERICAN DEVELOPMENT BANK  
BANCO INTERAMERICANO DE DESARROLLO (BID)  
RESEARCH DEPARTMENT  
DEPARTAMENTO DE INVESTIGACIÓN  
WORKING PAPER #689  
RG-K1091*

## **SOCIAL MOBILITY IN LATIN AMERICA: A REVIEW OF EXISTING EVIDENCE**

BY

VIVIANE AZEVEDO  
CÉSAR P. BOUILLON

**INTER-AMERICAN DEVELOPMENT BANK**

AUGUST 2009

**Cataloging-in-Publication data provided by the  
Inter-American Development Bank  
Felipe Herrera Library**

Azevedo, Viviane.

Social mobility in Latin America: a review of existing evidence / by Viviane Azevedo, César Bouillon.

p. cm. (Research Department Working Papers ; 689)  
Includes bibliographical references.

1. Social mobility—Latin America. 2. Educational mobility—Latin America. 3. Marginality, Social—Latin America. I. Bouillon, César. II. Inter-American Development Bank. Research Dept. III. Title. IV. Series.

HN110.5 .A94 2009  
305.5 A994---dc22

©2009

Inter-American Development Bank  
1300 New York Avenue, N.W.  
Washington, DC 20577

The views and interpretations in this document are those of the authors and should not be attributed to the Inter-American Development Bank, or to any individual acting on its behalf.

This paper may be freely reproduced provided credit is given to the Research Department, Inter-American Development Bank.

The Research Department (RES) produces a quarterly newsletter, IDEA (Ideas for Development in the Americas), as well as working papers and books on diverse economic issues. To obtain a complete list of RES publications, and read or download them please visit our web site at: <http://www.iadb.org/res>.

## **Abstract**

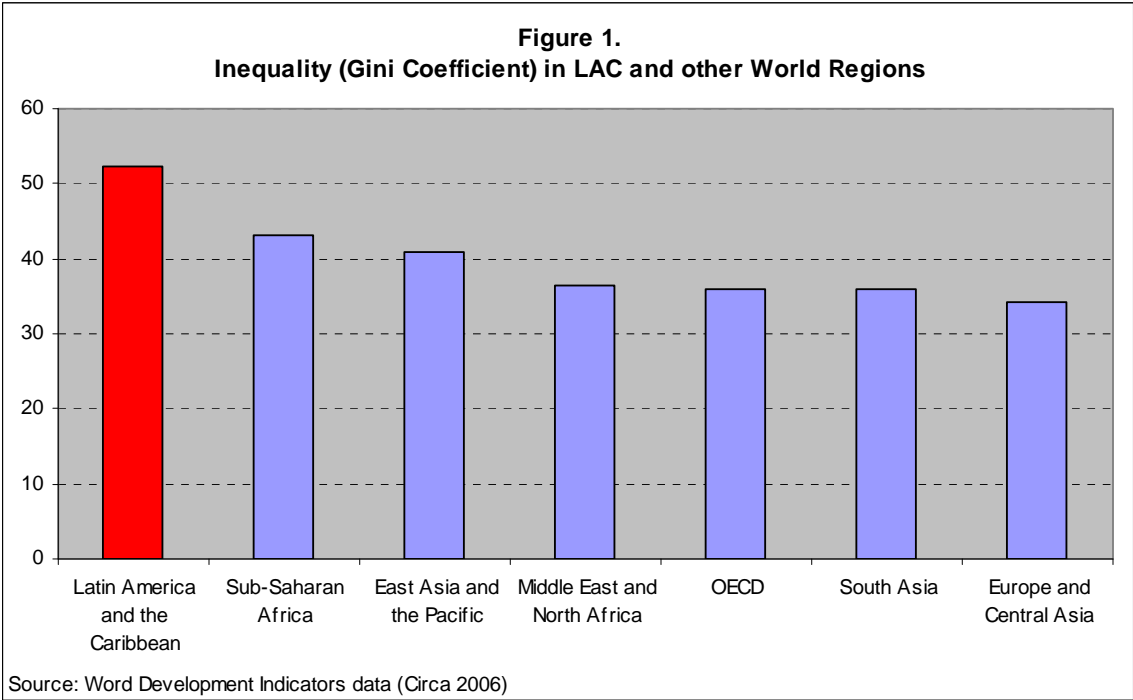
This paper reviews evidence on social mobility in Latin America. Several studies have used data sets that collect intergenerational socio economic information. The data, though limited, suggest that social mobility is low in the region, even when compared with low social mobility developed countries like the United States and United Kingdom, with high levels of immobility at the lower and upper tails of the income distribution. While Latin America has improved education mobility in recent decades, which may have translated into higher mobility for younger cohorts, the region still presents, except for Chile, lower education mobility than in developed countries. The paper also reviews studies on the main determinants of the region's low levels of social mobility, including social exclusion, low access to higher education, and labor market discrimination.

**JEL Classifications:** D30, D60, I30

**Key words:** Social mobility, Latin America, Inequality, Social Exclusion, Education.

# 1. Introduction: Perceptions of Mobility in Latin America and the Role of Social Exclusion

Latin America and the Caribbean continue to have relatively high income inequality compared to other regions (see Figure 1). Even though this per se is a grave concern for policymakers in the region, it is important to note that cross-sectional data show only “snapshots” of income distributions in a moment in time. But income distributions may change significantly over time due to the differential effects of economic growth, changes in human capital of different population groups, changes in returns to assets, including human capital, and changes in labor market opportunities, among other factors. These changes are important, as they may systematically benefit or harm certain groups of the population, thus preventing societies from ensuring equal opportunities for all. Two societies with similar snapshots of income distribution, for instance, can have different welfare levels depending on the degree of social mobility. The analysis of social mobility aims to track the evolution of income distributions over time, looking at the income dynamics of specific agents and their position across the income distribution over long periods of time, and even over generations.



Depending on the importance of inherited abilities, intergenerational social mobility is closely related to the degree of equality of opportunities in a country. What separates the “winners and losers” or the “haves and the have-nots” in a society has been pointed out not only to hinder economic growth but also to be a major force of political instability and violence. Many authors have argued that one of the positive outcomes of market reforms and market-based industrial and post-industrial economic structures is a constant expansion of social mobility opportunities for the population (Cortés and Escobar, 2005; Featherman, Jones and Hauser, 1975).

The concepts of social exclusion, income inequality, inequality of opportunities, poverty, social mobility and growth are intimately related. As noted by Ocampo (2004) “social exclusion manifests itself in Latin America and the Caribbean most clearly in persistent unequal income distribution, which gives rise to poverty that is worse than the region’s level of development would suggest.”

This paper summarizes key concepts related to *social mobility*, as well as its measurement and determinants, relating them to the concept of social exclusion and to changes in democratization and its effects on social spending, globalization and technological change and its effects on labor markets, with a focus on Latin America. The paper will try to address a series of key questions related to social mobility in the region under the constraints imposed by existing data and studies. These questions include: Can we measure social mobility in Latin America? Is social mobility in Latin America lower than in other regions in the world, and if so, why? What are the determinants of social mobility in Latin America? How has social mobility evolved in recent decades in Latin America? What have been the effects of the recent democratization, increases in social spending and expansion of access to education, changes in labor markets due to globalization and technological change, urbanization on social mobility?

From a perspective of guaranteeing equal economic opportunities for all, intergenerational social mobility should be the focus of social mobility analysis. Thus, while the paper centers on intergenerational social mobility, it also analyzes existing evidence on intragenerational social mobility, as recent developments in labor markets and social policies have been analyzed in the available literature through the lens of intragenerational mobility and the dynamics of labor income.

The next section of this paper is devoted to key concepts and definitions, and the third section seeks to measure both intergenerational and intragenerational social mobility in the region. Section 4 focuses presents some perceptions of mobility in the region and its relationship with inequality, while Section 5 reviews perceptions of social mobility in Latin America. Section 6 analyzes the determinants of social mobility in Latin America, and Section 7 concludes.

## **2. Social Mobility: Some Basic Concepts**

Social mobility is usually defined as the way individuals or groups move upwards or downwards from one status or class position to another within the social hierarchy.<sup>1</sup> More specifically, sociologists define social mobility as movement between different social classes or occupational groups and the related positive and negative returns. The latter are measured in terms of income, employment security, and opportunities for advancement, among other considerations.

While the sociological literature generally defines social mobility in terms of movements between social classes or occupational groups, the economics literature largely concentrates on earnings or income and income mobility. While income has advantages, since it represents a direct measure of resources—at least at a least at a specific point in time—social class may represent a better measure of life opportunities.

From an economics point of view the concept of social mobility lacks a precise definition and varies from study to study. The general idea it conveys is to break the dependence of individual outcomes on initial conditions. As pointed out by Fields (2005), the concept of social mobility is multifaceted and can produce different empirical answers to basic questions unless the mobility concept under examination is precisely defined.

Behrman (2000) states “social mobility is used by scientists to refer to movements by specific entities between periods in socioeconomic status indicators.” This definition seems to be representative of the economics literature on social mobility; however we need to analyze the different mobility concepts that are embedded in it. To shed light on such concepts, we will follow the work of Behrman (2000), Fields (2000 and 2005) and Galiani (2006). Moreover, in order to discuss social mobility it is necessary to have some measurement of social inequality, in order to assess whether there is change or movement in the so that we can argue that there is change or movements along the distribution of some social outcome. Even though the theoretical

---

<sup>1</sup> This definition is from an online dictionary. <http://www.allwords.com>

literature on social mobility usually focuses on broader measures of social mobility, more specific indicators such as income, educational attainment or profession are used to measure social mobility.

Timing is also an important dimension in measuring social mobility. In the intragenerational mobility context, the time frame in consideration is individuals' lives or adulthoods. For example, individuals' social status at a later date can be analyzed relative to their social status at an earlier date. In the intergenerational mobility context, the recipient unit is usually the family, and the analysis is based on more than one generation, focusing instead on dynasties by tracking social indicators of the parent and the child. The choices of social indicators to track depend on what aspect of mobility is of interest.

Some types of mobility are especially worrisome in the development literature. These include (i) lack of total mobility in very unequal societies; (ii) asymmetrical changes in shares of income among the poorest and richest tails of the income distribution, which is a concept strongly linked to the literature of pro-poor growth; and (iii) lack of mobility in the tails of the income distribution. These movements may be caused by exclusion of the poorest groups from basic assets and human capital accumulation or by exclusion of significant segments of the population from high-earning assets, including higher education.

### 3. Measuring Social Mobility

The most suitable data to empirically characterize social mobility is long spans of panel data on some socio economic variable related to status. But such type of data is usually available only for developed countries and in some cases for small local areas in developing countries (see, for example, Fuwa, 2006, for a study based on data on a village in the Philippines).

#### 3.1 Earnings Mobility Elasticities

A large number of empirical studies on social mobility are based on regression analyses of log earnings levels. Most estimates of intergenerational earnings mobility use a simple empirical model, regression to mean, which is described below:

$$\begin{aligned}
 \ln Y_{i,t} - \ln Y_t^{mean} &= \lambda + \beta ( \ln Y_{i,t-1} - \ln Y_{t-1}^{mean} ) + \varepsilon_{i,t} \\
 \ln Y_{i,t} &= ( \ln Y_t^{mean} + \lambda - \beta \ln Y_{t-1}^{mean} ) + \beta \ln Y_{i,t-1} + \varepsilon_{i,t} \\
 \ln Y_{i,t} &= \alpha + \beta \ln Y_{i,t-1} + \varepsilon_{i,t}
 \end{aligned}
 \tag{1}$$



where  $Y$  represents permanent income,  $t$  is an index of generations and  $Y^{mean}$  is the average permanent income of the individual's generation. The parameter  $\beta$  measures intergenerational income elasticity, i.e., the intergenerational income correlation. The parameter  $\alpha$  in equation (1) is a fraction  $(1-\beta)$  of the log of average income of generation  $t-1$  plus log average income growth.  $\varepsilon$  reflects external characteristics that are not directly linked to parental income.  $(1-\beta)$  is a measure of the degree of intergenerational mobility.

In this model  $\beta$  reflects the fraction of economic advantage that is on average transmitted across generations. The coefficient usually falls between 0 and 1. A positive  $\beta$  implies an intergenerational persistence of income advantages in which higher than average parental income is associated with higher than average children's income. For example, if  $\beta$  is 0.35 and father's earnings exceeds the mean sample income of his cohort by 30 percent, the model predicts that his son's income will exceed the mean of the son's cohort by 10.5 percent (i.e.,  $0.35 \times 30$  percent). In this specification more mobile societies would "have" values of  $\beta$  closer to 0. This simple model captures most intergenerational mobility estimates by looking at the fraction of permanent income differences between parents that on average is observed among their children in adulthood. Most elasticities found in the empirical literature for developing countries are based on ordinary least squares estimation.

### **3.2 Caveats**

There are some caveats that are worth pointing out when estimating equation (1) to measure social mobility. First, the estimation of the degree of intergenerational mobility using earnings or wages is subject to bias due to measurement errors. This occurs not only because of misreporting, but also because of life cycle fluctuations in earnings. As pointed out by Grawe (2003) there is evidence that increases in the variance of earnings along the life cycle lead to smaller estimates of earnings persistence when the fathers are observed later in life. On the other hand, in the son's sample, if we consider their income at the beginning of their career we know that some of the young professionals are going to have much more rapid income growth than others. This measurement error is mean-reverting and leads to an underestimation of the slope coefficient (as it compresses the variation of the dependent variable).

For this reason, it is recommended that an average of father's income and the last available observation(s) of the son's income be used. The most common approach to correct for life-cycle bias when these data are not available is to estimate a least-squares regression of son's earnings on father's earnings controlling for ages on both generations. We can also construct a measure of permanent earnings for both fathers and sons (Ferreira and Veloso, 2006). Differences in the variance of income across generations can also bias the estimation of intergenerational elasticity. To control for this,  $\beta$  can be corrected by the ratio of standard deviation of income across generations, to estimate the intergenerational partial correlation  $r$ :

$$r = \beta \frac{SD(LnY_{i,t-1})}{SD(LnY_{i,t})}$$

Early studies for the US indicated rapid mean regression in income.<sup>2</sup> However, recent studies show that such values were downward biased due to measurement errors. Solon (1992) and Zimmerman (1992) use data from the Panel Study of Income Dynamics (PSID) and the National Longitudinal Survey (NLS) and argue that the corrections for measurement error would increase the estimated degree of income persistence by between 33 to 66 percent.

Another data problem that typically arises in this context is that the data set that contains information on the son's income does not contain information on the father's income; this problem is very common in data sets from developing countries. If there are other measures of social status, such as years of education, occupation or social class, a two-stage estimation is recommended.<sup>3</sup> The first step consists of estimating the coefficients of empirical earnings determinants for the fathers using another data set that is compatible with the father's generation. Then one can estimate the son's earnings based on the predicted income of the fathers. Note that the father's social status is correlated with his earnings and is also a good predictor of the son's income.

Under the two-sample instrumental variables estimation or two sample least squares methodology (see Arellano and Meghir, 1992, and Angrist and Krueger, 1992) equation (1) would be estimated as:

$$LnY_{i,t} = \alpha + \beta(Z_{i,t-1} \hat{\omega}) + v_{i,t} \quad (2)$$

---

<sup>2</sup> Earlier studies for the United States found a  $\beta$  around 0.2. See for example Sewell and Hauser (1975), Bieblly and Hauser (1977) and Behrman and Taubman (1985)

<sup>3</sup> Dunn (2004) refers to this technique as two-sample two-stage least squares.

Since  $\ln Y_{i,t-1}$  in equation (1) is not observed in data set  $I$  ( $i \in I$ ), in this regression  $\hat{\omega}$  is obtained from the following regression:

$$\ln Y_{j,t-1} = Z_{j,t-1}\omega + \xi_{j,t-1} \quad (3)$$

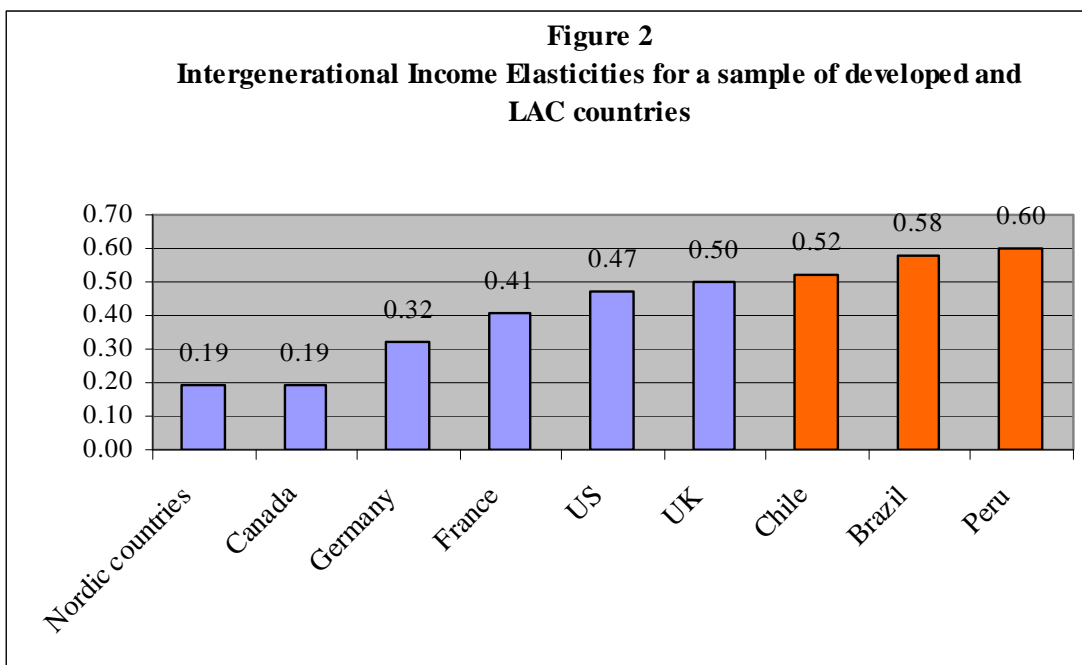
The error term in (2) includes determinants of sons' income not correlated with fathers' income, biases in the estimation of  $\omega$  and unobservables from (3):

$$v_{i,t} = \varepsilon_{i,t} + \beta(Z_{i,t-1}(\omega - \hat{\omega})) + \beta\xi_{i,t-1}$$

The problem arises when in the second stage the father's social status indicator is used to predict the father's earnings but is not added as an explanatory variable. This generates the omitted variable bias that tends to overestimate intergenerational income elasticity, underscoring the difficulty of comparing estimates of intergenerational mobility of earnings across countries.

#### **4. Social Mobility Estimates in Latin America**

Several studies for the region address the lack of long-run panel data by combining datasets that capture information on children's income and parents' education and occupational variables with earlier labor market surveys to estimate parents' wage regressions. In this two-stage approach the fathers' social status is correlated with his earnings and is also a good predictor of the son's income. Estimates for Chile, Brazil, and Peru using this two-stage approach suggest that social mobility in Latin America is lower than in developed countries, including those with the lowest levels of mobility (the United States and the United Kingdom). These estimates, as well as estimates for selected developed countries are presented in Figure 2.



*Source:* For developed countries, Corak (2006); for Brazil, Ferreira and Veloso (2004); for Chile, Núñez and Miranda (2006); for Peru, Grawe (2001).

The figure presents some estimates of the intergenerational elasticity of earnings or wages that were presented in the literature. The developed country estimates are drawn from Corak (2006) and are selected by the author as best comparators or adjusted to be comparable by a meta-analysis procedure to the U.S. estimate of 0.47 by Grawe (2004). The average U.S. estimate is around 0.40, while evidence for European countries and Canada shows that these countries have higher mobility (lower persistence estimates). For example, estimates for Finland and Canada are 0.13 and 0.23, respectively.

For Latin America, the intergenerational elasticities reported in Figure 2 are not based on father-child pairs, but rather combine information from two data sets to generate father-child income pairs and estimate the intergenerational income elasticity using the two-sample instrumental variables estimation or two-sample least squares methodology described above.

In a recent study for Chile, Núñez and Miranda (2006) use two-sample instrumental variables estimation to calculate intergenerational income elasticity, finding estimates of 0.52-0.58 for Greater Santiago and 0.52-0.67 for Chile as a whole. Their IV estimate for all sons 23-

65 in Greater Santiago including potential experience, occupation and schooling to predict father's income is the one included in Figure 2.

Ferreira and Veloso (2004) estimate the degree of intergenerational mobility of wages for Brazil. They estimate equation (1) by a two-sample instrumental variable method and find that the  $\beta$  coefficient for Brazil ranges from 0.58 to 0.66 depending on the controls. In another study for Brazil, Dunn (2004) calculates the intergenerational persistence of earnings and finds a similar value of 0.69.<sup>4</sup>

The estimates for Latin American and Caribbean countries presented in Figure 2 present two sources of bias when compared with the U.S. estimates in Grawe (2004). First, estimates in studies with data only from urban areas or capital cities are likely biased downward, as they exclude less mobile rural and isolated areas that typically show lower long-term incomes than urban areas. Second, an upward bias may arise from the fact that son's cohorts cover longer spans than in developed countries. The evidence from Chile shows that, either due to increased mobility or to life-cycle effects on earnings, mobility seems to be higher for younger cohorts (see Table 1).

**Table 1.**  
**Chile Estimates for Intergenerational Mobility Elasticities**  
**for Different Son Cohorts in Chile**

Son Cohort	Parent-son labor income elasticity
23-34	0.46
35-44	0.52
45-54	0.65
55-65	0.58
Full Sample	0.54

*Source:* Núñez and Miranda 2006.

#### ***4.1. Nonlinear Earnings Mobility Estimates***

Intergenerational earnings elasticities assume that the income advantage that parents transmit to their offspring is linear across the distribution of parents' income. This assumption, however, can be restrictive. High levels of social immobility at the lower tails of the parents' children's income

---

<sup>4</sup> Dunn (2004) uses father's education as an instrument. As pointed out before, this procedure causes an upward bias in the estimates

distributions (i.e., high intergenerational transmission of the income disadvantage of the poorest parents) can be associated with exclusion from basic services and markets (due to geographical isolation or segregation) or with labor market discrimination. Likewise, low mobility at the upper tail may reflect exclusion of the majority of the population from high income earning opportunities (higher education). Credit constraints tend to decrease mobility, since investment in children usually depends on family resources. This may explain why persistence is higher at the upper end of the conditional wage distribution.

In order to capture nonlinear patterns of intergenerational mobility, researchers use regressions techniques that include a quadratic or cubic term as well as transitional matrices such as rank mobility, which estimates the probability that the offspring will belong to a particular category given the father's category.

It is common practice to estimate nonlinear regressions of son's earnings on father's earnings. For example, Behrman and Taubman (1990), Solon (1992) and Grawe (2001) include a quadratic term in their mobility regressions, and they implicitly assume that the regression would be linear in the absence of borrowing constraints. As pointed out by Grawe (2001), nonlinearities may occur even in the absence of borrowing constraints depending, for example, on how ability affects wages.

#### *4.1.1 Transition Matrices: Rank Mobility*

The degree of rank mobility analyzed through transition matrices is recognized in the literature as the first methodological way of estimating mobility, even before mean regression. When data are represented in a transition matrix, much information is compressed into brackets—the principal shortcoming of this approach, since much information is thereby lost. For example, consider a transition matrix that analyzes income levels. Income is a cardinal measure, but in order to be displayed as a transition matrix it becomes an ordinal measure (income ranks), reducing the information into income groups while the data have many income levels.

The reading of a transition matrix, however, is straightforward, as the matrix shows the extent to which the distribution of children's status depends on their parents' status. Table 2 below shows transition matrices for several developed countries, Brazil and Chile.

**Table 2. Comparative Evidence on Income Persistence  
in Bottom and Top Quintiles and Quartiles  
(transition matrices between father and son position in income distribution)**

<b>Country</b>	<b>Study</b>	<b>Bottom Quartile</b>	<b>Bottom Quintile</b>	<b>Top Quartile</b>	<b>Top Quintile</b>
<i>Developed Countries</i>					
Canada	Fortin and Lefebvre (1998)	n.d.	n.d.	0.32-0.33	n.d.
Sweden	Osterberg (2000)	n.d.	n.d.	0.25	n.d.
UK	Blanden, Gregg and Machin (2005)	0.37	n.d.	0.40	n.d.
US	Peters (1992)	n.d.	n.d.	0.36-0.40	n.d.
	Grawe (2001)	0.40	n.d.	0.41	n.d.
<i>Latin America</i>					
Brazil	Ferreira and Veloso (2004)	n.d.	0.35	n.d.	0.43
Chile	Núñez and Miranda (2006)	0.39*-0.50	0.30*-0.37	0.54-0.55*	0.47-0.57*

n.d. = no data.

\* Estimate comes from predicted income distribution.

Transition matrices for Brazil suggest a strong intergenerational persistence of wages at both ends of the son's conditional wage distribution. This implies that wage mobility is low at both tails of the distribution. In the case of Brazil, the probability that the sons of the fathers in the lowest quintiles will remain there is 35 percent while the probability that the sons of the fathers in the richest quintile will remain in the richest quintile is 43 percent (Ferreira and Veloso, 2004). The lack of mobility at the tails of the income distribution may reflect two sources of exclusion: the lack of opportunity for the children of the poor to acquire better skills and improve their employment prospects and the reproduction of socioeconomic privileges among the children on the "well-off."

Additionally, the evidence shows that there is more upward mobility from the bottom of the earnings distribution than downward mobility from the top. This means that there are more chances for the poor to become rich than for the rich to become poor. In the case of Brazil, the estimates of Ferreira and Veloso (2004) show that the probability that an individual will move from the lowest wage category to the highest is 65 percent while the probability of falling from the highest to the lowest wage category is around 57 percent. The same pattern also holds for the United States (Zimmerman, 1992) and the United Kingdom (Dearden, Machin and Reed, 1997)

Transition matrices also provide evidence on different sources of immobility along the income distribution by population groups. Evidence from Brazil (Table 3) shows that, while

lower-tail immobility is particularly high among excluded groups such as Afro-descendants, upper tail immobility is more prevalent across non-excluded groups such as whites.

**Table 3. Income Persistence in Bottom and Top Quintiles by Race for Brazil**

<b>Population Group</b>	<b>Bottom Quintile</b>	<b>Top Quintile</b>
All	35	43
Blacks	47	23
Whites	25	50

*Source:* Ferreira and Veloso (2004).

Upper-tail immobility is usually linked to low access to high education opportunities, or to segmentation in labor markets. Institutions such as credit markets, government loan guarantee programs, and public schooling are important in determining the degree of income mobility. Ferreira and Veloso (2004) present nonlinear estimates on the persistence of wages. The degree of persistence is 0.62 for the sons of fathers with below-median wages, but much lower, 0.53, for fathers with above-median wages. This difference is consistent with the borrowing constraints theory, since rich families are less likely to be constrained.<sup>5</sup> Andrade et al. (2003), also considering Brazil, test whether the presence of borrowing constraints affects the degree of intergenerational persistence, and the evidence suggests that borrowing constraints may be an important determinant of intergenerational mobility in Brazil.

#### 4.1.2 Rank Regressions

An alternative methodology for analyzing rank mobility is the rank regression. A rank regression analyzes the relationship between earnings ranks instead of earnings levels. The equation below represents the rank alternative to equation (1).

$$r_{i,t} = \alpha + \beta r_{i,t-1} + \varepsilon_{i,t} \quad (4)$$

where  $r_{i,t}$  is the son's rank in the earnings distribution and is a function of the father's rank in his earnings regression  $r_{i,t-1}$ .  $\beta$  is the rank degree of persistence, and it is equal to the rank

<sup>5</sup> Grawe (2001) points out that additional tests are needed to confirm the hypothesis that the degree of persistence declines with father's wages are due to credit constraints. For the Brazilian case see Andrade et al. (2003).



correlation coefficient, by definition it must lie between 0 and 1 if we assume a positive correlation.

It is important to point out that the rank regression equation and the level-regression equation are two different measures and that one does not necessarily imply the other. For example, if  $\beta < 1$  in the level regression, then the income expectations of future generations will be mean reverting as the time horizon increases, but there are no implications for the rank mobility, meaning that across generations the incomes will get closer to the mean and the variance of the income distribution will diminish. However, the poor sons in future generations may descend from today's poor generation since the  $\beta < 1$  from the level regression does not imply much about the ordering of the families. As Grawe (2001) notes, the persistence of income rank  $\beta^r$  is not dependent on the degree of income persistence or the dynamic trajectory of the variance of earnings and only reflects changes in the ordering of families and individuals across generations.

#### *4.1.3 Quantile Regression (QR)*

The quantile regression method was introduced by Koenker and Basset (1978). This methodology's main feature is that it allows the characterization of the impacts of the regressors across the entire conditional distribution of the dependent variable for a given set of regressors. In addition, QR methodology is robust to outliers, i.e. the estimated coefficient vector is not sensitive to outlier observations on the dependent variable.<sup>6</sup> The quantile regression technique enables us to consider income persistence beyond the average level; for example this tool enables us to measure the outcomes of very talented children.

The interpretation of the quantile regression estimates is similar to mean regression. It is also possible to develop the level and rank measures using quantile regression. Quantile regressions are dependent on both the slope (the rate of income persistence) of the conditional expectation function and the conditional variance around the regression line.

#### *4.1.4 Other Estimations*

When considering other mobility estimations it is important to stress the difference between traditional income distribution dynamic analysis and social mobility analysis. Income

---

<sup>6</sup> See Koenker and Hallock (2002) for an accessible presentation of the method.

distribution dynamics analysis looks at the changes and the determinants of changes in income distributions over time. Social mobility analysis also looks at these movements but stresses the need to track the dynamics of income of each person (or group of persons sharing certain characteristics). When certain groups of the population are large enough (such as indigenous peoples, rural populations, among others) mobility analysis can be performed using the tools of income distribution dynamics, tracking down income shares and position of these groups through representative comparable cross-sectional data.

A recent application of microsimulation techniques by Bourguignon, Ferreira and Meléndez (2003) analyzes access to opportunities in Brazil by measuring the proportion of income inequality that is explained by differences in socioeconomic circumstances such as parental schooling, parents' occupation and race. They found that 20 percent of inequality in Brazil (as measured by the Gini coefficient) is due to inequality of initial circumstances. Núñez and Tartakowsky (2006) find similar magnitudes for Chile.

Benavides (2003) analyzes current trends of equality of opportunities in urban Peru. Specifically, the study focuses on the labor markets opportunities of sons compared to those of fathers and concludes that, even though the country has experienced significant changes in migration, expansion of formal education and labor markets, the expected increase in equality of opportunities has largely been neutralized by the lack of change in economic and cultural relations. While there appears to be a considerable amount of dynamism among the medium-low and lower social classes; however, there are not significant movements among the high and very low social classes.

#### ***4.2 Intragenerational Mobility***

Intragenerational mobility usually focus on earnings mobility, which is closely linked with the economic cycle, especially when short periods of time are considered. The macroeconomic framework is thus crucial in determining earnings mobility, even after controlling for individual characteristics. Any analysis must further take into account that high levels of intragenerational mobility are not necessarily desirable, as they imply high risk and variability in labor earnings. According to the permanent income hypothesis, individuals aim to keep their consumption as smooth as possible. With incomplete insurance markets individuals will then prefer to avoid too much variance in their current income.

Likewise, very low levels of intragenerational mobility may be related to poverty traps and are undesirable as well. Low-educated individuals usually lack a minimum level of human and physical capital and are more likely to remain trapped in their current social level. The skill-biased technological change proposition argues that in the globalized and technology-dependent world there is an increase in demand for high-skilled workers,<sup>7</sup> exacerbating the economic disadvantage of low-educated workers.

As described in Section 2, intragenerational mobility considers individuals' social status within their economic lives or adulthoods. Generally, an individual's social status at any given point in time is analyzed relative to his/her social status at an earlier period. The time periods chosen for these studies are usually measured in years but can also be months or five-year periods, depending on the issue at hand.

Data availability constraints are less restrictive when measuring intragenerational mobility, at least for the developed world. For Latin America, available panel data usually do not follow the same individuals for long time spans, so the intragenerational mobility literature restricts the analysis to short periods of individuals' adult lives.

Research on intragenerational mobility in the region finds no large-scale trend. Considering Argentina and Mexico from 1988 to 1996, Wodon (2001) finds no evidence of increased mobility overall in either country over time, although mobility in Mexico has increased among the young and the less educated. In a recent work on Argentina, Mexico, and Venezuela, Fields et al. (2006) compare income mobility patterns during positive and negative growth spells and find no evidence to support the hypothesis that the groups that experience large earnings gains when the economy is growing are the same ones that experience losses during recessionary periods. Additionally, they attempt to determine whether individuals who start from a privileged position are those who experience the greatest gains in good times and the greatest losses in bad times. This appears to be the case in Mexico, but not in Argentina and Venezuela.

---

<sup>7</sup> There is no clear evidence that technological change is the cause of the recent increase in returns to education for Latin America.

## 5. Current Perceptions of Social Mobility in Latin America

Given that people respond to incentives, perceptions of social mobility and meritocracy are fundamental for the long-run prospects of economies and societies. Rational individuals will have little incentive to work hard and invest in human and physical capital if they do not believe that they have good chances of advancing in society. Moreover, individuals who feel trapped in a situation with no prospect for improvement have fewer disincentives to engage in dysfunctional and antisocial behavior such as substance abuse and crime, since they have little or nothing to lose. At the same time, without investment in human capital and hard work, there are no chances for these individuals to move upward, which means that the poor will remain poor.

**Figure 3**  
**Social Mobility and Inequality in Latin America**

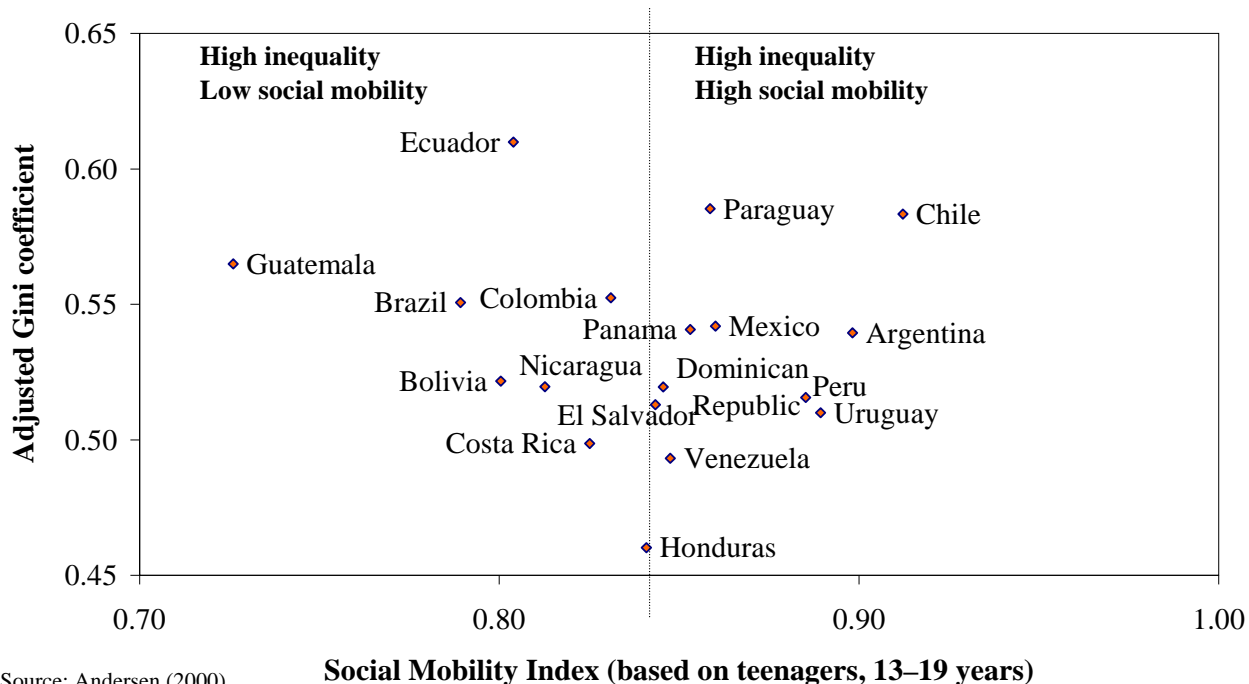


Figure 3 shows the relationship between social mobility and income inequality (measured with a Gini coefficient adjusted to be comparable among countries). As argued by Andersen (2000), there is no clear relationship between social mobility and inequality. However,

Guatemala, Ecuador, and Brazil are among the most “unfair” countries, displaying high inequality and low mobility.

Under these circumstances, it is hardly surprising that Latin Americans are generally pessimistic about their prospects for mobility and generally do not believe that their societies are meritocratic. An analysis of the Latinobarometer opinion survey by Gaviria (2006) presents some of the more telling statistics from this annual poll of 17 countries in the region. As shown in Table 4, 74.1 percent of individuals surveyed in 2000 indicated that opportunities to overcome poverty are unequal, and 63.6 percent thought that poverty is not a consequence of lack of hard work. Conversely, 71.5 percent of the survey sample attributed success to personal connections.

**Table 4**  
**Perceptions of Social Mobility in Latin America and the Caribbean**  
(percent)

	2000	1998	1996
<b>Opportunities to overcome poverty</b>			
Same opportunities for all	25.9	?	?
Unequal opportunities	74.1	?	?
<b>Causes of poverty</b>			
Lack of hard work	36.5	?	?
Other	63.6	?	?
<b>Success depends on personal connections</b>			
Yes	71.5	71.3	76.4
No	28.5	28.7	23.6
<b>Hard work leads to success</b>			
Yes	46.2	45.1	44.4
No	53.8	54.9	55.6

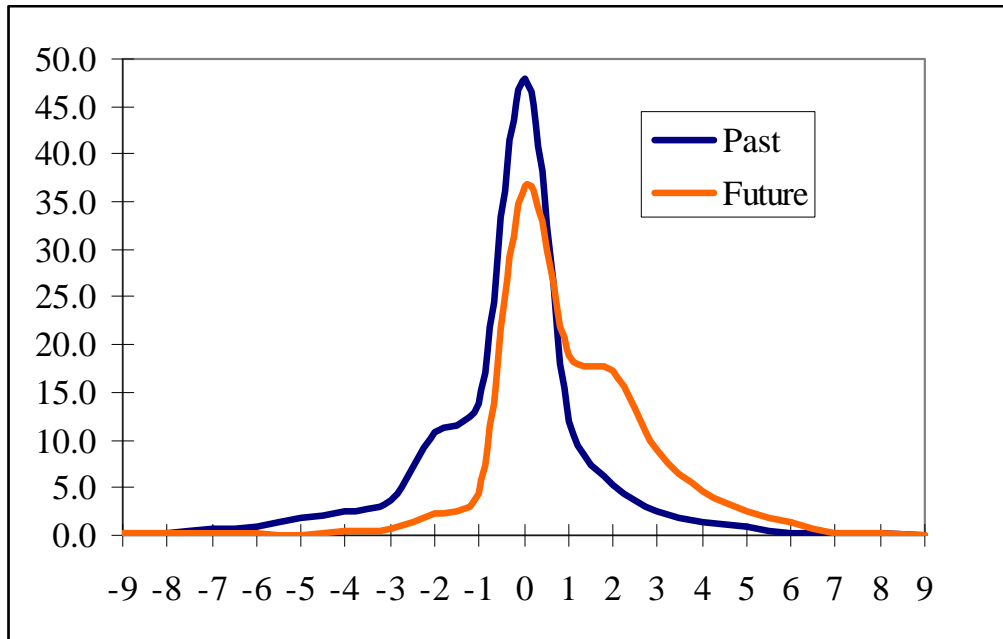
*Source* : Latinobarometer data, processed by Gaviria (2006).

*Note* : Table presents percentages for each response among Latinobarometer respondents in the year specified.

Figure 4 presents perceptions of past and future mobility. According to the figure, Latin Americans believe that the past generation (i.e., their parents) was somewhat better off than the current generation. For perceptions of “past” mobility, the line in the figure represents the difference between how one perceives oneself compared to one’s parents. On the other hand, for “future” mobility, the line shows the difference between the social status of the next generation

(one's child) compared to one's own social status. As the figure indicates, there are expectations among Latin Americans of upward social mobility for the future generation.

**Figure 4. Perceptions of Past and Future Mobility Expressed by Latinobarometer Respondents**



Source: Gaviria (2006).

Note: Subjective social mobility is the difference, on a scale of 1 to 10, between the current generation's economic status and the previous generation's economic status.

## 6. Determinants of Social Mobility in Latin America

The level of intergenerational social mobility in a society is determined by a wide range of factors. Known influences include the following:

- *Variance of effort.* Some individuals work harder, for longer hours, or more effectively than others. Effort can be affected by many other factors, however, and measurements and perceptions of effort can be affected by observers' biases.
- *Degree of inherited ability.* Separating inherited ability from other factors poses an ongoing challenge, and both social science and biology continue to address the roles of "nature" and "nurture." Nonetheless, the role of inherited

abilities cannot be disregarded in areas of endeavor such as music and sports, and real if less obvious inherited abilities may be expected to influence other activities as well.

- *Importance of family background.* The term “family background” encompasses a wide variety of factors such as parental education, parental income, and cultural background, factors that can be reinforced across generations by assortative matching (i.e., marriage and parenthood among individuals of the same social class and/or income level). These factors can influence cognitive and noncognitive abilities, human capital accumulation, and employment opportunities. The means for transferring advantages and disadvantages across generations encompass such disparate factors as prenatal and infant nutrition, home environment and education, and access or lack of access to social networks.
- *Market failures (especially in financial markets) and credit constraints.* Families whose members cannot borrow to finance education, business start-ups and expansions, or housing remain “stuck” from one generation to the next in a suboptimal equilibrium of low earnings and investment.
- *Exclusion from the supply of basic services and access to markets.* Families subject to geographical isolation or various forms of discrimination are likely to have access to a low quantity and quality of services, including education and basic infrastructure, and enjoy only limited access to labor and other markets.
- *Segmentation in job creation in each occupational stratum.* Labor market segmentation can reduce mobility, as individuals belonging to excluded groups have less access to clusters of jobs characterized by higher job quality, earnings, benefits, and union coverage and also are subject to less involuntary part-time employment.
- *Lack of safety nets and compensatory programs.* Families who lack the protections of unemployment insurance and social security mechanisms must restrict their consumption and investment in response to shocks, including unemployment, illness, and natural disasters. The resulting missed

opportunities for education, savings, and investment have ripple effects that can extend for generations.

### **6.1 Evidence on the Determinants of Earnings Mobility**

Several studies have rigorously examined determinants of and changes in intergenerational earnings mobility in develop countries, especially the United States and the United Kingdom, which have lower levels of mobility than other developed countries. In the case of the United Kingdom there is a documented decrease in social mobility for cohorts born in 1970 compared to those born in 1958 (Blanden, Gregg and Machin, 2005; Blanden, Gregg and Macmillan, 2007).

The studies for the United Kingdom and other developed countries decompose the relationship estimated with equation (1) to take into consideration the effects of parental income on the different determinants of children income, such as education and non-cognitive abilities. These decompositions run an earnings regression for children income on children education and non-cognitive abilities:

$$LnY_{i,t} = \phi + \delta Noncog_{i,t} + \pi Edu_{i,t} + \mu_{i,t} \quad (5)$$

They also run regressions of the explanatory variables on parental income:

$$Noncog_{i,t} = \phi^{noncog} + \rho LnY_{i,t-1} + \mu_{i,t}^{noncog}$$

$$Edu_{i,t} = \phi^{edu} + \gamma LnY_{i,t-1} + \mu_{i,t}^{edu}$$

In this model it is possible to decompose the intergenerational elasticity found in equation (1) into:

$$\beta = \delta\rho + \pi\gamma + \frac{Cov(u_{i,t}, LnY_{i,t-1})}{Var(LnY_{i,t-1})}$$

This model shows how to identify and measure the importance of different determinants of the intergenerational income elasticity. The evidence for UK using this specification finds that the reduction in mobility experienced in recent years has been caused by an increasing relationship between family income and educational attainment (Blanden, Gregg and Machin, 2005; Blanden, Gregg and Macmillan, 2007). Even though the schooling gap between children



of rich and poor families have been decreasing for secondary schooling and below, it has been widening for higher education.

Trying to rigorously estimate the influence of each one of these factors in Latin America with these methods is almost impossible due to lack of data. In this section we focus on a series of factors that are especially relevant for the region. These include the role of education and the effects of the expansion of education coverage and education opportunities, urbanization and certain patterns of regional development, the effects of recent labor market developments (macroeconomic stabilization, globalization and technical change), and social ills and the effects of non-cognitive factors. Before analyzing these factors we briefly summarize the recent literature on inequality of opportunity, which is closely linked with both intergenerational and intragenerational mobility.

## ***6.2 Inequality of Opportunity***

Higher intergenerational mobility is expected to decrease the influence of socioeconomic background on adulthood economic achievement. As Friedman (1962) points out, income inequality is much more of a concern in a rigid system in which families stay in the same position each period than societies that have the same degree of inequality but also have greater mobility, equality of opportunity and dynamic change. Ferreira and Gignoux (2008) propose a framework and estimate inequality of opportunities for six Latin America countries using three indicators. The authors estimate “opportunity profiles” which rank social groups and contain information on how circumstances play a role in determining poverty outcomes.

Table 5 presents a set of Ferreira and Gignoux inequality of opportunity estimates. Their estimation isolates the percentage of inequality in an outcome variable (labor income, household per capita income) due to six “circumstance” variables (gender, race or ethnicity, place of birth, mother’s education, father’s education and father’s occupation). These estimates are directly related to intergenerational social mobility as they link parental with child outcomes. In this estimates, as with those of social mobility, Brazil stands out as a country with high levels of inequality of opportunity and low social mobility.

**Table 5. Ferreira and Gignoux Inequality of Opportunity Estimates  
(Labor income, per capita household income, non-parametric estimates)**

	<b>Total inequality (mean log deviation)</b>	<b>Percentage of inequality explained by unequal opportunity</b>	<b>Inequality due to unequal opportunity</b>
<i>Individual labor income</i>			
Guatemala	0.786	0.293	0.230
Brazil	0.616	0.349	0.215
Ecuador	0.638	0.256	0.163
Peru	0.675	0.212	0.143
Panama	0.572	0.245	0.140
Colombia	0.608	0.203	0.123
<i>Household per capita income</i>			
Guatemala	0.619	0.373	0.231
Brazil	0.695	0.329	0.229
Panama	0.630	0.346	0.218
Peru	0.557	0.292	0.163
Colombia	0.559	0.250	0.140
Ecuador	0.417	0.290	0.121

*Source:* Authors' calculations based on Ferreira and Gignoux (2008).

Paes de Barros et al. (2008) also compute indices of children's inequality of opportunities for a group of Latin America countries. Those indices consider the distribution of access to a set of basic services, including electricity, water and sanitation and electricity.

### **6.3 Education**

Many Latin American countries have expanded educational coverage and access to formal education for all social levels. Nonetheless, quality matters as well, and the low quality of public education, together with the opportunity cost of going to school, results in high failure and dropout rates in (lower) secondary education. Peru, for example, has undergone a massive expansion of its educational system. Benavides (2004) argues, however, that the country is experiencing only a weak version of meritocracy, with little benefit for social mobility; education, though directly linked with job placement, is not completely independent from social origins. Furthermore, as noted by Escobal, Saavedra, and Torero (1998), there are significant differences in access to education among social classes in Peru, especially in rural areas.

Although data remain scarce for Latin America, some researchers have attempted to study social mobility by using educational indicators. If family background is important in determining educational outcomes, one can argue that low social mobility results from the role of family background in providing opportunities for obtaining higher education. Even though educational mobility is only one of the channels through which earnings mobility is transmitted across generations, it is one of the main determinants of social mobility in meritocratic societies.

Not surprisingly, evidence from the region shows that children from high-income and more-educated parents are more likely to do better in life. Among the most widely used indicators of intergenerational educational mobility are parent-child schooling elasticity estimates (the correlation coefficient between children and parent educational attainment). All available coefficients for Latin America countries, with the exception of Chile, are higher than those for developed countries, including those for the United States (see Table 6). Evidence from Chile also finds that the schooling elasticity by cohort has been decreasing, which implies greater mobility for younger cohorts (Table 7).

Furthermore, evidence from Latin America shows that children of high income and more educated parents are more likely to do better in life. Behrman, Birdsall and Székely (1998) use regressions that consider schooling gap as the dependent variable and family background variables as explanatory variables. Analyzing 28 countries from 1980 to 1996 and conclude that Chile, Argentina and Uruguay are the most mobile countries while Brazil is the least mobile.

**Table 6. Schooling Elasticities Estimates**

<b>Country</b>	<b>Elasticity</b>
<i>Developed countries</i>	
Germany (Grawe, 2001)	0.43
US (Grawe, 2001)	0.26
US (Behrman, Gaviria and Székely, 2001)	0.35
UK (Grawe, 2001)	0.19
<i>Latin America</i>	
Brazil (Behrman, Gaviria and Székely, 2001)	0.70
Chile (Núñez and Miranda, 2007)	0.21
Colombia (Behrman, Gaviria and Székely, 2001)	0.70
Mexico (Behrman, Gaviria and Székely, 2001)	0.50
Peru (Grawe, 2001)	0.60
Peru (Behrman, Gaviria and Székely, 2001)	0.50

Dahan and Gaviria (2001) construct a social mobility index that controls for all influences that are common in children in the same family. They measure the influence of family background indirectly by comparing the correlation in schooling gaps between siblings to the correlation of schooling gaps between random adolescents. One limitation of this methodology is small sample size, since it requires at least two siblings in the relevant age range for each family. The study covers 16 countries in the region and the United States and the findings indicate that the correlation is between 1.8 to 3 times higher in Latin America than in the United States.

**Table 7. Schooling Elasticity by Cohort in Chile**

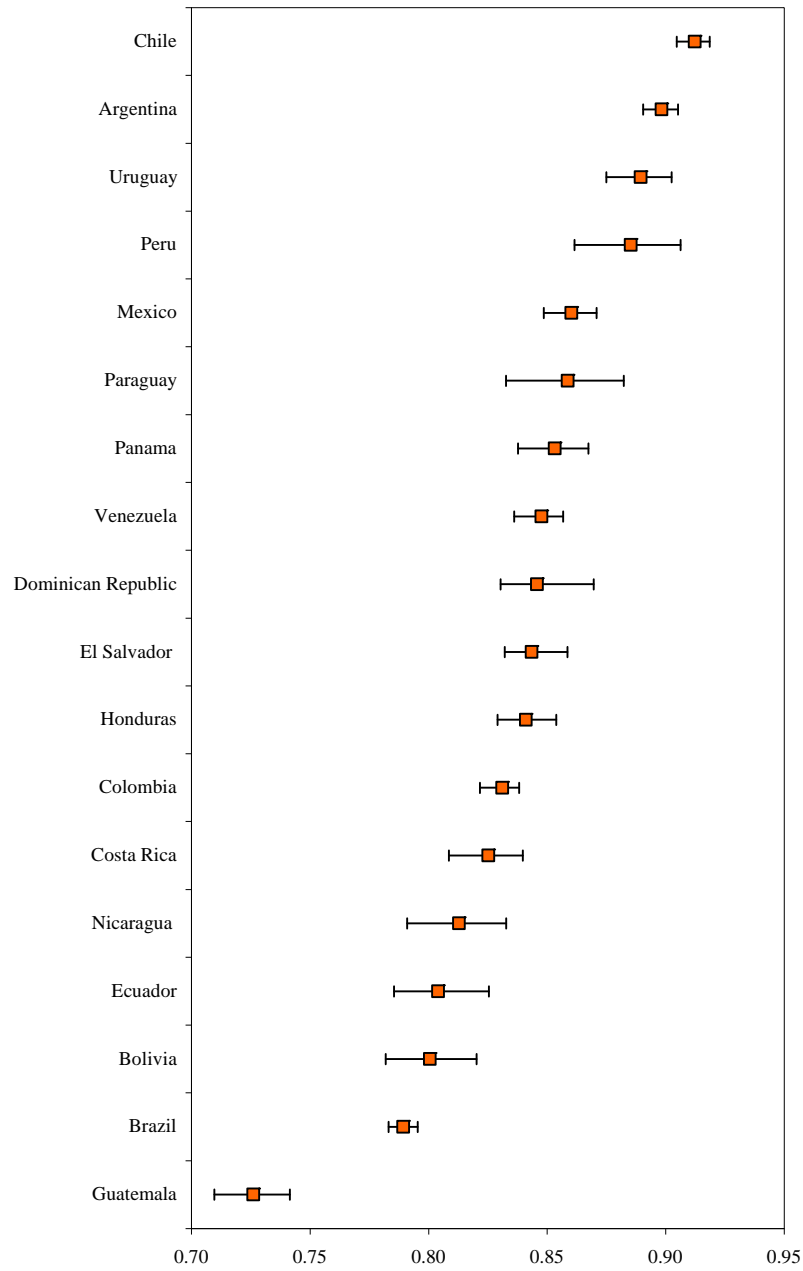
Son Cohort	Parent – son schooling elasticity
23-34	0.15
35-44	0.15
45-54	0.24
55-65	0.41
All Sample	0.21

*Source:* Núñez and Miranda (2006).

Andersen (2002) analyzes the importance of family background in determining the education of teenagers for 18 countries in the region. Following Behrman, Birdsall and Székely (1998), the author uses schooling gaps<sup>8</sup> (years of missing education) as an indicator of opportunities and runs schooling gap regressions to analyze the importance of family background. Figure 5 shows Andersen’s estimates. Her findings indicate that Chile, Argentina, Uruguay and Peru are countries with higher social mobility, while Guatemala and Brazil are among the least mobile.

<sup>8</sup> Measure of schooling gap = (years of education if the child starts school at the right age and changes grades each year) - (actual years of education).

**Figure 5. Andersen Social Mobility Estimates  
(based on teenagers 13-19 years)**

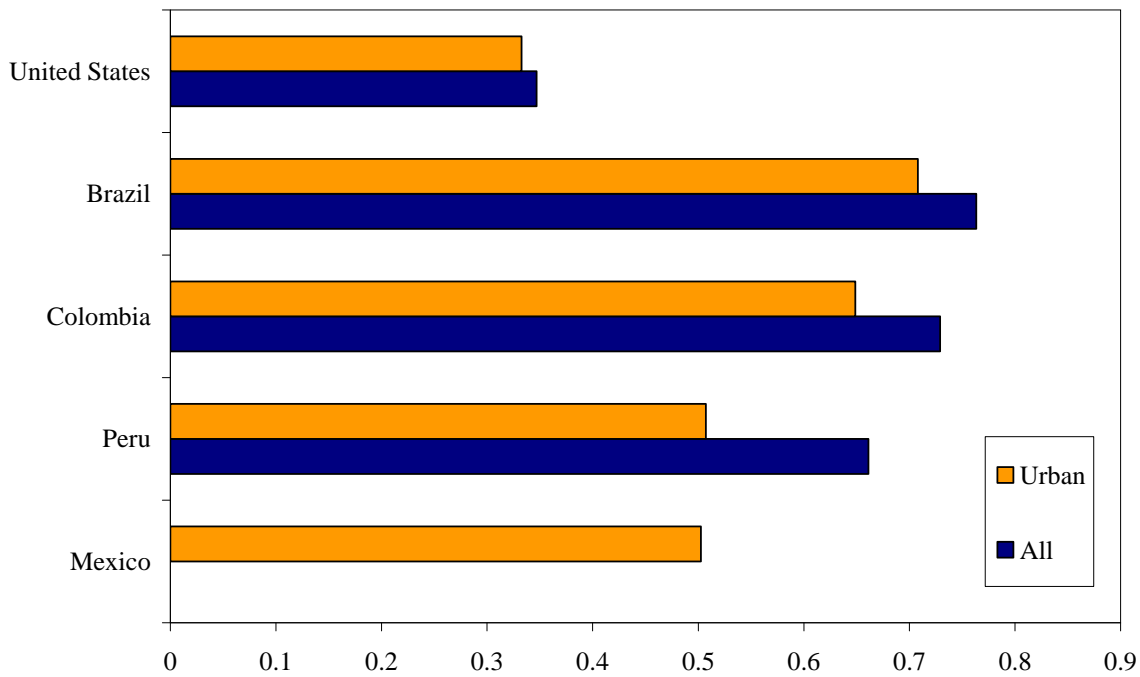


*Source:* Andersen (2002).

*Note:* Point estimates and 95% confidence interval. Statistics for Argentina and Uruguay are based on urban samples only.

Behrman, Gaviria and Székely (2001) examine the intergenerational transmission of schooling in four Latin America countries and the United States. Their results indicate that Brazil and Colombia are less mobile than Mexico and Peru. Estimates are displayed in Figure 6. Figure 7 shows the male and female estimates. The estimates are higher for men in Brazil and Colombia indicating that women are more mobile in these two countries. On the other hand, men tend to be more mobile in the United States, Mexico and Peru. These estimates indicate that for United States and Brazil gender does not seem to play an important role.

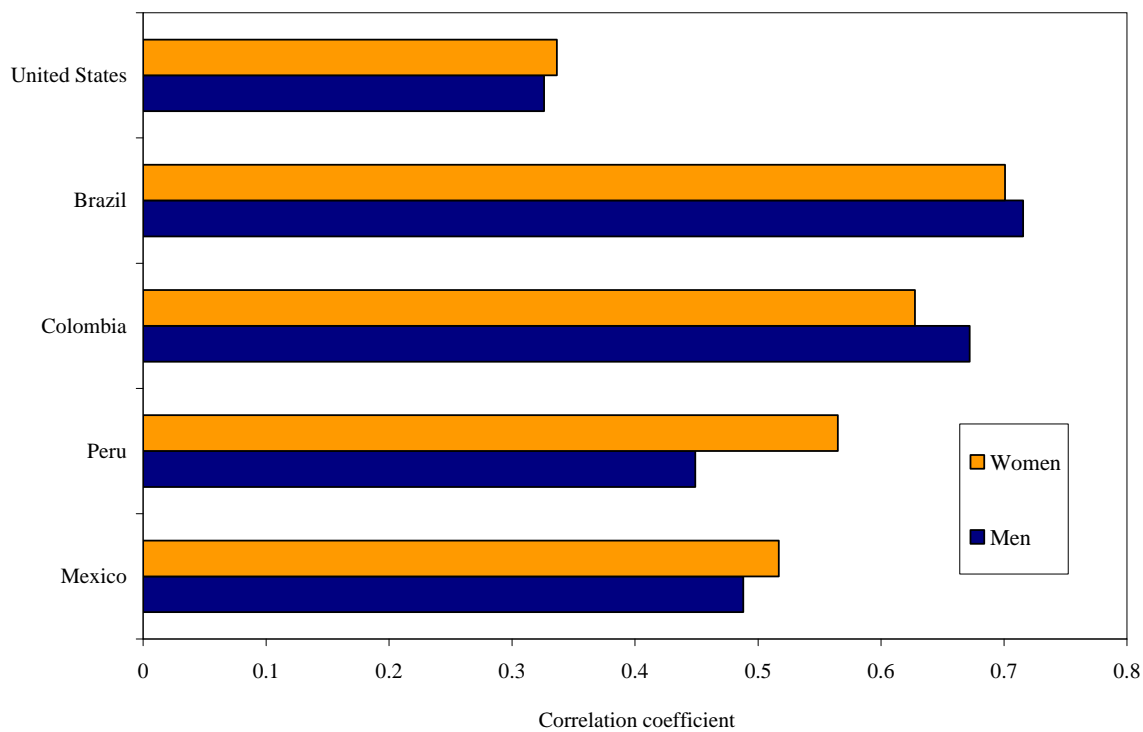
**Figure 6**  
**Correlation between Parents' and Children's Schooling**



Source: Behrman, Gaviria, and Székely (2001).  
 Note: For Mexico, only urban data are available.

Correlation coefficient

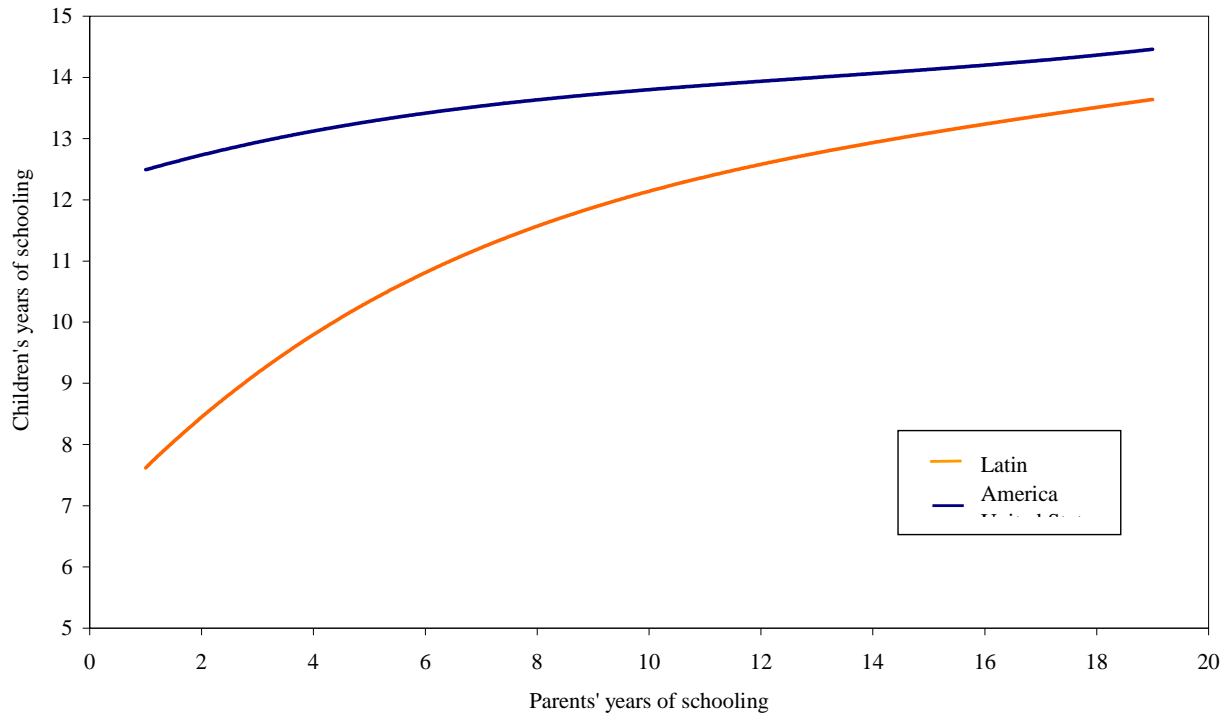
**Figure 7**  
**Gender Differences in Intergenerational Mobility (Urban Populations)**



Source: Behrman, Gaviria and Székely (2001).

The results of Behrman, Gaviria, and Székely are corroborated by Gaviria (2006) using data from the Latinobarometer and the US General Social Survey (see Figure 8, where the blue line indicates the United States).

**Figure 8**  
**Educational Mobility in Latin America and the United States**



Source: Gaviria (2006).

In the case of urban Mexico, Binder and Woodruff (2002) argue that there is mixed evidence on educational mobility. On one hand, the decrease in intergenerational educational correlation among cohorts presented by Binder and Woodruff (2002) in Table 8 suggests a rise in intergenerational mobility over time. On the other hand, the downward trend is reversed between the third and fourth cohorts, indicating that this trend slowed during the 1980s. This table further shows the proportion of children who have more schooling than their parents, another measure of intergenerational mobility. An interesting pattern is found in the gender comparison for urban Mexico, where older women have greater intergenerational mobility when compared to men.



**Table 8**  
**Measures of Intergenerational School Mobility: Mexico and Other Countries**

Child's Characteristics		Father-Child Educational Attainment Correlations		Percentage Exceeding Parents' Education Level	
		Men	Women	Men	Women
Mexico 1994					
All cohorts	23–69 years of age	0.498	0.528	76	68
Cohort 1	50–69 years of age	0.569	0.588	64	49
Cohort 2	40–49 years of age	0.481	0.538	75	63
Cohort 3	30–39 years of age	0.425	0.491	80	73
Cohort 4	23–29 years of age	0.491	0.493	79	78
Cohort 4	Eventual schooling	0.497	0.830	n.a.	n.a.
Germany, 1984	19–26 years of age	0.237	0.016	n.a.	n.a.
Malaysia, 1988	8–50 years of age	0.194	0.226	n.a.	n.a.
Panama, 1983	18+years, living with father	0.570	n.a.	n.a.	n.a.
	Father of above	0.680	n.a.	n.a.	n.a.
United States, 1984	20–30 years of age	0.418	0.402	n.a.	n.a.

*Source:* Binder and Woodruff (2002).

*Note:* Measures for Mexico use sample weights. Figures for cohort 4, eventual schooling, are calculated using ascribed schooling attainments for those still in school as follows: twelve years of schooling are ascribed to students with fewer than twelve years of schooling. N.A. = not available.

The trends in the distribution of intergenerational educational mobility for Mexico show that parent's education plays an important role in children's education. For example, the upper secondary completion probability for the sons of less educated parents rises from 0.15 in the first cohort to 0.34 in the third and fourth cohorts, while the corresponding probabilities for sons of educated parents are 0.79 for the first cohort and 0.80 and 0.84 for the third and fourth cohorts, respectively.

Returns to education are very high in Latin America, which implies that differences in schooling eventually translate into differences in earnings. In Brazil, for example, there is evidence that returns to education increase with parental schooling (Lam and Schoeni, 1993), which is linked to family connections and better employment opportunities. This indicates that intergenerational correlation of earnings can be even higher than that of schooling.

In order to capture non-linearities in education, Behrman, Gaviria and Székely (2001) estimate transition matrices for Brazil and Colombia. Their results indicate very low educational mobility at the lower ends of the distribution (Table 9).

**Table 9**  
**Intergenerational education transition matrices**  
(percentage)

Education of Parents	Education of Children			
	Primary or Less	Some Secondary	Secondary	At Least Some Higher
<i>Colombia, 1997</i>				
Primary or less	51.2	24.2	14.1	10.5
Some secondary	12.6	26.2	25.4	35.9
Secondary	9.1	17.3	25.4	48.2
At least some higher	2.2	6.5	14.2	77.1
Total	41.7	23.2	16.2	18.8
<i>Brazil, 1996</i>				
Primary or less	60.2	23.9	10.8	5.1
Some secondary	13.2	32.0	29.2	25.7
Secondary	5.5	19.0	32.7	42.9
At least some higher	3.5	11.9	19.9	64.7
Total	54.6	24.0	12.8	8.8

Source: Behrman, Gaviria, and Székely (2001).

#### ***6.4 Educational Quality and Cognitive Outcomes***

While most studies on the relationship between education and intergenerational social mobility consider years of schooling, evidence for the region increasingly shows important gaps in education quality and cognitive outcomes between high and low-income children.

In the discussion of social mobility, especially its relationship with social exclusion, researchers and policymakers are devoting increasing attention to “equality of opportunities” in order to pinpoint the causal processes determining the long-term labor market outcomes of children. The understanding of the real meaning of generational earnings mobility in the context of equality of opportunities offers an overall indicator of children’s social inclusion. In practical terms, there is a need for measurements of the extent to which children have equal opportunities in life regardless of their social status or family background.<sup>9</sup> Children start building the bases for human capital accumulation and development of cognitive abilities in early childhood. Thus, one of the key channels through which parental income affects human capital accumulation and productive capacity is on its effects on early childhood development.

Substantial research has been carried out in developed countries on early childhood development outcomes and their determinants, as well as the impacts of early childhood development programs on child, adolescent and adult outcomes. However, evidence from developing countries, and in particular Latin America, is scarce and drawn from only a few countries. Schady (2006), after reviewing the studies on early childhood development in Latin America, concludes that there appears to be large developmental deficits among Latin American children and a steep gradient by socioeconomic status that increases with age. In terms of the effectiveness of interventions, the evidence points to the limited effectiveness of conditional cash transfer programs, but large returns to center-based child care interventions.

---

<sup>9</sup> See, for example, Corak (2006) and Roemer (2004).

Many studies have found that household economic resources are important determinants of children's health. Additionally, Rubacalva and Teruel (2004) find that maternal cognitive ability is an important factor in improving children's height, even when controlling for parental age, parents schooling, income and mother's height. Early childhood health in turn is linked with future children's schooling. Mayer-Foulkes (2004) finds evidence for Mexico showing that, controlling for parental education, income and wealth, early childhood health and nutrition are strongly associated with the probability of continuing schooling later in life.

Early childhood development also affects adult productive through the effects of infant malnutrition and early infection on cognitive ability and various adult ailments. These include chronic bronchitis, acute appendicitis, asthma, Parkinson's disease, multiple sclerosis, chronic pulmonary disease, cardiovascular disease, coronary heart disease, and stroke (see review in Mayer-Foulkes, 2004). Finally, recent studies in Guatemala show significant effects of improved early-life nutrition after 35 years on adult cognitive skills, adult male wage rates, and anthropometric indicators including birth weight of women's children (Hoddinott et al., 2008; Maluccio et al., 2009; Behrman et al., 2009).

Education and credit markets are key areas for policy action. The determinants of social mobility discussed above suggest that education and intergenerational credit constraints are "the" main determinants of the degree of income persistence. While the relationship between father's and son's success might be linked through inherited ability, access to high-quality formal education that begins at an early age is crucial in breaking the intergenerational transmission of poverty and promoting social mobility.

### ***6.5 Urbanization and Regional Development***

Recent research on both social mobility and social exclusion has not emphasized the importance of "spatial" issues (see, for example, Cass, Shove, and Urry, 2005). Nonetheless, exclusion that results from a combination of urbanization, distance, inadequate transport and limited means of communications reinforces mobility traps in certain regions. While an array of variables and dimensions must be considered in urbanization and regional development, some are evident only once excluded groups become "visible" and one has information on the range of activities to which individuals need access. It then becomes apparent that urbanization and regional

development may prevent individuals from participating in the economic, political and social life of their own communities.

The lower dynamism of rural and isolated poor areas should imply lower income mobility among the populations and the children/parent pairs living in them. As such, countries with higher percentages of population living in these areas should also have lower levels of income mobility. Urbanization and increased opportunities for migration from poorer areas should therefore promote higher mobility. On the other hand, regional development that is concentrated in certain regions and is not accompanied by adequate migration opportunities into these regions from the poorest areas should be associated with decreased social mobility.

The development pattern in Brazil, for instance, followed “conservative modernization,” a pattern characterized by the non-integration of large segments of the population into modern sectors of the economy, society and political system.<sup>10</sup> This pattern’s effects extend to regional development, with distinct mobility patterns according to regional development and urbanization. This pattern seems to translate into lower social mobility in less developed regions. Ferreira and Veloso (2006, Table 10) find that income persistence varies substantially across regions. The highest value is found in the poorest area, the Northeast, and the smallest in the Southeast. In addition, while in the Southeast there is high income persistence in the top quintile of father’s income (a 47 percent probability that the son of a father in the highest income quintile will remain in that quintile), in the Northeast the weight of income immobility is at the bottom of the distribution (a 58 percent probability that the son of a father in the lowest income quintile will remain in that quintile).

**Table 10. Intergenerational Persistence of Wages in Brazil by Region**

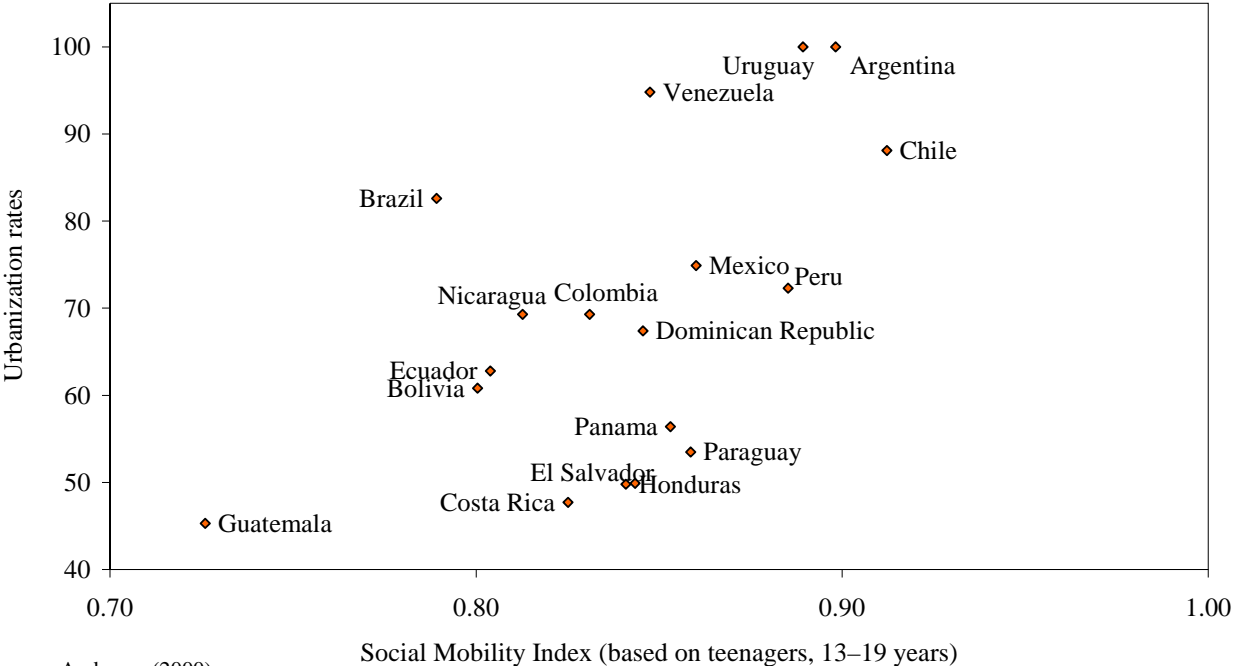
<b>Region</b>	<b>Elasticity</b>
National	0.58
Northeast	0.73
Southeast	0.54
South	0.62
Midwest	0.55

*Source:* Ferreira and Veloso (2005).

<sup>10</sup> See, for example, Gacitúa-Marió and Woolcock (2005).

Figure 9 depicts the positive relationship between social mobility and urbanization rates. This positive relationship may arise from the fact that for highly urbanized countries, it is easier to promote social mobility through access to education and labor market opportunities when children and workers are clustered in urban areas. Migrants to urban centers, especially those from isolated rural areas, tend to have broader economic and human capital opportunities than their parents, which should translate into upward social mobility. It is important to take into account, however, that urbanization is not a panacea, as it does not necessarily help all population groups. Using a social mobility index based on educational attainment levels of teenagers in 18 countries, Andersen (2001) finds that, with the exception of Bolivia, urban teenagers are not necessarily more mobile than their rural counterparts; that is, rural and urban teenagers are affected in approximately the same way by family background.

**Figure 9**  
**Social Mobility and Urbanization Rates**



Source: Andersen (2000).  
Note: Data for Argentina and Uruguay are based on urban samples only.

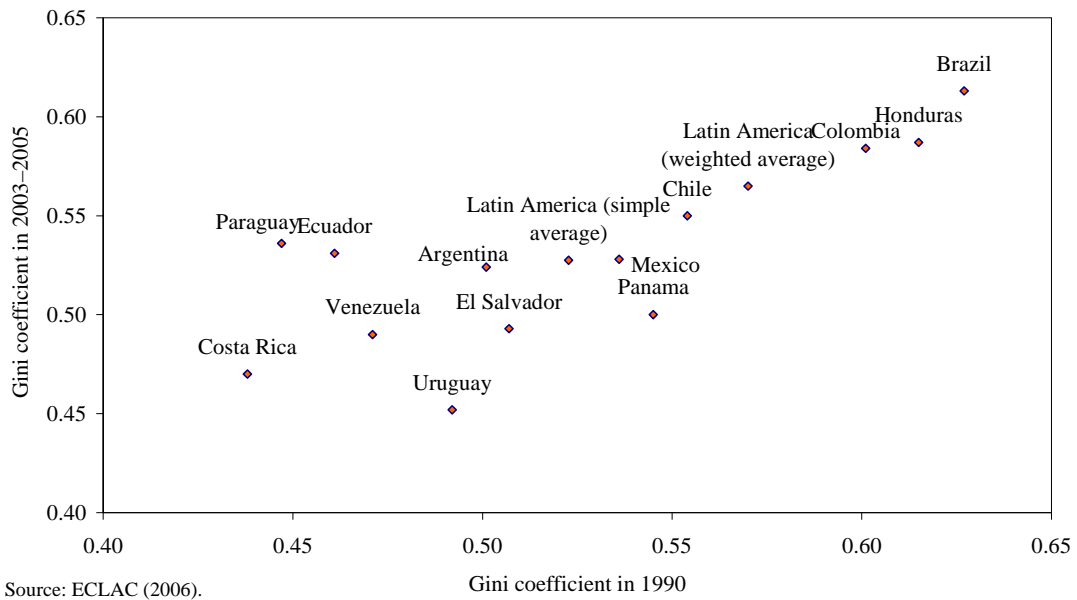
## ***6.6 Labor Market Developments: Macroeconomic Stabilization, Globalization and Technical Change***

As seen in both developing and developed countries, the most important determinant of social mobility is the human capital stock that individuals bring to the labor market. However, labor market dynamics can also alter the level of social mobility, as the returns of human capital vary with changes in the supply and demand for certain groups of workers, either strengthening or weakening the effect of greater education opportunities on mobility. In addition, discrimination and labor market segmentation can lower social mobility, even in countries with ample access to education opportunity, by reducing the labor returns of educated but excluded groups.

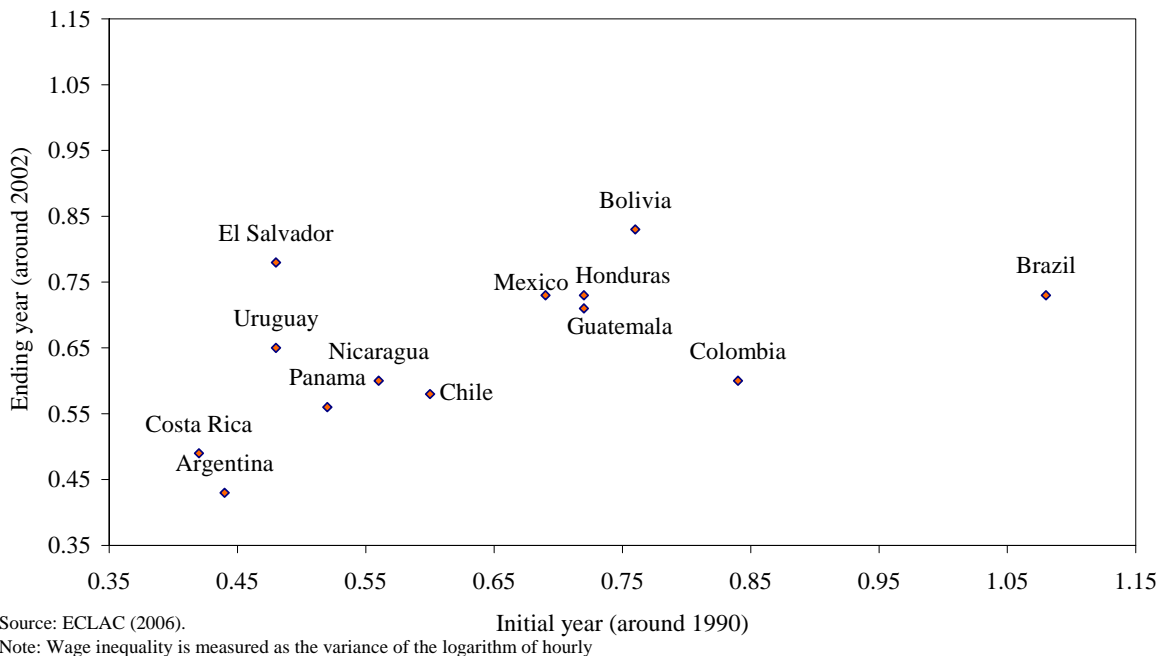
With some exceptions, the labor market in the region suffered from stagnant wages, rising wage inequality—mostly associated with high returns to education—as well as increasing levels of unemployment. There are many possible explanations for this phenomenon, including macroeconomic volatility, globalization and skill-biased technological change. Economists generally maintain, however, that wages have grown slowly primarily because productivity has not increased, especially for low-skilled workers.

How can we gauge the effects of these changes in labor markets on social mobility? The intergenerational studies available for the region and the studies on distribution of income dynamics can shed some light on the possible effects of labor market dynamics in social mobility. Since the early 1990s, the overall dynamic of inequality in the region has proven diverse. Inequality has decreased in Brazil, Colombia, Panama and Uruguay, increased in Argentina, Ecuador and Costa Rica and remained relatively constant in Mexico and Chile (see Figure 10). On the other hand, wage inequality has increased in the majority of countries in the region, decreasing only in Brazil and Colombia, and remaining unchanged in Argentina, Chile and Guatemala. Differences in the dynamics between wage inequality and total per capita household income inequality usually result from household demographics (assortative matching and fertility), female labor force participation, and transfers (government transfers and remittances). We will focus on the determinants of wage inequality in the rest of this subsection.

**Figure 10**  
**Household Income Inequality in Selected Latin American Countries, 1990–2005**



**Figure 11**  
**Wage Inequality in Latin American Countries, 1990 and 2002**



Under what conditions will changes in inequality, especially in wage inequality, translate into changes in social mobility? This will clearly depend on factors affecting labor mobility and



how they affect different groups of child-parent pairs. Data limitations prevent us from estimating these relationships, but several hypotheses can be advanced on the basis of short-run panel data and distribution dynamics.

With respect to returns to education, under low levels of intergenerational mobility in educational attainment, a widening gap of returns to skills should increase inequality and reduce social mobility as the advantages in labor market outcomes of education for child/parent pairs increase over time. As intergenerational educational mobility increases, the effects of widening gaps in returns to skill in social mobility ameliorate (i.e., there are more pairs of low-educated parent/educated children that benefit from increased returns).

The widening of gaps in returns to skills has been found to contribute to increased income inequality in some of the countries of the region that experienced increases or no changes in wage inequality. In Mexico, for instance, an increase in education returns explains 25 percent of the increase in inequality observed between 1984 and 1994.<sup>11</sup> In Brazil, the reduction in wage inequality is associated with a decrease in both the inequality of education attainment in the labor force and the gap in returns to education (IPEA, 2006).

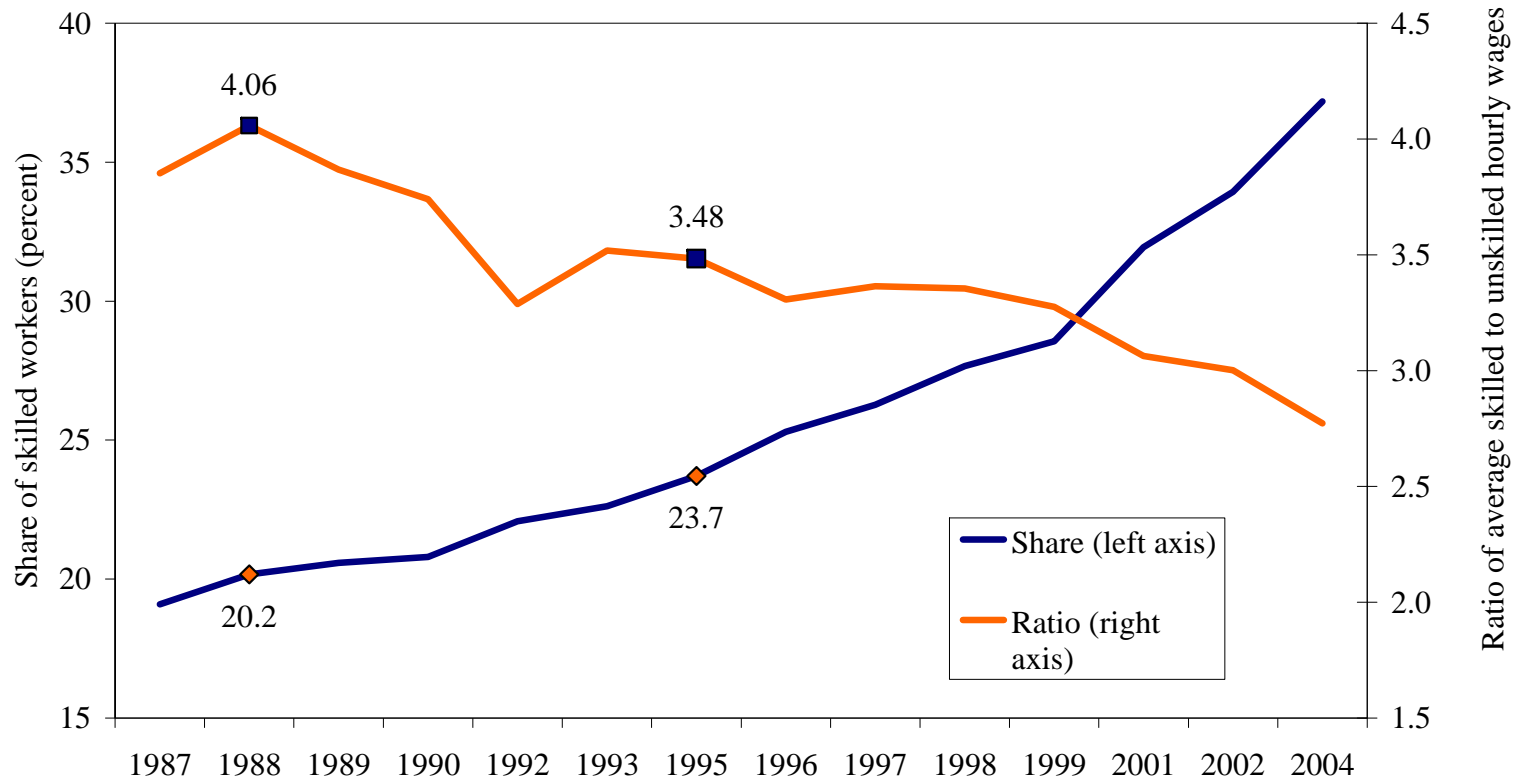
As Figure 12 indicates, wage inequality decreased for Brazil. Additionally, the ratio of wages of skilled workers to those of unskilled workers fell by 14.3 percent; similar result was also found by Gonzaga, Menezes-Filho and Terra (2006) when analyzing the skill premium in manufacturing. There is evidence that returns to education fell in Brazil, and this may be attributed to the expansion of the primary education system. Trade liberalization during the period 1988-1995 also contributed to the reduction in wage inequality, as protection in the Brazilian case was stronger for industries intensive in skilled workers. In contrast to the experience of Mexico, Chile and Colombia, trade liberalization in Brazil seem to have promoted wage gains at the bottom of the distribution. Liberalization efforts have led to both productivity gains and wage gains for the poor and promoted mobility as well as reduced poverty and inequality.<sup>12</sup> Unemployment is also a key factor of exclusion, together with other two major forces of labor market exclusion: underemployment and precarious employment.

---

<sup>11</sup> Legovini, Bouillon and Lustig (2005).

<sup>12</sup> Ferreira, Leite and Wai-Poi (2007).

**Figure 12**  
**Skill Wage Premium and Share of Skilled Workers in Total Employment, Brazil,**  
**1987–2004**



Source: Ferreira, Leite, and Wai-Poi (2007).

Note: Unskilled workers are defined as those who have 10 or fewer years of schooling. Skilled workers are defined as those who have 11 or more years of

It is important to note also that in many countries in the region increases in wage inequality have not translated directly into increases in household income inequality due to increased female labor force participation and lower fertility rates. Reductions in inequality arising from these factors do not necessarily translate into higher social mobility.

## **7. Conclusions**

In this paper we have reviewed the existing evidence in the region on social mobility and its determinants. Even though the absence of long-run panel data in the region precludes a rigorous analysis of social mobility, the combination of data sets with information on son-parents socioeconomic information, short-run panel data and studies on the dynamics of income inequality in the region allow us to infer some possible trends and determinants of social mobility. The main conclusions include the following:

- Social mobility seems to be low in the region, even when compared with the developed countries with the lowest levels of mobility, the United States and United Kingdom.
- There seems to be high levels of immobility at the lower and upper tails of the income distribution. The analysis of intergenerational income transition matrices by income groups suggests that lower tail immobility, which may be associated with poverty traps, is more prevalent across excluded populations (such as Afro-descendants in Brazil) and poorer regions. Upper tail immobility seem to be associated with “traditionally” more privileged groups, such as whites in Brazil, and more developed regions, linked probably with barriers to access to high education or to labor market segmentation and positive discrimination for these groups.
- In rigorous studies on the determinants of social mobility in developed countries, education mobility and access to higher education are found to be the main determinants of social mobility. Even though the region has improved education mobility in recent decades, which may have translated into higher mobility for younger cohorts, the region (except for Chile) still displays lower education mobility than in developed countries, including the United States and the United Kingdom. As previously mentioned, these higher

levels of immobility seem to be associated with low levels of access to higher education.

- Labor market dynamics alter the level of social mobility as the returns of human capital vary with changes in the supply and demand for certain groups of workers, either strengthening or weakening the effect of greater education opportunities on mobility. With the exceptions of Brazil and Colombia, the increased gap in returns to skills in the region seems to be associated with increased wage inequality. In countries with low progress in educational mobility these may also translate into lower social mobility, as they translate into increasing income-earning advantages for highly educated child-parent pairs.
- Discrimination and labor market segmentation can lower social mobility—even in countries with ample access to education opportunity—by reducing the labor returns of educated but excluded groups.
- The urbanization process and the increased opportunities for migration from poorer areas should promote higher mobility. On the other hand, regional development that is concentrated in certain regions and is not accompanied by adequate migration opportunities into these regions from poorer areas should be associated with decreased social mobility.

There is consensus among most politicians and researchers in the region that one of the key roles of the market system and of government action is ensuring equality of opportunities. Difficulties for policy design arise when societies try to define which public policies and regulations are needed to ensure equality of opportunity. Measures and analysis of the determinants of social mobility are key for shedding light on which factors in society limit equal opportunities. It is important to note, however that even the most mobile societies show persistence of income advantages.

The region's low level of social mobility presents policymakers with an array of challenges. The first is to design policies and programs, and possibly to undertake legal reforms, that will equip individuals to participate in both the benefits and responsibilities of society. Improvements in educational quality and access, health care and nutrition, and access to credit

represent only a few possible areas for improvement. Second, labor institutions, social security systems, and macroeconomic conditions must ensure that effort, talent, and socially desirable behavior are rewarded both immediately and across generations. Third, policymakers would be ill-advised to address insufficient social mobility with short-term redistributions of wealth that, though initially popular, may ultimately prove ineffective, as beneficiaries of financial or material windfalls may lack the life skills to manage those benefits effectively for themselves or for their descendants. Policies must therefore emphasize equality of opportunities through the development of human and social capital rather than short-term attempts to equalize outcomes. Finally, policymakers and politicians must find ways to convince the electorate and their colleagues that these policies are ultimately in their own interest and build support for their proposals accordingly. This may prove the hardest task of all.

## References

- Andersen, L.E. 2000. "Social Mobility in Latin America." La Paz, Bolivia: Universidad Católica Boliviana, Instituto de Investigaciones Socio-Económicas. Mimeographed document.
- . 2002. "Social Mobility in Latin America: Links with Adolescent Schooling." La Paz, Bolivia: Universidad Católica Boliviana, Instituto de Investigaciones Socio-Económicas. Mimeographed document.
- Andrade, E. et al. 2004. "Do Borrowing Constraints Decrease Intergenerational Mobility? Evidence from Brazil." Sao Paulo, Brazil: Banco Nacional de Desenvolvimento Econômico e Social (BNDES). Mimeographed document.
- Angrist, J., and A. Krueger. 1992. "The Effect of Age at School Entry on Educational Attainment: An Application of Instrumental Variables with Moments from Two Samples." *Journal of the American Statistical Association* 87: 328-336.
- Arellano, M., and C. Meghir. 1992. "Female Labour Supply and On-the-job Search: An Empirical Model Estimated Using Complementary Data Sets." *Review of Economic Studies* 59: 537-559.
- Baez, J. 2006. "Does More Mean Better? A Quasi-Experimental Analysis of the Link between Family Size and Children's Quality." Syracuse, United States: Syracuse University. Mimeographed document.
- Behrman, J. 2000. "Social Mobility: Concepts and Measurement in Latin America and the Caribbean." In: N. Birdsall and C. Graham, editors. *New Markets, New Opportunities? Economic and Social Mobility in a Changing World*. Washington, DC, United States: Brookings Institution/Carnegie Endowment for International Peace.
- Behrman, J.R., N. Birdsall and M. Székely. 1998. "Intergenerational Schooling Mobility and Macro Conditions and Schooling Policies in Latin America." Office of the Chief Economist Working Paper 386. Washington, DC, United States: Inter-American Development Bank. <http://www.iadb.org/res/publications/pubfiles/pubWP-386.pdf>
- Behrman, J.R., A. Gaviria and M. Székely. 2001. "Intergenerational Mobility in Latin America." Research Department Working Paper 452. Washington, DC, United States: Inter-American Development Bank.

- Behrman, J., and P. Taubman. 1985. "Intergenerational Earnings Mobility in the United States: Some Estimates and a Test of Becker's Intergenerational Endowment's Model." *Review of Economics and Statistics* 67: 141-51.
- . 1990. "The Intergenerational Correlation between Children's Adult Earnings and Their Parents' Income: Results from the Michigan Panel Survey of Income Dynamics." *Review of Income and Wealth* 36: 115-27.
- Behrman, J.R. et al. 2008. "What Determines Adult Cognitive Skills? Impacts of Pre-School, School-Years and Post-School Experiences in Guatemala." IFPRI Discussion Paper 826. Washington, DC, United States: International Food Policy Research Institute.
- Benavides, M. 2003. "Cuando los Extremos No Se Encuentran: Un Análisis de la Movilidad Social e Igualdad de Oportunidades en el Perú Contemporáneo." *Boletín del Instituto Francés de Estudios Andinos* 32(3): 473-494.
- . 2004. "Educación y Estructura Social en el Perú: Un Estudio acerca del Acceso a la Educación Superior y la Movilidad intergeneracional en una Muestra de Trabajadores Urbanos." In: *¿Es Posible Mejorar la Educación peruana?: Evidencias y Posibilidades*. Lima, Peru: Grupo de Análisis para el Desarrollo (GRADE).
- Bielby, W.T., and R.M. Hauser. 1977. "Response Error in Earnings Functions for Nonblack Males." *Sociological Methods and Research* 6, 241-80.
- Binder, M., and C. Woodruff. 2002. "Inequality and Intergenerational Mobility in Schooling: The Case of Mexico." *Economic Development and Cultural Change* 50: 249-267. (Previous version: "Intergenerational Mobility in Educational Attainment in Mexico." 1999. Mimeographed document.)
- Birdsall, N., and C. Graham, editors. *New Markets, New Opportunities? Economic and Social Mobility in a Changing World*. Washington, DC, United States: Brookings Institution/Carnegie Endowment for International Peace.
- Björklund, A., and M. Jäntti. 1997. "Intergenerational Income Mobility in Sweden Compared to the US." *American Economic Review* 87: 1009-1018.
- Blanden, J., P. Gregg and L. Macmillan. 2007. "Accounting for Intergenerational Income Persistence: Non-Cognitive Skills, Ability and Education." IZA Discussion Paper Series 2554. Bonn, Germany: Institute for the Study of Labor/IZA.

- Blanden, J., P. Gregg and S. Machin. 2005. "Intergenerational Mobility in Europe and North America." Center for Economic Performance Report. London, United Kingdom: Sutton Trust. <http://www.suttontrust.com/reports/IntergenerationalMobility.pdf>
- Bourguignon, F., F. Ferreira and M. Menéndez. 2003. "Inequality of Outcomes, Inequality of Opportunities in Brazil." World Bank Policy Research Working Paper 3174. Washington, DC, United States: World Bank.
- Cass, N., E. Shove and J. Urry. 2005. "Social Exclusion, Mobility and Access." *Sociological Review* 53(3): 539–555.
- Chadwick, L., and G. Solon. 2002. "Intergenerational Income Mobility among Daughters." *American Economic Review* 92(1): 335-44.
- Contreras, D., M. Fuenzalida and J. Núñez. 2006. "Persistencia Intergeneracional del Ingreso en Chile y el Rol de la Habilidad de los Hijos." Santiago, Chile: Universidad de Chile. Mimeographed document.
- Corak, M. 2006. "Do Poor Children Become Poor Adults? Lessons from a Cross Country Comparison of Generational Earnings Mobility." IZA Discussion Paper Series 1993. Bonn, Germany: Institute for the Study of Labor/IZA.
- Cortés, F., and A. Escobar Latapí. 2005. "Intergenerational Social Mobility in Urban Mexico." *CEPAL Review* 85: 144-60.
- Dahan, M., and A. Gaviria. 2001. "Sibling Correlations and Intergenerational Mobility in Latin America." *Economic Development and Cultural Change* 49(3): 537-54.
- Dearden, L., S. Machin, and H. Reed. 1997. "Intergenerational Mobility in Britain." *Economic Journal* 107: 47-66.
- Dunn, C. 2003. "Intergenerational Earnings Mobility in Brazil." Paper presented at the Eighth Meeting of the Latin American and Caribbean Economics Association, Puebla, Mexico, October 9-11.
- . 2004. "Intergenerational Transmission of Lifetime Earnings: New Evidence from Brazil." Ann Arbor, United States: University of Michigan, Department of Economics and Population Studies Center. Mimeographed document.
- Economic Commission for Latin America and the Caribbean (ECLAC). 2006. *Social Panorama of Latin America*. Santiago, Chile: ECLAC.



- Escobal, J., J. Saavedra and M. Torero. 1998. "Los Activos de los Pobres en el Perú." Documento de Trabajo 26. Lima, Peru: Grupo de Análisis para el Desarrollo (GRADE).
- Featherman, D., F.L. Jones and R. Hauser. 1975. "Assumptions of Social Mobility Research in the US: The Case of Occupational Status." *Social Science Research* 4: 329-360.
- Ferreira, F., and J. Gignoux. 2008. "The Measurement of Inequality of Opportunity: Theory and Application to Latin America." World Bank Policy Research Working Paper 4659. Washington, DC, United States: World Bank.
- Ferreira, F.H.G., P.G. Leite and M. Wai-Poi. 2007. "Trade Liberalization, Employment Flows and Wage Inequality in Brazil." World Bank Policy Research Working Paper 4108. Washington, DC, United States: World Bank.
- Ferreira S. and F. Veloso. 2006. "Intergenerational Mobility of Wages in Brazil." *Brazilian Review of Econometrics* 26(2): 181-211.
- Fields, G. 2000. "Income Mobility: Concepts and Measures." In: N. Birdsall and Carol Graham, editors. *New Markets, New Opportunities? Economic and Social Mobility in a Changing World*. Brookings Institution/Carnegie Endowment for International Peace.
- Fields, G. 2005. "The Many Facets of Economic Mobility." Ithaca, United States: Cornell University, Department of Economics. Mimeographed document.
- Fields, G. et al. 2006. "Earnings Mobility in Argentina, Mexico and Venezuela: Testing the Divergence of Earnings and the Symmetry of Mobility Hypotheses." Ithaca, United States: Cornell University. Mimeographed document.
- Fortin, N., and S. Lefebvre. 1998. "Intergenerational Income Mobility in Canada." In: M. Corak, editor. *Labour Markets, Social Institutions, and the Future of Canada's Children*. Ottawa, Canada: Statistics Canada.
- Friedman, M. 1962. *Capitalism and Freedom*. Chicago, United States: University of Chicago Press.
- Fuwa, N. 2007. "Pathways Out of Rural Poverty: A Case Study in Socio-Economic Mobility in the Rural Philippines." *Cambridge Journal of Economics* 31(1): 123-144.
- Gacitúa-Marió, E., and M. Woolcock, editors. 2005. *Exclusão Social e Mobilidade no Brasil / Social Exclusion and Mobility in Brazil*. Brasilia, Brazil: Instituto de Pesquisa Econômica Aplicada (IPEA)/World Bank.

- Galiani, S. 2006. "Notes on Social Mobility." Buenos Aires, Argentina: Universidad de San Andrés. Mimeographed document.
- Gaviria, A. 2006. "Movilidad Social en América Latina: Realidades y Percepciones." Bogota, Colombia: Facultad de Economía, Universidad de los Andes. Mimeographed document. <http://economia.uniandes.edu.co/content/download/9168/44755/file/movilidad%20social.pdf>.
- Gonzaga, G., N. Menezes-Filho and C. Terra. 2006. "Trade Liberalization and the Evolution of Skill Earnings Differentials in Brazil." *Journal of International Economics* 68(2): 345-367.
- Graham, C. 2005a. "The Economics of Happiness: Insights on Globalization from a Novel Approach." *World Economics* 6(3): 41-55.
- . 2005b. "Insights on Development from the Economics of Happiness." *World Bank Research Observer* 20(2):201-231
- Graham, C., and S. Pettinato. 2002. *Happiness and Hardship: Opportunity and Insecurity in New Market Economies*. Washington, DC, United States: Brookings Institution Press.
- Grawe, N.D. 2001. "Intergenerational Mobility in the US and Abroad: Quantile and Mean Regression Measures." Chicago, United States: University of Chicago. Doctoral dissertation.
- . 2003. "Life Cycle Bias in the Estimation of Intergenerational Earnings Persistence." Family and Labour Studies, Analytical Studies Branch Research Paper 207. Ottawa, Canada: Statistics Canada.
- . 2004. "Intergenerational Mobility for Whom? The Experience of High and Low Earnings Sons in International Perspective." In: M. Corak, editor. *Generational Income Mobility in North America and Europe*. Cambridge, United Kingdom: Cambridge University Press.
- Instituto de Pesquisa Econômica Aplicada (IPEA). 2006. "Sobre a Recente Queda da Desigualdade de Renda no Brasil." Nota Técnica IPEA 21.7.6. Brasília, Brazil: IPEA
- Hoddinott, J. et al. 2008. "The Impact of Nutrition During Early Childhood on Income, Hours Worked, and Wages of Guatemalan Adults." *Lancet* 371 (February): 411-416.
- Lam, D., and R.F. Schoeni. 1993. "Effects of Family Background on Earnings and Returns to Schooling: Evidence from Brazil." *Journal of Political Economy* 101(4): 710-140.
- Legovini, A., C. Bouillon and N. Lustig. 2005. "Can Education Explain Changes in Income Inequality in Mexico?" In: F. Bourguignon, F.H.G. Ferreira, and N. Lustig, editors. *The*

- Microeconomics of Income Distribution Dynamics in East Asia and Latin America.* Oxford, United Kingdom and Washington, DC, United States: Oxford University Press and World Bank.
- Mayer-Foulkes, D. 2004. "The Human Development Trap in Mexico." Mexico City, Mexico: Centro de Investigación y Docencia Económicas (CIDE). Mimeographed document.
- Maluccio, J.A. et al. 2009. "The Impact of Nutrition During Early Childhood on Education among Guatemalan Adults." *Economic Journal* 119 (537).
- Núñez, Javier and Leslie Miranda. 2006. "Recent Findings on Intergenerational Income and Educational Mobility in Chile." Santiago, Chile: Universidad de Chile.
- Núñez, J., and C. Risco. 2004. "Movilidad Intergeneracional de Ingresos en un País en Desarrollo: El Caso de Chile." Working Paper 210. Santiago, Chile: Universidad de Chile, Department of Economics.
- Núñez, J., and A. Tartakowsky. 2006. "Inequality of Outcomes vs. Inequality of Opportunities in Chile." Santiago, Chile: Universidad de Chile. Mimeographed document.
- Ocampo, J.A. 2004. "Economic Development and Social Inclusion." In: M. Buvinic and J. Mazza, editors. *Social Inclusion and Economic Development in Latin America.* Washington, DC, United States: Inter-American Development Bank.
- Osterberg, T. 2000. "Intergenerational Income Mobility in Sweden: What Do Tax-Data Show?" *Review of Income and Wealth* 46: 421-36.
- Paes de Barros, R. et al. 2008. "Measuring Inequality of Opportunities for Children." World Bank Policy Research Working Paper 4659. Washington, DC, United States: World Bank.
- Peters, E. 1992. "Patterns of Intergenerational Mobility in Income and Earnings." *Review of Economics and Statistics* 74(3): 456-66.
- Roemer, J.E. 2004. "Equal Opportunity and Intergenerational Mobility: Going Beyond Intergenerational Income Transition Matrices." In: M. Corak, editor. *Generational Income Mobility in North America and Europe.* Cambridge, United Kingdom: Cambridge University Press.
- Rubalcava, L., and G. Teruel. 2004. "The Role of Maternal Cognitive Ability in Child Health." Research Network Working Paper R-497. Washington, DC, United States: Inter-American Development Bank.

- Schady, N. "Early Childhood Development in Latin America and the Caribbean." World Bank Policy Research Working Paper 3869. Washington, DC, United States: World Bank.
- Sewell, W.H., and R.M. Hauser. 1975. *Education, Occupation, and Earnings*. New York, United States: Academic Press.
- Solon, G. 1992. "Intergenerational Income Mobility in the United States." *American Economic Review* 82: 393-408.
- Wodon, Q. 2001. "Income Mobility and Risk during the Business Cycle: Comparing Adjustments in Labor Markets in Two Latin American Countries." *Economics of Transition* 9(2): 449-61.
- World Bank. 2006. *World Development Indicators*. Washington, DC, United States: World Bank.
- Zimmerman, D.J. 1992. "Regression toward Mediocrity in Economic Stature." *American Economic Review* 82; 409-429.