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Intergenerational educational mobility in urban and rural areas in Colombia: Equal opportunities?*

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Abstract

This article presents the results of measuring intergenerational educational mobility in urban and rural areas of Colombia. Using transition matrices, it was found evidence of intergenerational educational mobility in both urban and rural areas of Colombia; however, it is more restricted in the rural case. Indeed, the ability to scale more educational levels is higher for children with more educated parents, and it is accentuated if they belong to urban areas of Colombia, which leads to say that educational opportunities in Colombia are limited, not only by conditioning the educational level of the parents, but also for the area to which people belong..

Keywords: Education, Colombia, equal opportunities, social mobility.

Introduction

Development in Colombia has historically shown a systematic difference between urban and rural areas; presenting in the latter a lag expressed in poverty, no access to basic or quality services, less access to the benefits of modernization, forced displacement and lack of opportunities in general, all of which has worsened their situation. This leads to its inhabitants to migrate to megacities in search of better opportunities. Therefore, to build prosperous rural areas, it is necessary to increase opportunities in them.

To advance in this direction, it is necessary a growth in the economy of the country; but also, that it be reflected in a better distribution of wealth, well-paid jobs, decent work, sufficient income and improvement in the population's quality of life. "Between 2000 and 2010, the high rates of constant economic growth in Colombia - far from reducing the urban-rural gap - could actually have exacerbated the problem" (Parra, Ordónez, & Acosta, 2013: 1).

Some of the most important challenges in the social sphere are to eradicate extreme poverty and hunger, to promote social equity, gender equality, and to increase opportunities, access and permanence in educational systems, especially for those who have limited access due to economic, social and territorial conditions. Social mobility and intergenerational educational mobility is one of the instruments to achieve these objectives, and it is considered an indicator of how opportunities are distributed in a society.

The theoretical foundations on social mobility are due to the sociologist Pitirim Sorokin (1954) in the 20th century; later Lipset and Bendix, in the middle of the XX century (Uribe, 2005, Uribe, Vásquez, & Pardo, 2006). Social mobility refers to changes in the social position that people occupy in a certain social structure. From this concept comes the intergenerational –educational– mobility, which refers to the possibility that children have of changing their educational level with respect to that of their parents. In this regard, three situations can occur: that children exceed the educational level of their parents (upward mobility), that it decreases (downward mobility) and the third option is that they replicate it or inherit it (immobility). In this way, intergenerational mobility reveals information about the existence or not of association between the educational level of parents and that achieved by their children (Andersen, 2001, UNDP, 2010, Yanéz & García, 2013).

When there is a high intergenerational educational mobility, the educational level reached by the children is the result of merit and personal effort, and not of the retention of social or educational status that comes from their family ancestors. On the contrary, when societies are immobile, the prospects of progress for the children of uneducated parents or those with little education are nil or limited. The picture becomes even more complex if to this, it is added another type of cumulative disadvantages such as ethnicity, sex, residing in rural areas, among other aspects. Hence the importance of intergenerational educational mobility for societies that strive for equity and equality of opportunities.

This research estimates the degree of intergenerational educational mobility for urban and rural areas of Colombia during the first quarter of 2014. Some of the questions that we tried to explain here were: Is there intergenerational educational mobility in Colombia? And if so, what is the direction or sense of mobility: ascending, descending or null? Is the degree of intergenerational educational mobility in urban and rural areas of Colombia the same? What population benefits from intergenerational educational mobility in Colombia: children of parents with high educational levels or (children of) parents with low or no education levels?

This study is organized into five sections, including the present introduction. In the second section, an outline is made of the literature on intergenerational mobility. In the third one, it is described in detail the methodology used, emphasizing the technical tool used. In the fourth section, there are explained the results obtained; and finally, conclusions are presented.

A sketch of literature

Intergenerational educational mobility indicates the degree of correlation between the educational level of children and their parents. In research such as (that made by) Behrman, Gaviria, Székely, Birdsall and Galiani (2001), Gaviria (2002), Gaviria (2006), Mediavilla and Calero (2010), and Azevedo and Bouillon (2010), intergenerational educational, occupational or income mobility has been analyzed for Latin America approaching similar methodologies, such as Markov first-order autoregressive models and transition matrices. The results obtained are similar in terms of progress in educational coverage in Latin America, and its impact in absolute terms on the higher educational level of children with respect to their parents. However, the literature is very clear in pointing out that there is still a close association between the educational level of the parents and that achieved by their children. The findings, in turn, reveal a low level of intergenerational (relative) educational mobility in Latin America; and internally, large differences can be seen.

With a greater degree of detail, Behrman, Gaviria, Székely, Birdsall, & Galiani (2001) and Gaviria (2002) contrast educational mobility in four Latin America countries: Colombia, Brazil, Mexico and Peru; and in the United States. The results indicate that social mobility in Colombia is low, similar to that of Brazil and lower than that of Mexico and Peru, and much lower than that of the United States.

In the study by Mediavilla and Calero (2010) the countries under investigation were: Chile, Mexico, Argentina, Brazil, Peru and Venezuela; their main findings indicate the existence of a direct relationship between the educational level of the parents and the one their children obtain, an influence that tends to be directly proportional to the educational level they have. This means that the higher the educational level of the parents, the more likely their children will reach that education level. Another deduction indicates that the father, compared with the mother, exerts a greater influence on the educational probabilities of the children.

At local level in Colombia, it must be highlighted the research by Nina and Grillo (1999), Gaviria (2002), Cartagena (2003), Tenjo and Bernal (2004) and Cartagena (2005), who with similar techniques obtained the following results. Nina and Grillo (1999) concluded that Colombia has a high degree of intergenerational educational mobility; on the contrary, Gaviria (2002) finds that mobility in the country is low, and although mobility has increased in recent decades, Colombia is far from being a just society. Tenjo and Bernal (2004) like Gaviria (2002) point out that there is a high association between the educational level of parents and that reached by their children, which denotes limitations in intergenerational educational mobility.

Cartagena (2005) explains that Colombia had an important educational expansion, which resulted in an increase in the average years of education among the different cohorts. However, since the mid-1970s there has been a decline in the growth rate of ascending educational mobility, measured at the time of starting primary and secondary school and interrupting the educational process. According to the author, this behavior seems to be largely explained by the decrease in returns to education. Nina and Grillo (1999) point out that despite the moderate growth of educational coverage that has presented in Colombia, there are low levels of average education, mainly for the poor. Only one out of six young people whose parents have less than six years of education complete high school, while three out of four young people with parents with eleven years of education achieve at least that level of education. On the educational expansion, Gaviria (2002) highlights that this took place mainly in the seventies, and it helped to activate social mobility. However, the results were first reflected in the largest cities of the country, while in the small ones the increase occurred in later years, and it favored the cohort that began its training process in the seventies.

A point at which the literature does not agree is on the differences in educational opportunities in urban and rural areas. While Bonilla (2010) finds that the inhabitants of urban areas have less mobility, Nina and Grillo (1999), and Tenjo and Bernal (2004) find greater mobility in these zones. This work aims to be a current reference in the state of intergenerational educational mobility in urban and rural areas of Colombia, and to contribute to the scientific literature on this subject through its findings.

Materials and methods

This investigation is of explanatory type, which tries to analyze if the educative level of the children is associated to the one of their parents, and it tries to determine if there exist differences in the intergenerational educational mobility in the urban and rural zones of Colombia.

Data

As a source of information, it was used the Great Integrated Household Survey (GEIH, for its initials in Spanish) for Colombia in the first quarter of 2014, applied by the Colombian National Administrative Department of Statistics (DANE, for its initials in Spanish).

Target population

The population under investigation is the household primary nucleus (parents/children), differentiating between urban and rural areas of Colombia. Only those that meet the following conditions are considered:

- To be aged equal to or greater than 25 years1 and less than 69 years. With the first restriction, selection bias or measurement errors are diminished, because it is difficult to accurately measure the years of education of this age group, as some have not yet completed their transit through the education system.

- Not to be attending any educational institution (school, college or university).

Based on the above, the total number of observations of children who met these conditions corresponds to 526,795, distributed as follows: 443,818 in urban areas and 82,977 in rural areas of Colombia.

Technical tools

Transition probability matrices were used as a technical tool. Following Yanéz & García (2013), the method is described below.

In the first instance, the following educational levels were considered: without studies (0º), basic primary (1º-5º), basic secondary (6º-9º), high school (10º-11º) and superior; for a total of five (5) possible states within the education system. The first column of the matrix indicates the educational level of the parents (origins); and the first row, the educational level of the children (destiny) associated with the educational level of their predecessors. The matrix is square; the records and/or percentages of each row are positive and they indicate the probability of 100% distributed in the different states.

Each element of the matrix P_{ij} represents the proportion of people (children) with a specific educational level (j) if their father reached a certain educational level i. Each value that P_{ij} acquires is established from the distribution of frequencies; in formal terms P_{ij} is the probability of moving from category i to j, and it is calculated as the quotient of the number of people who passed from category i to j and the number of people who were preliminarily placed in category i.

Formally:

$$P_{ij} = \frac{n_{ij}}{n_i} \quad (1)$$

One of the main advantages of transition matrices is the capture of asymmetric movements; in this sense, it can be observed, for example, that children of parents without education ascend to the highest educational level and children of parents with the highest educational level descend to the lower level in the educational scale (Behrman, Gaviria, Székely, Birdsall, & Galiani, 2001, Gaviria, 2002, Sánchez, 2004).

The matrices explain in detail the probability that children have of increasing (upward mobility), decreasing (downward mobility) or inheriting the educational level of their parents (immobility). This is observed with the values of the matrix that are above and below the main diagonal, and in the main diagonal, respectively.

Results

Transition matrices

When comparing the results of tables No. 1 and 2, regarding the ascending educational intergenerational mobility (quadrants above the shaded line), that is, that the children obtain higher educational levels than those achieved by their parents, we observe that it is more limited for those in rural areas compared to urban areas, especially when it comes to advancing to the highest levels of the educational scale.

For children of parents with no educational level: the probability of advancing to basic primary is 48% for those in urban areas, and 54% for those in rural areas; and achieving higher studies is 6% and 1% respectively; this decrease in the percentage confirms that the possibility of advancing to higher levels is more limited for rural areas.

Table 1. Transition matrix for the population living in Urban Areas in Colombia – First quarter of 2014

Status	Educational level of the children				
Educational level of the father	None	Basic primary	Basic secondary	High school	Higher
None	26%	48%	15%	5%	6%
Basic primary	17%	68%	11%	3%	1%
Basic secondary	10%	61%	17%	10%	2%
High school	6%	51%	20%	17%	6%
Higher	1%	26%	18%	26%	29%

Source: GEIH (2014). Calculations made by the authors.

Table 2. Transition matrix for the population living in Rural Areas in Colombia – First quarter of 2014

Status	Educational level of the children				
Educational level of the father	None	Basic primary	Basic secondary	High school	Higher
None	40%	54%	4%	1%	1%
Basic primary	23%	75%	2%	0%	0%
Basic secondary	16%	71%	8%	3%	2%
High school	12%	62%	14%	8%	4%
Higher	5%	63%	18%	11%	3%

Source: GEIH (2014). Calculations made by the authors.

When parents have an elementary school level of education, the probability that their children will reach basic secondary education is 11% for those in urban areas and 2% for rural ones. It is worth mentioning that for the latter, ascending a little, that is to say, achieving high school or higher studies, becomes an impermissible or null transition, since the probabilities also become zero 0%.

For children with *parents with a basic secondary education level*, the probability of advancing to high school is 10% in urban areas and 3% in rural areas. With parents with a high school level, the probability that their children reach university studies is 6% for urban areas and 3% for rural areas. These results show that the possibilities of ascending in the educational scale are greater for the children of parents with high educational levels, but also for those who reside in urban areas.

The immobility behavior, that is, that children replicate the level achieved by their parents, is different depending on the level to which reference is made. For example: in the lower educational levels (None and Basic Primary) the highest retention is for those in rural areas. When the level of the parents is more advanced (from basic secondary to higher), the possibility of retention is greater for those who live in urban areas. The foregoing points out that when it comes to obtaining the highest educational levels, the possibilities are still greater for the inhabitants of urban areas.

In terms of downward mobility, that is, the possibility that children obtain educational levels lower than those obtained by their parents, it can be seen that children of parents with higher education in urban areas have a 26% probability of completing only primary school studies; while for those in rural areas the possibilities of decreasing increase substantially, reaching 63%.

In short, the relationship suggested by the matrices reveals the presence of immobility in the first two levels of education, especially in rural areas of Colombia; and a marked downward mobility that tends to concentrate at the primary basic level, both in urban and rural areas; however, it becomes almost nil when parents have a higher educational level. Upward mobility becomes greater for children with parents with higher educational levels; however, it is more accentuated in urban areas of Colombia.

Discussion

The present research finds the existence of intergenerational educational mobility in Colombia, whose meaning is exhibited in all possible directions, descending, ascending and even immobility. Being the descending mobility the one that has greater degree or magnitude, especially in rural areas. Similarly, it is perceived that the mobility results differ if someone belongs to urban or rural areas, being the rural areas where there is a lower degree of upward mobility, less immobility and greater downward mobility, compared to urban areas.

On the other hand, the greater retention of at educational level in the two studied zones is presented in the primary basic level; in other words, when the parents have a basic primary school level, the higher probability that their children replicate this level education is around 68% in urban areas and 75% in rural areas. It is also worth highlighting the situation when in both areas parents have a higher education level; in urban areas, the probability that children reach that level is 29%, while in rural areas the probability is only 3%; the explanation of the marked difference is beyond the analysis of the present investigation, but the evidence is left to future investigations that wish to emphasize on this type of results.

The debate on this subject continues open; later research could emphasize other types of differences that in one way or another could make mobility even more limited, such as ethnicity, occupation of parents, sex, residence in urban and rural areas, or other types of factors that may influence that upward mobility accelerates to a greater degree, such as free education and social programs for student support or student retention, among others.

Conclusions

The results of this investigation allow us to conclude that ascending educational intergenerational mobility is greater in urban than in rural areas of Colombia, findings similar to those obtained by Nina and Grillo (1999), and Tenjo and Bernal (2004); and in contrast to those acquired by Bonilla (2010). It was also reaffirmed, as indicated by previous research by Gaviria and Tenjo & Bernal, that the educational level of the fathers conditions the achievement of their children. But in addition for the children with parents with low educational levels, the restriction in the educational ascent becomes greater and gets accentuated when residing in rural areas; which reveals once again the importance not only of the education of parents in the education of their children, but also in the differences of opportunities in the zones (urban or rural) in the same country. The findings of this research contribute to the current state of intergenerational educational mobility in the scientific literature, and leave open the debate related to this important topic.

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