

RELATIVE INTERGENERATIONAL MOBILITY, A GLOBAL REVIEW

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Abstract

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JEL: Código1 Código1 Código3 Código4 Código5

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1 Motivation & Literature Review

We can summarize the reasons for estimating relative intergenerational mobility in two main types of reasons:

1) **Normative reasons:** There is broad consensus that public policy must generate the necessary conditions for the existence of a concept called '*equality of opportunities*'. This concept can be thought of as the possibility that individuals have to realize their life projects. There are economic/social differences due to factors that individuals choose, such as effort, responsibility, their choices, etc. But there are other exogenous factors that individuals do not control and that limit their opportunities to develop their life projects, such as the money needed for education or violence in the neighborhood where they live. A society in which there is equality of opportunities is one in which opportunities (public policies) mean that circumstances do not determine the results. Thus, the results would come from a "fair" process.

2) **Economic Reasons:** Under the reasonable assumption that talents are spread across different strata of society and that there is equality of opportunity, the relative position of individuals in the income/education distribution should change over generations. In reality, since there is not full equality of opportunity, much talent and ability is wasted as they are unable to realize their full potential, leading to an inefficient allocation of resources in the economy.

If people feel that there is not a strong degree of equality of opportunity, this can impact on the effort given by people in the lower tail of the distribution as they feel that their efforts will be wasted and that their children's generation will end up relatively close to where they ended up.

There are many papers that have studied this issue, in different time windows, with different methodologies and data. To date, there are only two papers, conducted by the World Bank, that have studied intergenerational mobility with countries of all income levels, and from all regions of the world.

The paper seeks to complement the two studies by Van der Weite et.al (2021), on social mobility in the world. The difference is that we have more data available and the results will be presented using the same methodology without the need to mix our own results with those of other authors. Additionally we will perform an analysis using percentile correlation coefficients, which has been shown by Chetty et.al (2014) to be a more robust estimator. We will also perform a cross section analysis using the year in which the survey was conducted, together with a cohort analysis. This can be summarized in the following table.



	Currently	This work
N° of Surveys	500 - 650	2308 + 728
Methodology	IV & Coresidents	Coresidents Only
Approach	Cohort	Cohort + Cross-Section
Estimations	Level	Level + Range
Mix of result	Yes	No

2 Research Question

- 1) How has intergenerational persistence in education and income fared globally by cohort and survey years?
- 2) How does intergenerational persistence correlate globally, with key variables from different models that attempt to explain it?

3 Data

The ideal data to generate this type of work are long panel data that track parents and children in their income history and years of schooling. These types of data are extremely expensive to collect, and if they exist at all, they are typically concentrated in developed world countries.

The data we will use are household surveys that contain information on the income and years of schooling of the parents and children residing with them.

We have four data sources:

- 1) International Income Distribution Database (I2D2): In an effort to generate international evidence on different matters, the World Bank generated databases from household and labor market surveys in countries around the world. The database covers economies from developed and developing regions. There is no censoring of any kind in the survey selection. If a survey was available and has all the needed variables, then it was included. For all the economies in this study, we have at least one point in time and in many several cases. An enormous effort was undertaken in standardizing the variable definitions across economies and time periods.

Not all of economy/year/survey points are included in our analysis because some surveys lack key variables. It should be noted that for a given economy/year, there could be more than one estimate. This is because for that economy/year, there is more than one survey available, or that the same survey is available more frequently than annually.



2) Luxembourg Income Study: All surveys are nationally representative. Has more up-to-date data on income, especially for rich countries. Has recently included more developing countries. Will be used as second order data if not available in I2D2. New economies Japan, Israel, Germany, etc. These data are more public, can be requested for transparency, but access is very limited. The opening is given by entering the server and putting the code to get the results that arrive via mail.

3) Quality of Governance (Gothenburg University): In order to find correlational evidence at the international level between our estimates and macroeconomic variables of the countries, we will use this database. The observations are composed of a country-year combination.

4) World Bank Country Classification: To classify countries by income level and geographic region, we use another World Bank database updated to the year 2022. The income classification has 4 categories; High income, Low income, Upper middle and Lower middle (the only country that cannot be classified was Venezuela, since the data provided is not reliable for the World Bank). The region classification has 7 categories; East Asia & Pacific, Europe & Central Asia, Latin America & Caribbean, Middle East & North Africa, North America, South Asia and Sub-Saharan Africa.

4 Descriptive Statistics

5 Empirical Approach

To measure social mobility across countries, we will use a cross-section approach (many cohorts in each survey) and a cohort approach (many surveys in each generation). The second way is the most used and allows us to see the situation of the older generations with respect to the newer ones.

To calculate the social mobility of countries, the following functional form is typically used

$$y_s = \alpha + \beta y_f + \gamma X + \epsilon_i$$

Where:

y_s =ln(Children's income) or Children's Education

y_f =ln(Father's income) or Father's Education

X=Control variables (following the existing literature, we used age and age squared as control variables to control for the life cycle of the children)



The closer β is to 0, the greater the social mobility

	Education	Income
Coresidents Son's Age	23-30	23-30
Semanal Working Hours	-	≥ 22
Father's Age	-	< 65
Exclusion top 0.5% of distribution	-	Yes
Control Variables	-	Son Age
Surveys \geq year 2000	Cross-Section Approach	Cross-Section Approach
N° Min Surveys per Cohort	2	2
Surveys: N° Obs Min & Max Median Error	100 y 0.2	100 y 0.2

1) Coresidents Son's Age: We believe that 23 years is a reasonable cut-off age for the coresident approach, given that around this age people finish their tertiary education cycle and start entering the labor market. On the other hand, since the surveys are conducted 3 to 5 years per country, we decided to set the upper cutoff age at 30 years in order to see the effect that exists in a cohort at different ages and to limit the possible coresidence bias. If we analyze the coresidency and labor participation rates of people in this age group, it is confirmed that this is an appropriate bracket.

2) Semanal Working Hours: In the income dimension, we seek to capture what is closest to people's permanent income, so we filter out observations that have 22 or more hours of work per week.

3) Father's Age: In the income dimension we seek to avoid a problem of selectivity of people leaving the labor market to retire. This was initially intended for men in Chile, but analyzing the retirement age for men in other countries, we consider it to be a good cut-off age.

4) Exclusion top 0.5% of distribution: For every survey, the top 0.5% of the income sample was eliminated. This is a World Bank practice to avoid possible biases due to wage outliers.

5) Control Variables: In the literature on intergenerational mobility there is the concept of "life-cycle bias". This bias occurs when calculating the intergenerational persistence of income of the father at a different age than that of the son. The solution given to solve this problem is to include as a control variable the age of the son and the age of the son squared. Some papers additionally include the father's age. In this paper we will use this for the robustness analysis. In the educational dimension, this bias does not occur because once people obtain an educational level they do not drop out of it, so estimating the intergenerational persistence of parents and children at different ages should not present a problem.

6) Surveys \geq year 2000: We stayed with these surveys from the year 2000 for 3 reasons.



Because there is a greater coverage of countries during those years. After the fall of the Berlin Wall and the Soviet Union many countries were created and destroyed, in order to give them time to organize themselves and to collect quality data, we think that the year 2000 is a good cut-off year. Finally, it is evident that the coresidency rate has been increasing over time for the relevant age range, so taking the latest years available is something that is useful in our research to reduce coresidency bias.

7) Approach: We only take into account those cohorts that have a minimum of 2 surveys as observations in order to distinguish the age effect from the cohort effect.

8) Surveys: We excluded from the survey sample those surveys with a number of observations lower than 100 for the calculation of the statistics of interest. We also excluded those with a deviation from the median of their country greater than 0.2 percentage points. A graph illustrating this can be found in the appendix.

To correctly capture the importance of the father's income in the children's income, we annualize the salaries to isolate the effect that the different frequencies with which each one receives it could have.

Only analysis by coresidents is used in this work. This could potentially present problems of bias, but as has been documented in other papers this bias appears to be low enough that it is not relevant at least in education.

This is shown in the appendix

Coresidence rate

$$\text{Coresidence Rate} = \frac{\text{Son's living with their father}}{\text{Total of Son's} + \text{Total of fathers}}$$

Labor participation and Employment rate

$$\text{Labor Force Participation Rate} = \frac{\text{Employed} + \text{Unemployed}}{\text{Working age population}}$$

$$\text{Occupation Rate} = \frac{\text{Employed}}{\text{Working age population}}$$



6 Results

Coresidence rate

Labor participation and Employment rate

Social Mobility

in line with the existing literature, it is observed that countries with higher income have higher income and education mobility than those with lower incomes

The literature has shown a negative relationship between income inequality, as measured by the gini index, and social mobility. This relationship is called the Great Gatsby Curve.

7 Conclusions

8 Bibliography

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- Nuñez Sanhueza (2015) - The expansion of education and the evolution of Intergenerational Mobility, Chile

9 Appendix

To see some results dynamically, click on the following link