Region, Industry, and Intergenerational Status Transmission in Urban Brazil

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Abstract

This article presents a cautious analysis about regional and industrial variations in the process of status transmission in Brazil. It draws upon a disparate literature spanning that on the organizational structures of industries, the socioeconomic patterns of development, and modernization theory to derive testable hypotheses. The hypothesis tests are based on the estimation of Two-Level Hierarchical Linear Models (HLM). The dependent variable is the socioeconomic status of one's occupation. The first level independent variables represent individual characteristics (sex, age, schooling, and the father's socioeconomic status of occupation). The second level independent variables represent economic sectors' characteristics (based on regional and industrial segmentations). The data for the hypothesis tests come from the Brazilian National Household Sample Surveys (PNADs) from 1973, 1982, 1988, and 1996. The main hypothesis tests are related to the "slope as outcome" model. It is tested whether the second level variables (related to the regional/industrial segmentation) have any impact on the effect of the father's socioeconomic status on the socioeconomic status of his sons/daughters. In other words, it is assessed whether economic segmentation variables mediate the intergenerational status transmission in Brazil. The final results show that neither regional and industrial segmentations nor economic development levels seem to have much a role as mediators of the process of intergenerational transmission of occupational status in Brazil. This brings to the conclusion that the process of intergenerational status transmission in Brazil is very stable in both cross-sectional and temporal ways.

Keywords

Intergenerational status transmission, social stratification, development processes

Introduction

The degree to which social inequality is transmitted across the generations is one of the most important questions in the analysis of societies. This is true not only for sociological theory but also because such processes lie at the heart of enduring issues of social policy challenges that face nations everywhere. This paper provides an analysis of these processes as well as mechanisms through which they are said to operate within a major developing nation, one of the three developing countries – along with China and India – that are seen today as key economic powers of the future.

Among the most important issues related to social inequality, one can find the structural dimensions of labor market segmentation, organizational differences across industries, and a variety of characteristics that differentiate regions within a given society. Previous research demonstrates that such factors can influence how social stratification processes operate. We have, however, less research that has analyzed a wide range of these factors simultaneously using an appropriately specified model.

In particular, we analyze how a variety of factors that vary across regional and industrial levels influence the process of status transmission in urban Brazil. We draw upon a disparate literature spanning that on the organizational structures of industries, the socioeconomic patterns of development, and modernization theory to derive testable hypotheses.

Brazil provides an excellent setting for testing hypotheses at the industrial and regional levels. Regional inequality within Brazil is practically legendary, as the highly industrialized south co-exists with both the impoverished and underdeveloped northeast and the vast region of the Amazon. Similarly, inequality across industrial sectors is wide by any international standard.

Our primary analytical technique is a two-level Hierarchical Linear Model (HLM). At one level is the standard "stratification" variables measured at the individual level. The second level consists of several regional and industrial level variables. We first estimate the proportion of the variance of the socioeconomic status of individual occupations due to variance between individuals and due to variance between regions and industries. Following this, we estimate the influence of industrial and regional level variables on the effect of parental occupational status on one's occupational status.

We use data from the Brazilian National Household Sample Surveys (PNADs) of 1973, 1982, 1988, and 1996. These are large representative datasets and are based on nationwide multistage stratified cluster samples. Each PNAD contains extensive and detailed data appropriate for social stratification and mobility analyses. At the secondary level, the data permit us to construct a series of variables built on nine non-agricultural sectors and 26 states (for the 1996 dataset), resulting in as many as 234 level-two units (in the 1996 dataset). Applying a two-level HLM to these data provides several thousand observations for the first level and more than two hundred units in the second level (the combination of states and industries). The longitudinal nature of the PNAD datasets permits us to conduct both cross-sectional and longitudinal analyses.

Research Problems and Theoretical Approaches

We believe Brazil is a country of special interest for research on the relationship between social stratification and economic development, given that, for one hand, it has some characteristics that provide the necessary conditions to test some important hypotheses – especially about cross-sectional and longitudinal variations of stratification processes – and, for another hand, it has the necessary data to do the hypotheses testing. More specifically, Brazil is an interesting case for analyses of the structural determinants of stratification processes, in particular to status transmission. In this paper, we analyze two different research problems about the effects of structural settings on status transmission: a) the possible influences of industrial segmentations and; b) the possible effects of variables related to regional characteristics. The literatures about these research problems are quite different. While the first one is related to the research on the

organizational variations between industries, the second one is more related to macro-socioeconomic research problems.

Industries and Social Stratification

Since at least the 1970s, researchers have called attention to the need of more theoretical discussion and empirical research about the possible links between organizational analysis and social stratification (see: Pffefer 1977; Baron and Bielby 1980; Baron 1984; Jacobs and Breiger 1994).[1] The literature on labor market segmentation has also contributed to the debate about the possible effects of variations of the organizational structure on stratification processes. The main questions are related to the ways stratification processes like status transmission or social mobility vary between industries, i.e., the industrial sector where one is employed influences the way his/her social origin affects his/her occupational status or class position?

   Pffefer (1977), for example, predicts that in the more rigid organizational structures typical of some industries (especially manufacturing) one will find a lower level of status transmission than in the more flexible industries (like the service sector). He believes that in the employment relationships one's social background influences his/her status especially through the transmission of social networks, whose importance in the labor market was very well stated by Granovetter (1974).

   Industrialism has been seen from two very different points of view in social stratification theory, for one hand, and much of the organizational analysis, for another hand. While the industrialism hypothesis of social stratification identified the process of industrialization – and its consequent growth of manufacturing – with a more fluid stratification structure (Treiman, 1970) due to the rise of meritocracy, most organizational studies (Stinchcombe, 1959; Crozier, 1963), in general, pointed to a different direction, arguing that manufacturing – and its mass production systems – was the main example of bureaucratic organizations, marked by very rigid structures of hierarchy and authority.

   These two views may represent different possible interpretations of Max Weber's theory of bureaucracy and modernity. On one hand, Weber in fact identified bureaucratization with modernization and pointed to meritocracy – or the rule of expertise – as one of the main characteristics of modern bureaucracies. Thus, meritocracy and so more fluid societies would follow the process of rationalization carried out by bureaucratization. On the other hand, most organizational analyses have pointed to the statement that this would be a naive interpretation of Weber's theory, and that reality was not really supporting the meritocratic hypothesis about bureaucratic organizations. Scholars like Crozier (1963), in particular, tried to show that bureaucracies were full of *de-functions*, and that one of the main ones is related to the supposed prevalence of meritocracy in bureaucratic organizations.

   Some more recent contributions to organizational theories are helpful to understand why the very bureaucratic systems – typical of manufacturing organizations – could allow more social reproduction. Williamson (1981), for example, when proposed his Transaction Cost Theory showed that organizations do whatever is necessary to diminish transaction costs. As Crozier (1963) had shown, bureaucracies always try to reduce uncertainty. As a consequence, bureaucratic organizations – as a way to avoid uncertainty and so reduce transaction costs – would thus base their selection and promotion systems on credentials and networks. As Collins (1979) shows, credentialism is not very much related to meritocracy, and so contributes to maintain social reproduction. Likewise, the ways networks function to influence firms' recruitment – as Granovetter (1974) showed – might have nothing to do with meritocracy.[2]

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[1] For the Brazilian case, see: Neves and Fernandes (2002).
[2] While in traditional societies the primary (or strong) ties are used by individuals to have access to higher status positions, in contemporary societies the secondary (or weak) ties are instrumental to individuals in

Therefore, we could state that, while the industrialist theory of social stratification would associate manufacturing with less status transmission, the organizational approach would not necessarily preview that relationship.

Region, Development, and Inequality

As we said above, the industrialist theory of social stratification always predicted that industrialization would de-stratify societies. Even though this hypothesis could be better tested by longitudinal perspective, it also implies that more industrialized regions should be less stratified, and thus have less intergenerational status transmission. This hypothesis has been contradicted by structural perspectives of social stratification.

Neoclassical economic theory, on the other hand, predicted that socioeconomic inequality would increase with the first steps of industrialization – as a consequence of the complementarities between physical capital and skilled labor – but that it would decrease in the long term, due to the universalization of the educational systems that follow industrialization (for a very clarifying exposition of this hypothesis to the Brazilian case, see Langoni 1974)[3].

This hypothesis has been contradicted by some structural sociologists (like Bourdieu and Passeron 1977; and Collins 1979) who have argued that even with the universalization of the educational system, the high status families will find ways to assure that their siblings will get the higher occupational positions in society, so keeping unchanged the levels of social rigidities and income inequality[4].

Another important point to be discussed in this section is about the possible influences of regional characteristics on the level of social permeability and inequality. In particular, there is one issue that is important for us here. In both economic and sociological traditions we find theoretical grounds to expect that as societies tend to be more stable (in the sense of less social change) it would become more rigid, and so less permeable. For example, Eriksson and Goldthorp (1992) argue that, when compared to the European nations, Karl Marx saw the US as a more permeable society as a consequence of its "youth." In particular, the presence of development frontiers would cause this higher level of permeability[5].

Another theoretical approach – coming from a very different tradition of thought – brings us to the same prediction. Olson (1982: 74) – when stating the macro socioeconomic implications of his theory about the logic of collective action – argues that: "stable societies with unchanged boundaries tend to accumulate more collusions and organizations for collective action over time." This would imply that more stable societies would suffer from more social rigidities, and thus socioeconomic inequality.

Several different studies about the relationship between development frontiers and social stratification have been done in recent years based on data from different countries[6]. However, most

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other to improve their access to better occupational positions (see: Granovetter, 1973). As Pfeffer (1977) states, social networks would be part of families' heritage, and so would strength social reproduction.

[3] Although most economists are thinking of income inequality when they talk about the consequences of industrialization, it is probably also true that they believe there is a positive association between income inequality and social permeability (see Olson 1982, for a more general discussion on this point, and Pastore 1982, for a discussion about the Brazilian case).

[4] It is necessary to point that Sorokin (1959) had stated a similar hypothesis much earlier, when he raised the argument that when some type of stratification process diminishes its effect in a society, it tends to be replaced by another.

[5] In fact, the first to explicitly propose this hypothesis was F. Turner (1920).

[6] See: Shrestha, Velu, and Conway (1993), for the case of Nepal; Helmes-Hayes (1988) and Sève and Bouchard (1998), for the case of Canada; Maas and Leeuwen (2002), for the case of Sweden; R. Turner (1975), for the case of Australia; and Guest (2005), for the case of the USA. Grusky (1983) wrote another important article that should be pointed here. Even though he did not analyze the possible specificity of the

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studies have found no support for the hypothesis that the social stratification (or mobility) processes in frontier regions are more fluid[7]. Brazil is a good case for testing this hypothesis, given that it is still an unstable society (in the sense presented above), because it still does have a development frontier. In Brazil one can find at the same time very "old" areas – where the so-called *patriarchal social system* (see: Freyre 1973) has been established since the XVI century (like in the Northeastern Region) – and a relatively "young" and changing development frontier (like the Brazilian Amazon Region). The agricultural frontier started to move in the 1950s from the Southern, Southeastern, and Northeastern Regions to the Center-Western Region, and later, in the 1970s, to the Northern Region (the Amazon). The moving of the agricultural frontier caused a very fast process of creation of new towns. As a consequence, even though the development frontier in Brazil follows the opening of areas for agricultural production, it has been marked by urbanization. Based on this picture given above, we will analyze whether in Brazil the frontier regions are more permeable – in the sense of less status transmission – than the older established areas[8].

Hypotheses

Based on the theoretical discussion presented above, we will test the following hypotheses:
I – Taking into account the social stratification theory of industrialism, we will test the hypothesis that in the manufacturing sector (compared to the service private and public sectors) one finds less status transmission, given that in a modernizing country, as it is the case of Brazil, the service sector would tend to represent a more backward sector (Holsinger 1975), and that the public sector would be marked by patrimionialism, what make both of them good examples of organizations based on traditional domination systems, while the manufacturing sector would be constituted by organizations based on rational domination systems, and thus would be more meritocratic.

   II – Based on the organizational analysis, we will test the hypothesis that in the manufacturing sector (compared to the service private and public sectors) one does not find less status transmission, given that manufacturing bureaucracies would not be in fact meritocratic and, in the opposite, would be even more rigid than other sectors, what would reinforce social reproduction in the way of intergenerational status transmission.

   III – Based on the neoclassical economic approach and the sociological modernization theory, we will test the hypothesis that in the more developed regions one would find less intergenerational status transmission than in the more backward regions, and also that status transmission would tend to decrease overtime.

   IV – Based on the structuralist sociological approach, we will test the hypothesis that intergenerational status transmission is not lower in more developed regions, and that it does not decrease overtime.

   V – Based on the neoclassical economic theory, we will test the hypothesis that intergenerational status transmission is lower in areas with less income inequality.

   VI – Based on the economic and sociological hypothesis of the relative higher permeability of development frontiers, we will test the hypothesis that intergenerational status transmission will be lower in frontier areas than in the more settled regions.

Methodology

Data

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status attainment process in development frontiers, he did a remarkable job about the inter-regional variations in status attainment.
[7] See, in particular, Guest (2005), for the American case, and Helmes-Hayes (1988), for the Canadian Case.
[8] Our analysis has clear advantages when compared to most of the other studies which had to deal with inappropriate data.

The data for this paper come from the Brazilian National Household Sample Surveys of 1973, 1982, 1988, and 1996 produced by the Brazilian Institute of Geography and Statistics (IBGE). These data are based on multistage stratified cluster samples. Each one has several thousand observations. These four datasets were chosen because they are the ones that have the necessary data to test the research hypotheses presented above. We decided to use only the urban population, because of possible sampling problems in the rural areas of the Amazon region. Our samples include only those people who are head of households or their spouses, who are between 15 and 65 years of age, and were employed at the moment they were interviewed.

Model and Variables

We apply in this paper a Hierarchical Linear Model (Bryk and Raudenbush 1992). Individuals will represent our first level. The sample sizes for the first level data are: 70421 (for 1973), 68553 (for 1982), 40281 (for 1988), and 45023 (for 1996). The second level will be based on a combination of the nine non-agricultural economic sectors and the number of states. Given that the number of states has grown over the years, our second level sample sizes are: 225 (for 1973), 234 (for 1982), 234 (for 1988), and 243 (for 1996).

   The variables in the first level will be: socioeconomic status of occupations (from 0 to 100), that is the dependent variable, sex (male = 1), schooling (number of years), age (number or years), and father's socioeconomic status of occupations (from 0 to 100).[9] The second level variables will be: level of economic development (measured as an index by the UNDP, based on the per capita income, which varies from 0 to 1), income inequality (Theil coefficient, also measured by the UNDP), a dummy variable for the manufacturing sector, a dummy variable for the service sector (public sector will be the reference group), a dummy variable for the Northern Region (the Amazon), and a dummy variable for the Center-Western Region. The hypotheses' tests will be based on the effect of the second level independent variables on the Father's SES-Son's and Daughter's SES Slope (β_{1j}).

   The model[10] to be estimated will thus be:

$$SESO = \beta_0 + \beta_1 FSESO + \beta_2 SEX + \beta_3 SCH + \beta_4 AGE + r_{ij}$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11} ED + \gamma_{12} THAIL + \gamma_{13} IND + \gamma_{14} SERV + \gamma_{15} NR + \gamma_{16} CWR + u_{1j}$$

Where:
FSESO = Father's socioeconomic status of occupation;
SEX = Sex;
SCH = Schooling;
AGE = Age;
ED = Economic development;
THAIL = Thail coefficient of income inequality;
IND = Dummy variable for the manufacturing sector;
SERV = Dummy variable for the service sector;
NR = Northern region;
CWR = Center-Western region.

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[9] The status of occupations is measured by Valle Silva's index (see Pastore and Valle Silva 2000), which ranks occupations in almost exactly the same order as Duncan's (1961) socioeconomic index does.
[10] Due to the characteristics of the samples, we use the estimates based on robust standard errors.

Results

Before testing our hypotheses, we estimated a "One Way ANOVA HLM" to measure the proportion of the variance of Socioeconomic Status of Occupations (SESO) associated with our second level categories. Our results (see Tables 1, 4, 7, and 10) show that the percentage of variance associated with the second level categories rose overtime from 17 percent in 1973 to 25.2 percent in 1996. Thus, we can conclude that in urban Brazil the proportion of variance of SESO linked to the industrial/regional structure is not only impressive, but also has been growing over the years.

Table 1: Results from the Hierarchical Linear Model of "One Way ANOVA", Brazil-1973.

Fixed Effect	Coefficient	df	t	p
Average Regional/Industrial Group Mean (γ_{00})	12.365	224	39.65	0.000
Random Effect	Variance Component	df	χ^2	p
Regional/Industrial Group Mean (u_{0j})	19.15130 (17.0%)	224	14192.6	0.000
Level-1 Effect (r_{ij})	93.65253 (83.0%)			

Source: PNAD-1973.

Table 2: Results from the Hierarchical Linear Model of "Slope as Outcome", Level-1 Coefficients, Brazil-1973.

Variable	Coefficients
Sex (Male = 1)	3.508618 (t = 16.143)
Schooling	1.269590 (t = 27.342)
Age	0.164325 (t = 22.754)
Intercept	2.267085 (t = 6.845)

Source: PNAD-1973.

Table 3: Results from the Hierarchical Linear Model of "Slope as Outcome", Level-2 Coefficients, Brazil-1973.

Fixed Effects	Coefficients	df	t
Models for Father's SES-Son's and Daughter's SES Slope (β_{1j})			
Intercept (γ_{10})	0.100150	218	1.881
Level of Economic Development (γ_{11})	-0.033635	218	-1.464
Thail (γ_{12})	0.024130	218	0.329
Manufacturing Sector (γ_{13})	0.035662	218	1.216
Service Sector (γ_{14})	-0.005684	218	-0.215
Northern Region (γ_{15})	0.018004	218	0.725
Center-Western Region (γ_{16})	-0.008121	218	-0.542
Random Effects	Variance Component	df	χ^2
Industry/Region Mean (u_{0j})	16.48984	190	2278.58
Father's SES-Son's and Daughter's SES Slope (u_{1j})	0.07351	184	540.94
Level-1 Effect (r_{ij})	57.45920		

Source: PNAD-1973.

Table 4: Results of the Hierarchical Linear Model of "One Way ANOVA", Brazil-1982.

Fixed Effect	Coefficient	df	t	p
Average Regional/Industrial Group Mean (γ_{00})	14.148	233	33.41	0.000
Random Effect	Variance Component	df	χ^2	p
Regional/Industrial Group Mean (u_{0j})	39.43487 (23.7%)	233	20716.5	0.000
Level-1 Effect (r_{ij})	126.96140 (76.3%)			

Source: PNAD-1982.

Table 5: Results from the Hierarchical Linear Model of "Slope as Outcome", Level-1 Coefficients, Brazil-1982.

Variable	Coefficients
Sex (Male = 1)	2.460667 (t = 25.578)
Schooling	1.534097 (t = 25.578)
Age	0.109152 (t = 15.711)
Intercept	1.501081 (t = 4.864)

Source: PNAD-1982.

Table 6: Results from the Hierarchical Linear Model of "Slope as Outcome", Level-2 Coefficients, Brazil-1982.

Fixed Effects	Coefficients	df	t
Models for Father's SES-Son's and Daughter's SES Slope (β_{1j})			
Intercept (γ_{10})	0.229432	227	1.560
Level of Economic Development (γ_{11})	0.093813	227	0.833
Thail (γ_{12})	-0.345858	227	-1.738
Manufacturing Sector (γ_{13})	0.012119	227	0.370
Service Sector (γ_{14})	0.023758	227	0.797
Northern Region (γ_{15})	-0.035091	227	-1.054
Center-Western Region (γ_{16})	0.097570	227	1.744
Random Effects	Variance Component	df	χ^2
Industry/Region Mean (u_{0j})	16.27226	212	2214.75
Father's SES-Son's and Daughter's SES Slope (u_{1j})	0.02771	206	1138.85
Level-1 Effect (r_{ij})	71.17762		

Source: PNAD-1982.

Table 7: Results of the Hierarchical Linear Model of "One Way ANOVA", Brazil-1988.

Fixed Effect	Coefficient	df	t	p
Average Regional/Industrial Group Mean (γ_{00})	14.616	233	34.81	0.000
Random Effect	Variance Component	df	χ^2	p
Regional/Industrial Group Mean (u_{0j})	38.08839 (21.8%)	233	11334.3	0.000
Level-1 Effect (r_{ij})	136.93773 (78.2%)			

Source: PNAD-1988.

Table 8: Results from the Hierarchical Linear Model of "Slope as Outcome", Level-1 Coefficients, Brazil-1988.

Variable	Coefficients
Sex (Male = 1)	2.396957
	(t = 10.664)
Schooling	1.469980
	(t = 25.756)
Age	0.124775
	(t = 17.048)
Intercept	1.462893
	(t = 4.599)

Source: PNAD-1988.

Table 9: Results from the Hierarchical Linear Model of "Slope as Outcome", Level-2 Coefficients, Brazil-1988.

Fixed Effects	Coefficients	df	t
Models for Father's SES-Son's and Daughter's SES Slope (β_{1j})			
Intercept (γ_{10})	0.648909	227	3.393
Level of Economic Development (γ_{11})	-0.617317	227	-3.691
Thail (γ_{12})	-0.159131	227	-1.022
Manufacturing Sector (γ_{13})	-0.008559	227	-0.258
Service Sector (γ_{14})	0.016160	227	0.544
Northern Region (γ_{15})	-0.069111	227	-2.375
Center-Western Region (γ_{16})	0.040623	227	1.417
Random Effects	Variance Component	df	χ^2
Industry/Region Mean (u_{0j})	15.89311	212	1446.62
Father's SES-Son's and Daughter's SES Slope (u_{1j})	0.02669	206	996.96
Level-1 Effect (r_{ij})	79.75613		

Source: PNAD-1988.

Table 10: Results of the Hierarchical Linear Model of "One Way ANOVA", Brazil-1996.

Fixed Effect	Coefficient	df	t	p
Average Regional/Industrial Group Mean (γ_{00})	47.649	242	98.40	0.000
Random Effect	Variance Component	df	χ^2	p
Regional/Industrial Group Mean (u_{0j})	53.01654 (25.2%)	233	11334.3	0.000
Level-1 Effect (r_{ij})	157.67960 (74.8%)			

Source: PNAD-1996.

Table 11: Results from the Hierarchical Linear Model of "Slope as Outcome", Level-1 Coefficients, Brazil-1996.

Variable	Coefficients
Father's SES	0,129908 (t = 1.521)
Sex (Male = 1)	4.632821 (t = 15.630)
Schooling	1.650285 (t = 39.732)
Age	0.178619 (t = 33.371)
Intercept	28.644293 (t = 75.109)

Source: PNAD-1996.

Table 12: Results from the Hierarchical Linear Model of "Slope as Outcome", Level-2 Coefficients, Brazil-1996.

Fixed Effects	Coefficients	df	t
Models for Father's SES-Son's and Daughter's SES Slope (β_{1j})			
Intercept (γ_{10})	0.129908	237	1.521
Level of Economic Development (γ_{11})	-0.011018	237	-0.157
Thail (γ_{12})	0.006379	237	0.108
Manufacturing Sector (γ_{13})	-0.065027	237	-5.414
Service Sector (γ_{14})	-0.029189	237	-2.484
Northern Region (γ_{15})	-0.001721	237	-0.179
Center-Western Region (γ_{16})	0.021671	237	1.967
Random Effects	Variance Component	df	χ^2
Industry/Region Mean (u_{0j})	18.83603	219	924.00
Father's SES-Son's and Daughter's SES Slope (u_{1j})	0.05851	213	453.66
Level-1 Effect (r_{ij})	95.04582		

Source: PNAD-1996.

Table 13: Results from the Hierarchical Linear Model of "Slope as Outcome", Level-2 Coefficients (summary of Tables 3, 6, 9, and 12), Brazil-1973, 1982, 1988, and 1996.

Estimates	1973	1982	1988	1996
Intercept (γ_{10})	0.100150	0.229432	0.648909	0.129908
Level of Economic Development (γ_{11})	-0.033635	0.093813	-0.617317	-0.011018
Thail (γ_{12})	0.024130	-0.345858	-0.159131	0.006379
Manufacturing Sector (γ_{13})	0.035662	0.012119	-0.008559	-0.065027
Service Sector (γ_{14})	-0.005684	0.023758	0.016160	-0.029189
Northern Region (γ_{15})	0.018004	-0.035091	-0.069111	-0.001721
Center-Western Region (γ_{16})	-0.008121	0.097570	0.040623	0.021671

About our research hypotheses, our results (see Tables 3, 6, 9, 12, and 13)[11] show that:
I – The first hypothesis is not very well supported. Only in 1996 the manufacturing sector shows the lowest level of intergenerational status transmission. In the case of all the other years, our results indicate that there is no difference in intergenerational status transmission between the manufacturing sector, the service sector and the public sector. However, this result might indicate that the process of flexibility applied to the private sector in Brazil (for both manufacturing and service sectors) since the very beginning of the 1990s might have made it more permeable than the public sector, where organizational flexibility has not been applied. This interpretation would follow much of the literature about flexible organizations (see Gee et. al. 1996 and Tenório 2000).

II – Our second hypothesis competes with the first one. Thus, it got much more support from the results than did the previous one. However, the result from 1996 might be an indicator that manufacturing organizations might in fact be becoming more flexible and permeable, so contributing to diminish social reproduction through lowering status transmission.

III – About our third hypothesis, only for the 1988 data we did find a significant negative effect of the level of economic development on β_{1j}. In what is concerned to the longitudinal comparisons, we find no pattern of falling effects of Father's SESO on Son's SESO. Comparing γ_{10} for each year shows no decreasing trend overtime. As a matter of fact this is no news, given that many other previous works – using a different methodology – had found the same patterns for the Brazilian case (see, among others, Bills and Haller 1984).

IV – Our fourth hypothesis competes with the previous one. Thus, it got much more support from our results than the third hypothesis did. Even though we cannot know – by analyzing our results – the mechanics of the process that keep social reproduction relatively unchanged, the reproduction hypothesis was very much supported by our results.

V – About our fifth hypothesis, we do not find any support. Only in the 1980s income inequality showed a negative association with intergenerational status transmission, but in none of the cases it was significant – the highest significance was found in 1982, but even in this case it was not very impressive (t = -1.738).

VI – Finally, about our last hypothesis, we also did not find much support. Although in three of the four samples we found a negative effect of the Northern Region variable, as was predicted by the sixth hypothesis, only in one (1988) was it significant. On the other hand, one interesting result is that the effect of the dummy variable for the Center-western Region, which was negative in 1973 (but not significant), became positive for all other three samples (but only significant in 1996). This result might be due to the fact that the expansion of the agricultural frontier in Brazil has been very

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[11] Tables 2, 5, 8, and 11 show the Level-1Coefficients of the final models for each sample. They are not used for the hypothesis tests. They are included here only to inform the reader about all coefficients produced by the models. Table 13 brings a summary (from Tables 3, 6, 9, and 12) of the estimates for the Level-2 Coefficients of the final models for each sample.

different of what was observed in some other countries, especially in the US in the XVIII century.[12] As Neves (1997 and 2005) shows, the levels of land concentration in the agricultural frontier states in Brazil have been always very high (with Gini coefficients above 0.70, similar to what is found for the other parts of the country). Although we are not here working with those occupied in the agricultural sector, we believe that the agrarian structure of the development frontiers in Brazil is one of the main causes of its high levels of socioeconomic inequality and impermeability. The fact that our results indicate that in the Center-western Region in 1996 the level of intergenerational status transmission was higher than in the other regions of the country might be indicating even a tendency for more social reproduction for previous frontier regions. Since the 1980s, this region was completely occupied by a large scale agricultural economy based on very intensive use of capital and technology, and very low use of labor, and now it no longer has open lands, becoming so a basically settled region. The whole economy of the region became increasing dependent of this capital-intensive agribusiness. The high dependence of land and capital property in this region might be responsible for a level of social reproduction higher than in the other areas of the country, where the economy is much more diversified.

Conclusions

In this article, we analyzed whether industrial and regional segments – as well as the levels of economic development – mediate the process of intergenerational transmission of occupational status in Brazil. We raised competing theoretical hypotheses from different approaches – especially from the industrialist perspective of the sociological theory of modernization and the structural theory of organizations. In order to test our research hypotheses, we used four different datasets from the Brazilian National Household Sample Surveys of 1973, 1982, 1988, and 1996, and estimated – for each dataset – Hierarchical Linear Models (HLM).

Our results show that neither regional and industrial segmentations nor economic development levels seem to have much a role as mediators of the process of intergenerational transmission of occupational status. Our results bring the conclusion that the process of intergenerational status transmission in Brazil is very stable in both cross-sectional and temporal ways. Therefore, we can conclude that the hypothesis about the relatively stable patterns of social reproduction – which was initially raised by Sorokin (1959), and is well discussed in Eriksson and Goldthorp (1992) – might be also valid for at least some of the Third World countries.

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[12] It is possible, however, that the Brazilian case is just similar to the other frontier cases (including the US frontier), given that – as we showed above – the literature has not found much support for F. Turner's (1920) hypothesis.

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