Urban Bias in Development and Educational Attainment in Brazil

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ABSTRACT

The main goal of this study is to investigate the role of the urban bias in the Brazilian development on the educational attainment process. Theories of educational inequality and socioeconomic development and modernization are considered to construct the hypotheses. The study is based on a nation-wide probability sample survey (the 1988 PNAD). OLS regression models are estimated to assess the hypotheses, and a cohort strategy is used to investigate trends in the patterns of determinants of the educational attainment process in Brazil. Among the main causal factors analyzed here, we center our investigation on the importance of the difference of having an urban or a rural origin on the educational attainment of individuals. The process of socioeconomic development in most developing countries has been marked by a very strong urban bias. As we show here, this urban bias has a very significant effect (net of many other causal variables) on the educational attainment process in Brazil.
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INTRODUCTION

The aim of this study is to investigate the role of the urban bias in development in Brazil as a determinant of the educational attainment process. It is based on a nation-wide probability sample survey developed by the Brazilian Institute of Geography and Statistics (IBGE): the Brazilian National Household Sample Survey (PNAD) of 1988. Ordinary Least Square (OLS) regression models are estimated to assess the hypotheses. A cohort strategy is used to investigate possible trends in the patterns of the effects of having an urban/rural origin on the educational attainment process in Brazil. Among the main causal factors analyzed here, we center our investigation on the importance of having an urban/rural origin on the chances of attaining higher educational levels. As it is well known, the process of socioeconomic development in most developing countries has been marked by a very strong urban bias. As we show in this paper, this urban bias has a very significant effect (net of several other causal variables) on the educational stratification structure in Brazil.

The main strength of our study is a cohort analysis used to assess patterns that frame educational stratification trends in Brazil. We observed the direct effect of the determinants of educational attainment over a period of 81 years. During this time, Brazil

faced a process of urbanization, industrialization, and educational expansion. As a consequence, we could assess how, during most of the XX century, the urban bias in Brazilian development influenced the nation's educational attainment process.

Our present investigation is based on a sociological perspective and intends to promote a fertile debate with other social scientists. We would hope that this research could provide important information, which may be helpful to other investigators who try to understand educational inequality in Brazilian society and its consequences.

THEORETICAL PERSPECTIVES ON EDUCATIONAL ATTAINMENT, DEVELOPMENT, AND URBAN BIAS

One year of formal education in Brazil is seen as an important attainment, given the very low educational level of the population, especially in rural areas. Each additional year of education is well rewarded by the market (Haller and Saraiva 1992), even in rural areas where occupational opportunities that require formal qualifications are scarce (Neves 1997 and 2004).[1] In fact, Brazil has one of the world's highest rates of economic returns to schooling, reaching a total increment of almost 16 percent of earnings for each additional year of successfully completed formal education (Haller and Saraiva 1992).[2] A complete level (elementary, secondary, college) gives even more advantage in income opportunities (Haller and Saraiva 1992; and Neves 1997 and 2004).

The impact of socioeconomic development on educational expansion has been the focus of several studies. For the Modernization theorists, education works as the main vehicle to distribute social gains to individuals brought by socioeconomic development: an achieved (no longer ascribed) process of status distribution in the social mobility process. This view has been especially supported by the Parsonian Sociology, well summarized by Treiman (1970), and empirically demonstrated in many studies, such as the landmark of Blau and Duncan (1967), Hauser and Featherman (1976), Featherman and Hauser (1978); Kuo and Hauser (1995), and Holsinger (1975), among others.

Those who believe that instead of an equalizing role, educational expansion has served to perpetuate or even promote social inequality have questioned the role of education in the socioeconomic process as a means of equalizing social opportunities. For those who represent the social reproduction view, educational expansion is the main channel through which capitalist development perpetuates class antagonism by selecting and training individuals to perform occupational roles that merely reflect their families' social position. Thus education is seen as an instrument of social domination (Bowles and Gintis, 1976; Collins, 1979). Instead of increasing *universalism* in the status attainment process, as predicted by the Parsonian view, educational expansion is the path "in which 'ascriptive' forces find ways of expressing themselves as 'attainment'" (Halsey, 1977, p. 184). Education can also be understood as a way in which cultural capital is transmitted and acts as a powerful vehicle of social reproduction (Bourdieu, 1977). Within these two perspectives, a number of specific theories to the process of educational attainment have been developed. We will bellow review the main theoretical perspectives to be considered in this study.

The Meritocratic Approach

The modernization sociologists suggest that educational systems expand in response to the functional requirements of the industrial society and that education plays an increasingly important role in the process of status attainment (Treiman 1970). As the level of educational requirements rises with economic development, educational qualifications become more important for occupational placement. Also, with modernization and the expansion of the educational system, educational selection tends to become more meritocratic and less ascriptive.[3] Hence, inequality of educational opportunity, as measured by its dependence on socioeconomic and socio-cultural characteristics, should decrease across all educational levels over time. This line of thought, also called the functionalist approach, sees schooling as representing a rational and rather efficient way of sorting and selecting talented people, in which the most able and motivated achieve the highest positions. Schools teach the kind of cognitive skills and norms that are essential for the performance of adult roles. The learning of cognitive skills is necessary for the fulfillment of economic positions in a society increasingly dependent on knowledge fundamental to economic growth (Treiman 1970).

The process of modernization as a consequence of economic development is embedded in the ideas of educational expansion of the Functionalist Approach. The central industrialized Western societies, their economic organization for production, and their main social institutions are used as the foundation for the construction of the concept of modernization. Educational expansion plays a key role in this process. A modern society must be at the same time: a) a meritocratic society, where ability and effort count more than privilege and inherited status to determine one's social status, i.e., attainment becomes a more effective way for the allocation of social status than ascription; b) an expert society, which depends preeminently on rational knowledge for economic growth which requires highly trained individuals to fill occupational positions, i.e., skills that were primarily acquired on the job must now be acquired in specialized institutions: schools; and c) a democratic society: an educated citizenry is an informed citizenry, less likely to be manipulated by demagogues (Hurn 1993).

The meritocratic hypothesis, proposed by the functional paradigm, states that equality of opportunity in the long run would be recognized by: a) an increase in the association between educational and occupational status; b) a decrease in the association between parents' social status and the social status of their children and; c) a decrease in the association between parents' social status and their children's educational attainment (see, Hurn 1993 and Goldthorpe 1996). According to Blau and Duncan (1967), the path to this process is to be seen as the current status of an individual being more and more determined by higher educational attainment and experience in the labor market rather than being inherited from his/her parents. Of course, equality of opportunity in schooling plays a key role in this operation. For this view, social selection through education can be related to the trend towards increasing universalism in the socially selective process.

The focus of our study is precisely on this last proposition of the meritocratic hypothesis, which implies that as societies become more and more developed or industrialized, the educational attainment of children of socially privileged and less socially privileged parents should become increasingly similar (Treiman 1970; Holsinger

1975).[4] In fact, some research findings point toward a stable pattern of more educational equality in developed countries, at least for the grade school levels (see Featherman and Hauser 1978).

Social Reproduction Theories

Despite the world expansion of education (Mayer 1993), equalization of educational opportunities has long been challenged in sociological theory and research, indeed ever since it was proposed. Classic examples of this critique are Bowles and Gintis (1976); Collins (1979); Halsey (1977); Bourdieu (1977); Bourdieu and Passeron (1977), among others. Halsey (1977), for example, in analyzing the trend towards educational expansion in Britain, shows that in fact what has been observed is an increase, rather than a decrease, in the dependency of educational attainment on parental educational and occupational status, despite an increase in the effect of education on occupational status. In the same way, Gamoran and Mare (1989), after a careful analysis, found a strong class bias in track assignments in the American school system. Kerckhoff (1993) also found such an association for Britain. For Brazil, Bills and Haller (1984) – as well as Haller and Saraiva (1991) – found that social origins are powerful status allocation mechanisms and that their effect increases with economic development, instead of decreasing as suggested by Treiman (1970).

Those who raised doubts about the causal relationship between economic development and the equalization of educational opportunities could also find support in the general theory of social stratification, where social structures are generally understood as stable, and "stratification regimes have in-built sustaining properties, as well as powerful defenders" (Erikson and Jonsson 1996, p. 67). For instance, Sorokin (1927) claimed that social mobility is little influenced by societal differences and transformations, an assertion that has been supported by mobility studies (Erikson and Goldthorp 1992), as well as in comparative studies about trends in educational inequality (Shavit and Blossfeld 1993).

Social reproduction theorists see the trend of educational expansion as a process that actually serves to exclude members of low social classes or low status-groups from desirable occupational positions. Selection and allocation in the labor market based on educational credentials are used to maintain the privilege of dominant social groups (Bowles and Gintis 1976; Collins 1979). Educational attainment, then, is part of a lager process of legitimization of class structure.

This view, like the modernization perspective, also focuses its analysis on the causal relationship between the socialization role of education and its selective function. However, the final result would have quite different social consequences from the one predicted by the modernization proponents. The expansion of the educational system at lower levels will be supported by the dominant groups, making it available for children of ethnic minorities, or with working class origins, or even those raised in rural areas. On the other hand, if the dominant groups want to maintain their social privileges in the society, they must retain their advantage of access to higher educational credentials. Hence, although both the Modernization and Social Reproduction approaches agree on the prediction that educational distribution, whether the result of functional imperatives of industrialization (Treiman 1970; Bowles and Gintis 1976) or an outcome of

competition among status groups (Collins 1979), leads to greater equality of educational opportunities at the lower levels of the educational system, they disagree about the possible trends in inequality at higher levels of education. While modernization theorists predict a decreasing trend in educational inequality at all levels, social reproduction theorists predict a constant trend or even an increasing importance of social origins determining higher levels of the educational hierarchy as economic development moves forward.

Proponents of the Cultural Capital theory, first advanced by Bourdieu (1977) and Bourdieu and Passeron (1977), state that children from families with a low level of parental education are likely to lack cultural resources such as dominant social values, attitudes, language skills etc, that would help them to acquire higher educational attainment. For this perspective, cultural capital is the main mechanism for social reproduction in modern societies. With the processes of industrialization and urbanization, the demands for equality of educational opportunity and meritocratic selection increase, and high-status families lose their capacity to directly guarantee a high social position for their children, but keep a way – through cultural capital – to indirectly influence the attainment of such a position. According to this view, cultural capital consists of goods transmitted by pedagogic actions within families. Cultural capital is related to all cultural investments of the family outside the regular educational system. Parental educational and economic resources are good indicators of family cultural capital, though one does not necessarily predict the other (Katsillis and Rubinson 1990). Thus, in this view, social origins, especially parental educational level, would not lose its importance in determining educational stratification as a consequence of economic development.

Urban Bias in Development

One very important variable of social background for developing countries has not often been considered in the research on educational stratification and attainment.[5] Lipton (1977) called attention to a very important trend present in the process of development of the peripheral nations. He argued that above all other sources of social inequality, in the Less Developed Countries (LDS), the difference between having a rural or an urban background is the main factor of socioeconomic stratification. Thus, this difference would be more effective than class, race or gender differences. At the same time, he argues that the socioeconomic disadvantage of having a rural origin has increased with the very strong urban bias in the development process of the less developed nations during the XX century. This background variable thus needs to be considered in the analysis of the educational attainment process in Brazil. Some studies show that in the U.S. the effect of having a rural origin on the educational attainment of individuals has decreased over time (Kuo and Hauser 1995). Based on Lipton (1977), we could expect the opposite for Brazil, i.e., an increasing effect. Thus urban/rural origin might be one of the most important background variables that influence the educational attainment process in Brazilian society, and will be considered here.[6]

HYPOTHESES

We can now state our hypotheses. We summarized above the theories that illuminate our research problem. Each theory, however, suggests a different explanation for the phenomenon. There are two assertions related to our research questions that will be looked at in this study:

Assertion 1: Economic development de-stratifies society.

As we saw above, modernization theory suggests that economic development de-stratifies society. Access to education will become less and less selective as economic development moves forward. Based on this view, we will test the hypothesis that: The effect of ascriptive variables as determinants of educational attainment is expected to have decreased over the course of the XX century in Brazil. Thus the effect of having an urban/rural origin should decrease under this hypothesis.

Assertion 2: Economic development stratifies society.

The social reproduction theories suggest that economic development stratifies society and socioeconomic background remains as the main determinant of social stratification. Families who are more able to invest on education for their offspring can obtain better social status for them. Background origins, such as parents' socioeconomic positions, race, and especially, for the purpose of this study, urban/rural origin acts as a strong barrier toward the equalization of society's opportunities. Based on this view, we will test the hypothesis that: The effect of socioeconomic background (including urban/rural origin) on educational attainment in Brazil does not decrease across cohorts.

METHODOLOGICAL CONSIDERATIONS

Data

The data for this research come from the Brazilian National Household Sample Survey (PNAD) of 1988 produced by the Brazilian Institute of Geography and Statistics (IBGE). The PNAD-1988 was especially designed for analyses of social stratification, mobility, education, and the labor market. Its total sample has about 290,000 observations for the country as a whole, and derives from stratified, multistage cluster selection of households. However, given that our intention is to analyze the process of educational attainment in Brazil, only those individuals who were 25 years old and over at the time of data collection are considered in our analysis. This is a necessary filter, because we need to exclude those individuals who were still at school and could jeopardize any conclusion about the determinants of educational attainment, since we do not know how much education one could acquire. In fact, 98 percent of those selected using this filter declared they were not studying at the time they were surveyed. Because specific social stratification information, such as parents' educational attainment and father's occupation, is available only for the heads of household and their spouses, an extra filter is used. The final sample has about 109,000 individuals. Among the entire surveyed sample of people who were 25 years old or older in 1988, 83.2 percent were heads of household or their spouses. So, although we might have some sample selection bias, it is definitely not large.

The PNAD-1988 was chosen because it is the only large sample survey in Brazil that ever included questions about the place (whether rural or urban) where the

interviewed individuals had been raised. This information was of key importance for the research problem of this paper. A final consideration is that some methodological analysts point out to the fact that it may be unwise to use statistical results from Stratified Multistage Cluster Samples (SMCS) as if they were simple random samples – i.e. that conclusions from stratified multistage cluster samples cannot be interpreted in the same way as simple random samples (Mare 1980; Hasenbalg and Silva 1991). One of the remedies for this has been proposed by Goldberger and Cain (1982), and widely applied by many researchers (see Gamoran 1987). Goldberger and Cain (1982) argue that statistical estimations from SMCS in general understate the standard errors. Thus, they propose that we should use a t ratio greater than 3.00 in statistical analyses based on data coming from this type of samples in order to achieve more reliable conclusions. This is the method employed in the present study.

Model's Specification and Variables

In order to test our hypotheses, a cohort analysis is employed. A total of eleven cohorts are used, each covering five years.[7] OLS regression models are estimated for all cohorts. The dependent variable will be the educational attainment of individuals. Education will be treated as a quantitative variable raging from 0 to 17 years of schooling. Race, gender, rural origin, and socioeconomic status of the individual's parents will be the independent variables. The following model will be estimated for each cohort:

$$\begin{aligned} &\textit{Years of Education} = \beta_0 + \beta_1\,(\textit{Mother's Education}) + \beta_2\,(\textit{Father's Education}) + \\ &\beta_3\,(\textit{Father's Occupational Status}) + \beta_4\,(\textit{Father's Occupation Not Missing}) + \\ &\beta_5\,(\textit{Brown}) + \beta_6\,(\textit{Black}) + \beta_7\,(\textit{Asian}) + \beta_8\,(\textit{Male}) + \beta_9\,(\textit{Urban Origin}) + \varepsilon \end{aligned} \qquad (1)$$

Where:

- Education is given by the number of years of schooling successfully completed. For the PNAD-1988, we have the actual number of years of education varying from 0 to 17 years of schooling.
- Mother's and Father's Education is also measured as the number of years of schooling successfully completed. The original data on parents' schooling for the 1988 sample were coded in the following way: I- no schooling at all; II- literate; III- incomplete lower elementary school; IV- complete lower elementary school; V- incomplete upper elementary school; VI- complete upper elementary school; VII- complete high-school; VIII- complete college education. In this, we followed a strategy introduced by Bills and Haller (1984) for the PNADs data, i.e., to use the following numbers to represent years of schooling: 0 (no schooling); 1 (literate); 2 (incomplete lower elementary); 4 (complete lower elementary); 6 (incomplete upper elementary); 8 (complete upper elementary); 11 (complete high-school); 16 (complete college). We are aware that this scheme incorporates a little unreliability of measurement, but less than the use of the original categorical coding would.
- Father's Occupational Status was gathered from the following question: "What occupation did your father have when you started to work?" Occupational status is measured using an index of socioeconomic status for occupations developed by Silva (1985). This index, initially based upon the 1970 census, was later updated from the 1980 census as a way to correct the high level of heterogeneity of some occupational titles

(Valle Silva 1985). It is important to note that Valle Silva's scale is not a prestige scale, but a socioeconomic index that combines occupation, education and income. This scale has the lowest value of 1.81 and the highest of 88.75. Father's Occupational Status will also be used as a dummy variable: one for those who answered the question about father's occupation, and zero for those who did not. This variable will be used to control for any possible selection bias that father's occupational status may cause, given that this variable shows a high rate of missing values (almost 50 percent, in some cohorts). Those individuals who did not answer the question about their fathers' occupation, and so were coded zero for the dummy variable, received a value of the mean of the father's occupational status variable as an imputation for each of them.

- Race is based on four categories: White, Brown (*Pardo*), Black and Asian. In the models they are represented as a set of dummy variables, using White as the reference group. The variable Brown, for example, has the value of one assigned for those who are said to belong to this racial category, and zero for those who are said to belong to any other racial category (the same was applied to the Asian and Black variables). Data about race has produced a strong debate in Brazil. Many have questioned the possibility of having reliable data on race, as race would never be clearly defined in Brazilian society. Some even question whether it is necessary to gather this kind of information, since Brazilian society is supposed to be a racial democracy and so race would not account for social inequality. Nonetheless, statistical data about race have been suitable for several studies, and interpreted by different points of view. These studies have demonstrated that racial inequality is a structural characteristic of Brazilian society, and also plays a role as a social reproduction mechanism, influencing labor segmentation, the educational attainment process, and residential segregation (Fernandes 2004; Hasenbalg 1979; Silva 1980; Telles 1993 and 2003).
- Gender is represented by a dichotomous variable (male = 1 and female = 0).
- Urban origin is based on a question asked to individuals about the area where they lived until they were fifteen years old. This is also a dichotomous variable (urban areas = 1 and rural areas = 0).

RESULTS

Urbanization Process and Urban Bias in Brazil

Brazil faced, during most of the XX century, a very rapid process of urbanization. Especially after World War II, the process of migration from rural to urban areas was intensified, due to the rapid industrialization of the country. By the end of the 1960s, the process of urbanization accelerated as a consequence of the intensification of the industrialization. Table 1 shows that it was in that decade that the urban population surpassed the rural population in Brazil. At the same time, the industrial sector was growing rapidly. From 1968 to 1980, the industrial product in Brazil grew at a rate of about 10 percent a year (see: Baer 1995; Wood and Carvalho 1988). Despite the fast process of urbanization, up to the 1960s, the amount of people living in rural areas kept growing. During the 1970s (see Table 1 again), however, the absolute number of people living in rural areas in Brazil started to fall. Even with the economic crises of the 1980s,

the intense process of migration from rural to urban areas did not stop, and the rural population kept shrinking.

TABLE 1. SIZE OF RURAL AND URBAN POPULATIONS, AND RATE OF URBANIZATION – BRAZIL, 1940 TO 1996

Year	*Rural Population*	*Urban Population*	*Rate of Urbanization (%)*
1960	38,767,423	31,303,034	44.67
1970	41,054,053	52,084,984	55.92
1980	38,566,297	80,436,409	67.59
1991	35,834,485	110,990,990	75.59
1996	33,997,406	123,082,167	78.36

Source: IBGE – Brazilian National Censuses of 1960, 1970, 1980, 1991, and 1996.

As Lipton (1977) arguments, the process of industrialization and urbanization of peripheral countries forced the concentration of public investments in urban areas. This created what he calls urban bias in development. Brazil was not an exception. Due to both the goals of the so called *Development State*, and the increasing demands from a more concentrated population in several large cities, most public investments (including social policies) were focused in the urban areas. We will show below that the urban bias in development in Brazil depressed the educational opportunities of the rural population in comparison with the urban people.

Assessing Assertion 1: Economic Development De-Stratifies Society

The first assertion states that societies will become less stratified as economic development moves forward, especially those societies experiencing industrialization. This view also states that with modernization, and the expansion of the school system, educational selection tends to become more meritocratic and less ascriptive. Thus, this implies that as societies become more and more developed, or industrialized, the educational attainment of children of privileged and less privileged parents should become increasingly similar (Treiman, 1970). A good way to analyze the validity of this theoretical assertion would be by looking at the changes in the coefficients that estimate the effects of social background variables on the educational attainment during a period of time which covers both: economic development with a clear process of industrialization and a process of educational expansion. At least two questions may arise about the possibility of assessing this assertion in order to understand Brazilian educational inequality. First, has Brazil faced a process of industrialization? Second, has the Brazilian educational system expanded? As it is well known, Brazil has faced a process of industrialization and the socioeconomic transformations that it has brought about can be observed since the early 1940s. It is also very well known that the educational system has expanded, even though it has been rather a selective expansion, resulting in a low mean value and a great educational inequality.

Testing the Meritocratic Hypothesis

The first hypothesis states that the effect of socioeconomic background variables on educational attainment is expected to have decreased over the course of the century as a consequence of economic development. We are particularly interested in observing whether the effect of having an urban or a rural origin has decreased. In order to assess this hypothesis, we are going to observe how the coefficients that estimate the effect of the variable about urban or rural origin behave over time. Table 2 summarizes the OLS regression results for the eleven cohorts. Each cohort covers 5 years (with the exception, as we said before, of the first cohort), beginning with those who were born in 1882 and ending with those who were born in 1963. The total period covered is 81 years, and beginning even before industrialization had taken place. After analyzing those figures, we come to the following conclusion: having a rural origin emerges as a very strong disadvantage in relation to the chances of educational opportunity. In fact, urban origin has the highest standardized coefficients in all regressions, and its effects on educational inequality (based on the unstandardized coefficient) increase almost linearly (see Figure 1) as economic development moves forward (it goes from 1.777 in the first cohort to 2.763 in the last cohort).[8]

Based on the evidence given by Table 2, we conclude that, in relation to the effect of having an urban or rural origin, our first research hypothesis is not supported by the data. The equalizing effect of the development process predicted by the modernization theory is jeopardized, as this important ascriptive measure increases its effect on educational attainment as economic output moves forward. The effects of urban origin are net of all other variables in the model: parental education, father's occupation, race, and gender. This means that being raised in rural areas strongly constrains one's chances of educational attainment independently of all variables measured herein: parents' educational level, father's occupational status, etc. Socioeconomic transformations brought by the industrialization process even worsen this situation. Thus as development proceeds, the effects of the parental educational and occupational status, and the gender variable, appear to have decreased. However, the educational barriers to those raised in rural areas have actually increased.

Assessing Assertion 2: Economic Development Stratifies Society

The second assertion suggests that economic development tends to stratify societies. The social reproduction theories bring the hypothesis that with industrialization and urbanization, social background remains among the most important determinants of stratification. Those who are more able to invest in education for their offspring will warrant higher status for them.

Testing the Social Reproduction Theories' Hypothesis

Analyzing the results in Table 2, we can deduce the following about our second hypothesis:

- Most socioeconomic background variables do not show a pattern of increasing importance in explaining educational attainment, except for urban origin. Those

raised in rural areas faced stronger barriers for educational attainment than those raised in urban areas, independent of all other ascriptive variables, as we noted earlier when analyzing the first assertion.

TABLE 2 (PART 1). UNSTANDARDIZED AND STANDARDIZED REGRESSION COEFFICIENTS OF DETERMINANTS OF EDUCATIONAL ATTAINMENT IN BRAZIL, BY COHORTS (WILL CONTINUE NEXT PAGE)

Independent Variables	Cohort 1 (1882-1913)	Cohort 2 (1914-1918)	Cohort 3 (1919-1923)	Cohort 4 (1924-1928)	Cohort 5 (1929-1933)	Cohort 6 (1934-1938)
Mother's Education	0.480*	0.388*	0.453*	0.442*	0.531*	0.411*
	[0.284]	[0.233]	[0.256]	[0.247]	[0.287]	[0.219]
	(0.035)	(0.032)	(0.029)	(0.025)	(0.022)	(0.021)
Father's Education	0.286*	0.325*	0.295*	0.332*	0.246*	0.322*
	[0.226]	[0.270]	[0.231]	[0.246]	[0.173]	[0.214]
	(0.027)	(0.024)	(0.021)	(0.019)	(0.018)	(0.018)
Father's occupation	0.102*	0.0384	0.0787*	0.06198*	0.0556*	0.0481*
	[0.077]	[0.045]	[0.086]	[0.085]	[0.073]	[0.064]
	(0.020)	(0.011)	(0.011)	(0.008)	(0.007)	(0.007)
Father Occupation (dummy)	0.484*	0.124	0.225	0.141	0.132	0.517*
	[0.054]	[0.015]	[0.029]	[0.019]	[0.017]	[0.066]
	(0.140)	(0.122)	(0.097)	(0.084)	(0.076)	(0.070)
Brown	-0.724*	-0.818*	-0.930*	-0.799*	-0.941*	-1.042*
	[-0.112]	[-0.120]	[-1.29]	[-0.106]	[-0.120]	[-0.130]
	(0.099)	(0.099)	(0.084)	(0.076)	(0.071)	(0.067)
Black	-0.762*	-0.829*	-1.218*	-1.144*	-1.213*	-1.248*
	[-0.063]	[-0.059]	[-0.089]	[-.076]	[-0.075]	[-0.078]
	(0.181)	(0.199)	(0.158)	(0.150)	(0.142)	(0.131)
Asian	-1.161	-0.501	0.797	0.579	0.255	1.224
	[-0.010]	[-0.005]	[0.007]	[0.008]	[0.004]	[0.019]
	(1.654)	(1.387)	(1.237)	(0.734)	(0.566)	(0.515)
Male	0.472*	0.409*	0.568*	0.560*	0.545*	0.351*
	[0.075]	[0.062]	[0.082]	[0.077]	[0.071]	[0.045]
	(0.094)	(0.097)	(0.084)	(0.078)	(0.073)	(0.069)
Urban origin	1.777*	2.064*	2.143*	2.182*	2.412*	2.459*
	[0.256]	[0.292]	[0.293]	[0.287]	[0.305]	[0.307]
	(0.109)	(0.107)	(0.090)	(0.080)	(0.075)	(0.070)
Intercept	-0.353	0.432*	0.216	0.580*	0.916*	1.150*
	(0.185)	(0.121)	(0.122)	(0.088)	(0.083)	(0.079)
R^2	0.448	0.478	0.491	0.478	0.416	0.432
Adjusted R^2	0.446	0.477	0.490	0.477	0.416	0.432
N	2638	2758	4074	5617	7303	8956

TABLE 2 (PART 2). CONTINUATION FROM PREVIOUS PAGE

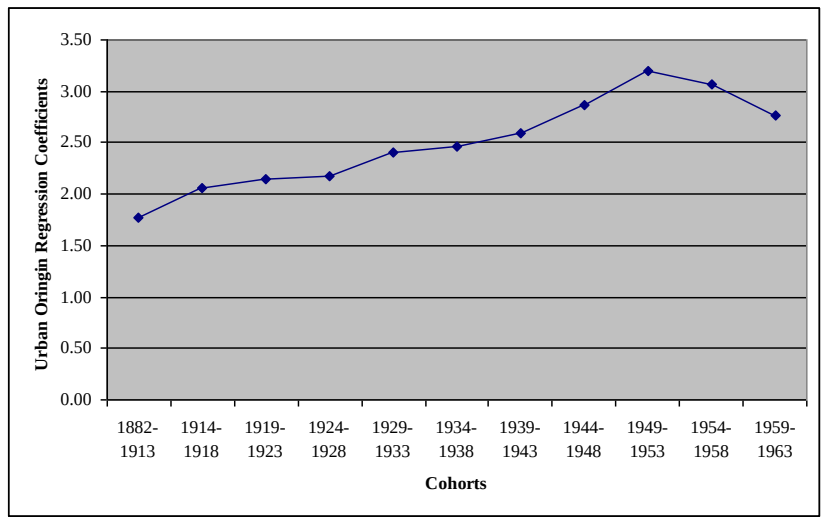
Independent Variables	Cohort 7 (1939-1943)	Cohort 8 (1944-1948)	Cohort 9 (1949-1953)	Cohort 10 (1954-1958)	Cohort 11 (1959-1963)	Brazil
Mother's Education	0.483* [0.259] (0.020)	0.470* [0.261] (0.017)	0.446* [0.260] (0.015)	0.403* [0.257] (0.013)	0.336* [0.246] (0.013)	0.454* [0.263] (0.006)
Father's Education	0.300* [0.195] (0.017)	0.301* [0.196] (0.15)	0.277* [0.183] (0.014)	0.278* [0.196] (0.013)	0.257* [0.202] (0.012)	0.281* [0.188] (0.005)
Father's occupation	0.0481* [0.074] (0.005)	0.0433* [0.065] (0.005)	0.0309* [0.048] (0.005)	0.0195* [0.033] (0.004)	0.0201 * [0.036] (0.004)	0.0330* [0.049] (0.002)
Father Occupation (dummy)	0.514* [0.060] (0.068)	0.763* [0.083] (0.065)	0.765* [0.081] (0.061)	0.745* [0.081] (0.060)	0.532* [0.062] (0.060)	0.920* [0.103] (0.022)
Brown	-1.155* [-0.131] (0.066)	-1.105* [-0,120] (0.062)	-1.235* [-0.130] (0.058)	-1.193* [-0.128] (0.056)	- 1.136* [- 0.132] (0.056)	-1.012* [-0.111] (0.022)
Black	-1.554* [-0.085] (0.135)	-1.402* [-0,067] (0.138)	-1.837* [-0.087] (0.127)	-1.638* [-0.079] (0.124)	- 1.639* [- 0.082] (0.129)	-1.486* [-0.076] (0.046)
Asian	0.432 [0.007] (0.439)	1.790* [-0,025] (0.457)	3.177* [0.047] (0.403)	2.474* [0.030] (0.488)	3.388* [0.039] (0.543)	1.970* [0.026] (0176)
Male	0.402* [0.047] (0.067)	0.0504 [0,006] (0.064)	0.0255 [0.003] (0.060)	-0.183* [-0.020] (0.059)	- 0.249* [- 0.029] (0.060)	-0.050* [-0.006] (0.022)
Urban origin	2.597* [0.299] (0.068)	2.866* [0.315] (0.065)	3.194* [0.342] (0.060)	3.074* [0.334] (0.058)	2.763* [0.318] (0.058)	3.017* [0.338] (0.022)
Intercept	1.396* (0.074)	1.723* (0.071)	2.275* (0.067)	2.924* (0.064)	3.444* (0.065)	1.673* (0.024)
R^2	0.468	0.477	0.485	0.471	0.448	0.483
Adjusted R^2	0.467	0.477	0.484	0.470	0.448	0.483
N	10423	12457	14810	15722	14084	98842

Source: PNAD-1988.

Note$_1$: * $|t| > 3.00$.

Note$_2$: Standardized coefficients within brackets, and standard errors within parenthesis.

FIGURE 1. UNSTANDARDIZED REGRESSION COEFFICIENTS OF THE EFFECT OF URBAN BIAS ON EDUCATION ATTAINMENT FOR EACH COHORT, BRAZIL – 1988



Source: PNAD-1988.

One can clearly see a general trend of increasing effects of urban origin on educational attainment as economic development moves forward, as the social reproduction theories' hypothesis predicted. However, the pattern of effects is different for each cohort. It is important to note that the rate of change of these coefficients was the highest when the process of industrialization was already established, from the early 1940s and on. The impact that the socioeconomic transformation brought through the industrialization process has not helped those from rural origin, it has handicapped, in a relative sense.

Based on the evidence given above, we conclude about the urban origin variable, that the social reproduction theories' hypothesis can be supported by our empirical analysis. On the other hand, the meritocratic hypothesis is not supported at all. Archaic social relations are potentially compatible with, and perhaps functional to, the peripheral capitalist development. Thus persistence or even an increase in the traditional basis of social inequality might be a necessity of capitalist development, as the dominant social groups keep the best social opportunities (Greenberg 1980).

Finally, we should highlight that the findings above strongly support the view from Lipton (1977) that urban bias is a very strong source of socioeconomic inequality in LDCs. He has always argued that in LDCs, the inequality between rural and urban populations was greater than other types of socioeconomic inequality – such as class, gender or race. We can see from our results here that this seems to be true for the Brazilian case, at least as far as the inequality of educational attainment is concerned.

CONCLUSIONS

This study was carried out to analyze the role of the process of development on the educational attainment patterns in Brazil, and particularly to observe possible trends in the causal effects of urban bias. On one hand, we considered theories that predict a fall in the effects of social background variables on educational attainment with the modernization process brought on by economic development. On the other hand, we also considered theories of social reproduction, which predict that the effects of social background variables on educational attainment are not supposed to decrease with economic development, they might even rise.

We also called attention to the importance of a very significant socioeconomic phenomenon of the process of development in peripheral nations: urban bias. Lipton (1977) highlighted urban bias as the most remarkable source of socioeconomic inequality in LDCs. Although the importance of urban bias for the understanding of many socioeconomic processes in LDCs has been widely shown, it has not been very often considered in studies of the educational attainment processes, especially in Brazil. Our intention was thus to bring in urban bias as a causal factor in the statistical analysis of the educational attainment process of the Brazilian population.

The results of our OLS regression estimations show that we fail to find any pattern of decreasing effects of social background variables on educational attainment in Brazil, as is predicted by the modernization theory. And more important, in the case of the dummy variable that represents the urban origin of the individuals, we found a very clear pattern of increasing effects of this variable on educational attainment. In other words, we saw that the disadvantage of being raised in rural areas for achieving higher levels of schooling increased during most of the XX century in Brazil. We could also see that the standardized regression coefficients of the urban/rural variable were always the highest for all cohorts.

Thus our main conclusion is that the urban bias in the process of economic development experienced by the Brazilian society during the XX century was one of the main factors responsible for the increase in educational inequality found in the country, and so also strongly contributed to the rise of other types of socioeconomic inequality (in particular, earnings and income inequality). This conclusion highlights once again the importance of expanding policies to reduce the differences in the level of development between urban areas and the countryside in Brazil.

ENDNOTES

[1] Here we do not want to introduce the discussion about the mechanisms through which education affects income (for an interesting discussion on this point, see Bowles and Gintis 2000).

[2] This is also true for rural areas. The earnings return to education for Brazilian agricultural laborers are similar to those working in urban economic sectors (see Neves 2005).

[3] For a very good review of the meritocratic hypothesis and evidences in favor and against it, see Goldthorp (1996).

[4] Pastore (1982) applied the meritocratic approach to analyze the Brazilian case. However, although he did find a pattern of increasing effects of education on occupational attainment as development

rises, the hypothesis of decreasing effects of social origin on educational attainment was not found. Nevertheless, he did not considered rural origin as an indicator of social origin in his study.

[5] One exception is the article of Hannun (1999) about China, which shows that since the beginning of market reforms in that country the urban-rural gap in educational opportunities has been increasing. Most research about the effects of urban bias in the development processes of Less Developed Countries (LDC) has been focused on other topics, such as public policy (Song and Timberlake, 1996; Ntsebeza 1998; Wahl 1998), land tenure and rural poverty (Griffin, Khan, and Ickowitz 2002), food security (Jenkins and Scanlan 2001), economic growth (Weede 1987; London and Smith, 1988), demographic processes and urbanization (Bradshaw 1987; Crenshaw and Ameen 1993; Gugler 1993; Meagher 1997), and labor relations (Mellow, 2005).

[6] It is important to note that the relevance of the urban-rural gap in educational outcomes has been very undermined in the sociological research. Hannum and Buchman (2005) and Buchmann and Hannun (2001) have done comprehensive reviews of the studies about educational stratification in LDC. They propose a model in which urban bias could fit as a macro-structural force in the causal process of educational stratification. However, when they review the literature about the macro-structural factors, the urban-rural gap is barely mentioned as a possible important causal force.

[7] Except for the first cohort that covers about 13 years due to the small number of survivors.

[8] It is important to note that for the last three cohorts there seems to have started a fall in the effect of the urban origin variable on educational attainment, but it remained very high and having the highest standardized coefficients. Even though the unstandardized regression coefficient of this variable in the last cohort was much higher than in the first ones, it is possible that a reversion in the urban bias related to educational attainment has started. This should be analyzed in future studies. The problem is that more recent datasets of PNAD do not have all variables necessary to reassess our main research problem in the way we did here.

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