Socio-spatial segregation and the labor market in emerging metropolitan areas in Brazil: the case of Campinas, State of São Paulo

José Marcos Pinto da Cunha
Philosophy and Human Sciences Institute-IFCH
Population Studies Center-NEPO
University of Campinas-UNICAMP
(zemarcos@nepo.unicamp.br)

Alberto Augusto Eichman Jakob
Population Studies Center-NEPO
University of Campinas-UNICAMP
(alberto@nepo.unicamp.br)

Abstract

The impacts of socio-spatial segregation on the general living conditions of individuals and families have been discussed broadly in the Brazilian and international literature, and approached from different angles. Based on the premise that "space matters," the aim of the present study is to contribute to the analyses of the impact that segregation, understood here as the concentration in space of individuals or families of similar socio-economic strata, has on the capacity of populations to respond to the numerous problems and risks that exist in large urban areas. More specifically, this article has the purpose of investigating an emerging metropolitan area in Brazil (Campinas, State of São Paulo), to verify whether there are indications of the effect of segregation on different characteristics of the insertion of individuals in the labor market. Based on data from the Brazilian Demographic Census of 2000, the authors attempt to evaluate the impact of the location of persons in regional space in terms of "unemployment," "formality of labor situations" and the "social protection" of the economically active population. The study also took into consideration socio-demographic characteristics, both those seen as important in the literature, such as gender, age, ethnic group and education, as well as those that, until the present, have received less attention by the academy, such as questions related to spatial mobility, change in residence (migration) and commuting. As a spatial variable related to segregation, a measure based on "local Moran's I" was used in order to identify homogeneous areas in terms of the socio-economic composition of their inhabitants. Although not entirely conclusive, the results suggest the importance of place on the form of insertion of individuals in the labor market. This corroborates the theoretical propositions and hypothesis considered in this study.

Introduction

The effects of socio-spatial segregation on the general living conditions of families and individuals in the general population have been extensively discussed in the Brazilian and international literature. According to Flores (2006), the mechanisms that operate to put this reality into effect are identified according to different approaches, each of which gives emphasis to different aspects, ranging from questions related to the existence of social capital to those that stress differences among the various places in terms of access to services and other opportunities that are available at the regional level.

Based on the premise that "space matters" (Flores, 2006; Torres; Ferreira; Gomes, 2005), a number of risks and behaviors can be investigated in an effort to evaluate the real effect that socio-spatial segregation – a concept that is understood here as the concentration in space of similar socio-economic strata – has on the ability of families and individuals to respond to such problems. In short, the intention is to assess its effects on social inclusion. This type of analysis has been carried out, for example, regarding children's school output (Cunha; Jimenez, 2006; Cunha et al. 2007; Torres; Ferreira; Gomes, 2005; Flores, 2006), the living conditions of young people (Galster; Mikelsons, 1995) and even criminality (Sampson; Raudenbush; Earls, 1997).

In the case of Brazil, this type of study attracted attention from demographers, sociologists and urban planners. In general, their work has focused on metropolitan regions, where not only the dynamics, but social problems as well, are becoming ever more complex and more exacerbated, due to demographic concentration and the spatial integration existing among different administrative units. The present study is intended to contribute to this line of analysis.

This paper has three objectives. First, it succinctly describes the situation of a specific metropolitan region in Brazil in terms of its demographic dynamics and the process of socio-spatial segregation in particular, including data on the spatial distribution of the population according to socio-occupational categories. Secondly, the study conducts an exploratory analysis of the different factors observed regarding insertion of individuals in the labor market, according to their different socio-demographic characteristics. Among these characteristics are factors such as the spatial mobility of these individuals and, especially, the specific places where they live in the metropolitan space. Finally, a multivariate model will be developed in order to isolate the effect of location on inclusion in the labor market, which, in this study, will be evaluated on the basis of three indicators: unemployment, condition of having a signed labor contract, and contributing to social security.

In spite of advances in household surveys in Brazil[1], demographic censuses have been the richest source of information for studies of this type, especially because of their capacity for spatial disaggregation; the analysis of this study is based on the Census of 2000. Besides offering the possibility of understanding the characteristics of the population on an

[1] Among these advances are the surveys conducted by the *Centro de Estudos* da *Metrópole* in 2006, and the study recently concluded by the "Vulnerability Project," of which this text is a part. The project used information collected from over 1800 households in the Campinas region.

intra-municipal scale ("census tracts" and "weighted areas"),[2] such data will allow us to apply spatial techniques in order to construct indicators of segregation.

Lastly, it would be well to call attention to the fact that the present article represents just one of a number of studies underway in the Campinas Metropolitan Region. Part of the information dealt with here is therefore the result of accumulated knowledge that has recently been obtained and disseminated (Cunha, org, 2006).

I. Labor market, segregation and spatial mobility: contextual and theoretical questions

The situation of the Brazilian labor market: a brief summary

Dedecca and Baltar (1998) help us understand, among other issues, the conditions that led to significant changes in the profile and conditions of the Brazilian labor market, especially since the 1980s.

There has been intense rural-urban migration in Latin-American countries but the modern sectors in the large cities have shown limited ability to absorb such migrant populations. For this reason, many available laborers have been obliged to seek work in activities that demand only low qualification, such as street vendors, household repair and maintenance workers, and domestic help.

For Dedecca and Baltar, in view of this situation, Latin-American socio-economic development was unable to consolidate a uniform labor market where full and protected employment and low levels of unemployment were the rule, and where non-organized work[3] was a mere residue. With respect to the 1990s and the first years of the 21st century, Dedecca and Baltar also say that the Latin-American countries are faced with growing expansion of the socio-economic heterogenity related to factors such as the prolonged economic crisis and, especially, by the destructive effects of programs of economic liberalization.

This situation can also be understood on the basis of discussions presented by other authors, such as Harvey (2005), Castells (1999) and Sassen (1991), who recognize the emergence, not only in Latin America (where perhaps this process seems most acute), but worldwide as well, as part of a new situation with the crisis and restructuring of production.

---

[2] Census tracts are the smallest geographical unit of reference for collecting census data. Weighted areas, on the other hand, are geographical units made up of mutually exclusive groupings of census tracts. The data available on census tracts corresponds to the questionnaire applied for the entire population, and therefore provides a limited amount of information. For weighted areas, on the other hand, data from the questionnaire of the sample is available, and has a much greater number of characteristics related to the households and persons.

[3] According to Dedecca and Baltar (1998), in the socio-economic reformulation set into motion during the 1970s, the informal sector began being referred to as the *non-organized* segment, in contrast to the *organization* of the modern sector. This distinction is determined mainly by the logic of profit and the accumulation of capital by the organized sector, which, by being in command of the dynamics of the overall economy, also uses capitalist methods to regulate the spaces occupied by non-organized activities.

Sassen (1991) held that the globalization of the economy was causing a broad restructuring in the large cities, which she felt were undergoing a broad process of reorganization, especially in terms of the labor market. For her, this new structuring, although variable from one place to another, has a common impact on all of them, namely, the emergence of a new social structure characterized not only by the concentration of income and the expansion of both the affluent and the impoverished segments, but also a contraction of the middle class.

This position defended by Sassen is not necessarily shared by other scholars, who, in contrast, prefer basing their studies on the working hypothesis of the growth of socio-spatial heterogenity in cities (Preteceille, 2000). The fact, nonetheless, is that the metropolitan regions in Brazil seem to still be reproducing, in many senses, but with certain nuances and novelties, the process of peripherization and marginalization that was so visible during the 1960s and, especially, the 1970s.

Dedecca and Baltar (1998) underscore still other changes in the production system. They hold that rationalization programs have brought about a de-verticalization of the large industrial plants, leading to the outsourcing of many of their operations, these companies becoming important sub-contractors not only of the labor force, but of production and services as well. In the opinion of those authors, this new context would seem to be leading to a re-evaluation of the role of the non-organized sector in the dynamics of capitalism, where the situation is becoming part of the logic of production and activity of what Dedecca and Baltar call the "modern sector." In this process, informal activities absorb workers who were ejected by modern plants as they rationalized their production, but who nevertheless become incorporated into their overall production cycles.

That is, we seem to be facing a process where the new economic dynamics produce and reproduce a growth in the informal sector. This growth forces it to absorb former low-paid salaried workers who can carry out extremely simple activities (such as work as street vendors or domestic help). It also brings about the establishment of small businesses set up by more highly qualified former employees whose main activity consists of services or production work for the organized sector. Such individuals also frequently carry out activities related to the services that are emerging with the new lifestyle that the production systems are developing.

As a result, the decline of formal employment seem to have caused situations of informality to become permanent. Due to the absence of an unemployment insurance system, it also seems to have led salaried personnel who were ousted from the organized sector to migrate, necessarily or not, to the informal sector. This fact has had major consequences on the general conditions of social reproduction.

Brazil's overall unemployment rose to approximately 15% in 2000, the moment considered in this study, somewhat higher in the Campinas Metropolitan Region (16%). But, as we know, these figures, startling as they may be, nevertheless concealed the even more alarming growth in the number of substandard jobs, or sub-employment. Some of the data analyzed here corroborate these trends.

As we shall see below, there are several attributes that can either reduce or increase this situation of instability related to inclusion in the labor market. Our hypothesis is that one of them is the area where a given individual lives.

Labor market, segregation and spatial mobility of the population

As was mentioned in the introduction, some lines of investigation are geared to studying how socio-spatial segregation affects certain aspects of the lives of individuals and families. Among these lines, two could be especially highlighted: 1) that which generically could be said to show concern for grasping the so-called "neighborhood effect" (Jencks; Mayer, 1990) and 2) that which is based on the idea that there is a "geography of opportunities" (Galster; Killen, 1995).

Studies based on the first approach describe different mechanisms by which segregation occurs in function of certain behaviors or phenomena. Studies based on this perspective are concerned, for example, with examining the strength (or weakness) of the normative expectations that exist in the communities (Kaztman and Filgueira, 2006), the way certain behaviors are disseminated, how collective socialization takes place through the transmission of role models (Wilson, 1987, Kaztman,1999), and the levels of social control existing in neighborhoods (Sampson; Raidenbush; Earls, 1997).

According to the second type of approach (the geography of opportunities), the effect of the place where people live on their behavior is related, on the one hand, to objective aspects that exist in (or are absent from) these places, such as access to and quality of services, especially public services (health, education, security, etc.), infrastructure, characteristics of the labor market, and others. On the other hand, subjective spatial variations, represented basically by existing social networks, may also exert significant impacts (Galster; Killer, 1995).

In fact, these two approaches have areas in common because, in both cases, at least one question is considered important to explain specific "behaviors" according to the place of residence of the persons involved. In other words, they both give importance to the influence of the social networks in existence in neighborhoods or local communities.

On the basis of these initial premises, we propose the following question: Can it be said that, once certain individual characteristics have been controlled, socio-spatial segregation has an effect on the type of inclusion of individuals in the labor market?

Our working hypothesis, therefore, is that access to the labor market depends not only on individual socio-demographic attributes, but on other aspects as well. In line with the discussion above, these aspects are related to where the individual lives.

As for the socio-demographic characteristics that will be used in this study, there is no need to discuss at any length the effects that gender, age, educational level, marital status, and color/ethnic group[4] clearly exert on one's possibilities for entering the labor market. According to these variables, the differences found in 2000 regarding unemployment, for example, were highly significant in Brazil overall and in its various regions (Dedecca, 2006).

[4] It is important to clarify that the item on color in the Brazilian census is based on the response of each individual during the census. It is therefore a variable that identifies the individual's phenotypical characteristics. However, it has been used to detect the social and racial inequalities brought about by the country's long history of slavery. For more details on this issue, see Cunha, 2007.

However, some considerations are in order regarding the other variables we will use in this analysis, especially migratory status and daily commuting.

In regard to the individual's migrant condition, it might be supposed that the length of time he or she has lived in a given place would be an important indicator of the degree of sociability and/or accumulation of social capital, since social ties and knowledge would tend to increase with the passage of time. In addition, the time a person has lived in a given locality or region might also influence the amount and quality of his or her information about the opportunities that are available, whether in regard to the labor market itself or to other aspects that are essential for social reproduction, such as social service, the housing market, etc.

We are in agreement with Sampson, Raidenbush and Earls (1997) in holding that the composition of neighborhoods, in terms of the time of residence of their inhabitants, influences the production of social capital. We also consider that individuals would tend to benefit more, or less, from these networks and constructed normative expectations to the extent that they have been exposed to the contexts for longer periods. In this study, we thus consider that, if an individual is a recent migrant, this would have an impact on his or her inclusion in the labor market, especially in the case of those persons with lower professional qualification, who generally migrate without having guaranteed jobs.

Along this same line of reasoning, one might also expect that, due to their prior experience in the region, intrametropolitan migrants are likely to have accumulated more social capital and information about the area. They may also perform better professionally than migrants who have come from outside the region. The variable used in this analysis will therefore take into account not only the possibility of recent migration, but also the migrants' previous place of residence.[5]

In a recent study (Sobreira; Cunha, 2007) we show that in 2000 persons who commuted generally belonged to higher income brackets and suffered less unemployment. In fact, these results were not surprising since commuting generally makes sense only when the persons involved are in the labor market and consequently have higher earnings and/or employee benefits that allow them to afford to commute in the first place. Regular commuting between municipalities is always costly for the individual.

In most cases, especially for populations with low professional qualification, the distance from one's workplace is always related to the search for less expensive housing. In this regard, commuting is a "strategy," as defined by Bourdieu (2003), to maintain, reproduce or improve an agent's position in a given field.

It is quite true that, for this segment of the population, a solution for housing could mean real improvements in their living conditions. For example, buying one's own home means that a family no longer has to pay rent and this gives them more security regarding the future. At least in the case of Brazil, however, this does not necessarily imply that these persons live in better housing. In fact, for the low-income population, the purchase of a home usually means the need to move farther away from neighborhoods with at least

[5] During this entire study, the term *migrant* will be defined as a person who, in 1995, lived in a municipality different from that where he or she was enumerated by the census. This group will then be sub-divided into two smaller categories: intrametropolitan (the municipality where they were living in 1995 is part of the Campinas Metropolitan Region) and, from outside (the municipality where they were living in 1995 is not part of the Campinas Metropolitan Region).

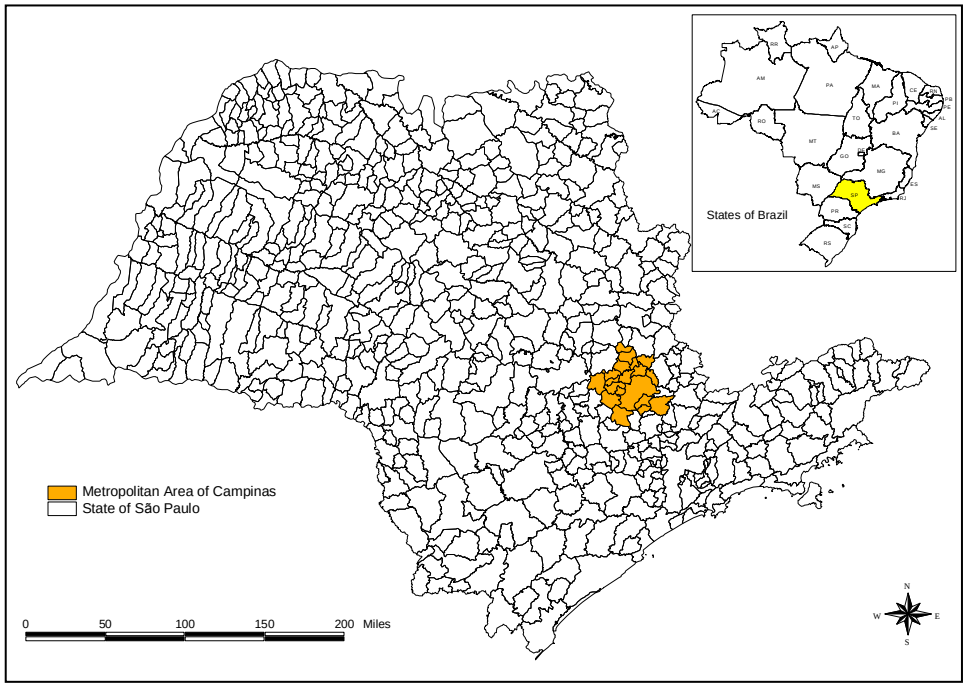
reasonable infrastructure and accessibility, and being subject to worse housing conditions, due to the low standard of construction of the houses of such families.

It is therefore considered important to also analyze performance on the labor market from this perspective, since the possibility of moving within the metropolitan region can interfere not only in the form of inclusion in the labor market, but in job stability as well.

II. Campinas Metropolitan Region: demographic dynamics and socio-spatial segregation[6]

The Campinas Metropolitan Region (Map 1), located approximately 100 kilometers north of the City of São Paulo, Brazil, consists of 19 municipalities and has an approximate population of 2.5 million inhabitants. The dynamics of the formation and expansion of the area are very similar to what has been seen in other large urban areas in the country. In other words, its rapid growth was accompanied by the peripherization of its physical territorial growth. There are clear indications, however, that several other processes, such as the growth of the local suburbs[7] and of other municipalities besides Campinas itself, also had impacts on the region.

Map 1
Location of the Campinas Metropolitan Region



[6] This section presents a brief summary of a more complete article published recently (Cunha et al. 2006).

[7] The term *suburbs,* and others, have been used to represent different phenomena. Although the discussion is important from the conceptual point of view, going into it more deeply would mean take us beyond the limits of this article.

Therefore, one can see an extension of urban sprawl in the region, characterized as a classical process of peripherization, where political-administrative boundaries very often end up being pure abstractions or simply arbitrary. In addition, there has been growth in other towns, around which local peripheral areas have grown. One example is the city of Americana, a municipality to the north of Campinas, which is one of the most important industrial textile centers in the country.

Beginning in the 1960s and especially as of the 1970s, Campinas received heavy investments from the federal government, and soon became one of the areas with the highest rates of industrial expansion in the interior of the State of São Paulo. This growth was largely due to the deconcentration of the São Paulo Metropolitan Region, already one of the largest in the world, causing a corresponding increase in the rate of demographic growth in and around Campinas and many other areas in the state (Table 1).

Table 1
Resident population and average annual population growth rate
Campinas Metropolitan Region, State of São Paulo
1970-2000

	Population				Annual population growth rate (%)		
	1970	1980	1991	2000	1970-1980	1980-1991	1991-2000
Brazil	93,134,846	119,011,052	146,825,475	169,872,856	2.48	1.93	1.63
State of São Paulo	17,770,975	25,042,074	31,588,925	37,035,456	3.49	2.13	1.78
Campinas MR	680,826	1,276,801	1,866,025	2,338,148	6.49	3.51	2.54

Source: FIBGE, http://www.sidra.ibge.gov.br Access in 01/17/2008.

During the 1980s the population of Campinas began a process of deconcentration toward its neighboring municipalities, a phenomenon that transformed several of them into bedroom suburbs. Nonetheless, in a number of these places, the industrial expansion that advanced along the heavily traveled north-south Anhanguera Highway changed metropolitan functions, or at least made them more heterogeneous.

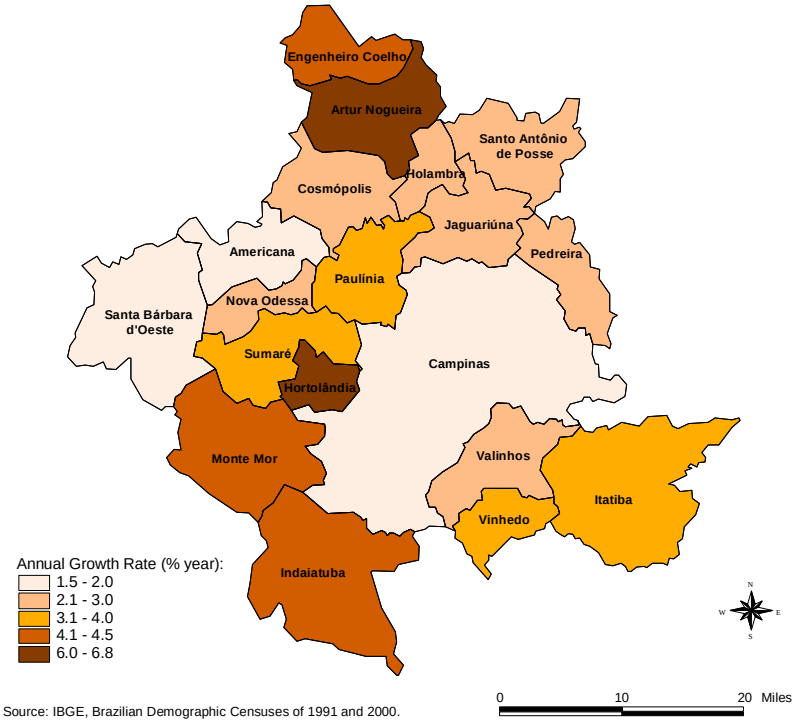
The metropolitan population is expanding in several different directions. However, this is not a uniform process, either with respect to the pace of demographic growth and socio-economic characteristics, nor in regard to metropolitan functions. There have been greater changes in some directions than in others, with the greatest transformations occurring on the western side of the region (Map 2). The municipalities there have shown demographic growth far above the regional average, especially Hortolândia and Sumaré. This behavior merely reinforces one of the main determinants of the process of spatial redistribution of the population in the Campinas Metropolitan Region, namely, the search for locations that unite low land prices and easy accessibility. In contrast, the northeastern and southeastern sections of the region have undergone processes of expansion for the more affluent sectors of the population.

Components of spatial social segregation: configuration of "social mountain ranges"

Previous studies (Cunha et al., 2006 and Cunha and Jimenez, 2006) have shown that, even though classical measurements of segregation, such as the dissimilarity index, have shown a reduction in segregation in the Campinas Metropolitan Region during the 1990s, a careful and technically more elaborate view left no doubt as to the existence of an important socio-spatial division in the area.

The configuration of what have been described as "mountain ranges of wealth and poverty" could be perceived both on the basis of a simple mapping of the distribution of families by income in the metropolitan space, and by applying more sophisticated techniques. As can be seen below, by using the Local Moran's I analysis for the level of census tracts and also using the "socio-economic status" (SES)[8] indicator, marked

Map 2
Average annual population growth rate by municipality
Campinas Metropolitan Region
1991/2000



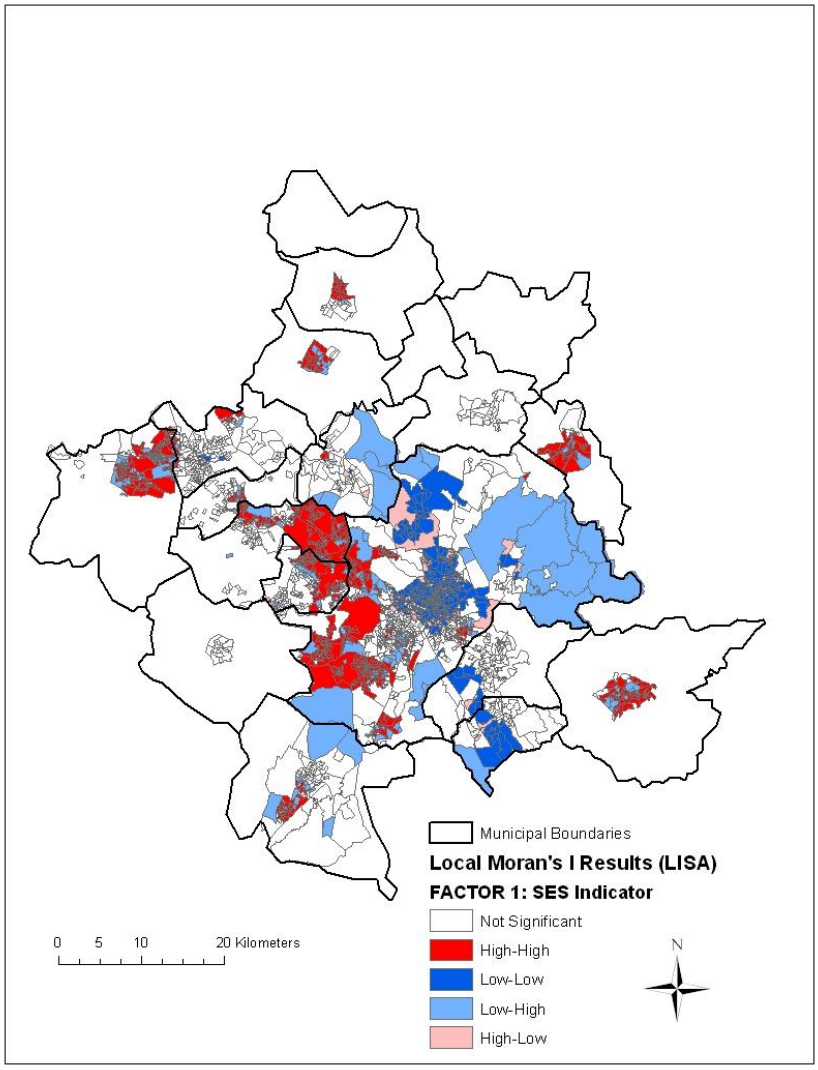
Source: IBGE, Brazilian Demographic Censuses of 1991 and 2000.

[8] This concise indicator was obtained from a factor analysis that, besides using the socio-economic dimension, also took into account other characteristics related to the infrastructure of households and family composition. In 2000, the factor known as "socio-economic status" (SES) responded for approximately 50% of the total variability and was highly correlated with the formal education and income of heads of households. This led us to consider SES as representative of the material living conditions and human capital available (one of the dimensions of poverty). The higher the value of this indicator, the higher the level of material privation and the lower the human capital. For more details on this procedure, see Cunha and Jimenez, 2006.

concentrations of both wealthy and impoverished groups can be noted in the Campinas Metropolitan Region, indicating that regional socio-spatial segregation is not limited only to the poorest population.

While the western section of the Campinas Metropolitan Region shows a high concentration of poor families, a belt on the opposite side, running northeast to southeast, shows a higher prevalence of more affluent sectors of the population.

Map 3
Results from the Moran's Local index for socio-economic status at the level of census tracts
Campinas Metropolitan Region, 2000



Source: Cunha e Jiménez, 2006

Another way to evaluate the process of social segregation existing in the region would be to carry out an analysis of the regional division of labor that, among other effects, seems to have an impact on the composition of the population in terms of social strata, in the different sub-spaces.

Inspired on an important article on social stratification in Latin America, written by Portes (1985) and later updated by Portes and Hoffman (2003), we analyze the situation of the Campinas Metropolitan Region from this perspective, based on data from the Brazilian Census of 2000.[9]

The data shown in Table 2, with information on several municipalities in the Campinas Region, make it possible to visualize not only the clear differences between the composition of the population living in municipalities in the "poverty divide". In addition, due to the way this data are arranged, it is also possible to note that the role of migration seems to have contributed to an increase in the process of segregation, rather than reducing it.

Table 2
Distribution of the economically active population age 14 and over, by socio-occupational category, according to migrant condition
Campinas Metropolitan Region, 2000

		socio-occupational categories							
Place of residence	Migratory condition	Desempregado na semana do Censo	capitalists	executives and professionals	small business	manual laborers	non-manual laborers	other (*)	Total
Campinas	Migrant	19,8	0,7	9,2	14,4	38,0	17,3	0,6	**49.971**
	Non-migrant	15,9	1,4	8,1	18,4	34,0	21,7	0,4	**426.106**
	Total	16,3	1,3	8,2	18,0	34,4	21,3	0,5	**476.077**
Hortolândia	Migrant	24,7	0,2	2,2	14,3	45,9	12,0	0,8	**17.008**
	Non-migrant	21,1	0,3	1,7	16,1	46,5	13,5	0,8	**55.158**
	Total	22,0	0,3	1,8	15,7	46,3	13,1	0,8	**72.167**
Sumaré	Migrant	20,5	0,1	2,7	14,6	48,3	13,6	0,2	**17.364**
	Non-migrant	19,7	0,2	2,1	15,5	48,9	13,3	0,3	**76.859**
	Total	19,8	0,2	2,2	15,4	48,8	13,4	0,3	**94.223**
Valinhos	Migrant	12,3	2,1	10,1	19,3	41,3	14,7	0,1	**6.745**
	Non-migrant	12,1	1,5	6,1	18,3	43,2	18,6	0,3	**35.085**
	Total	12,1	1,6	6,7	18,5	42,9	17,9	0,3	**41.831**
Vinhedo	Migrant	12,5	2,5	10,7	18,3	38,6	16,5	0,8	**4.230**
	Non-migrant	12,7	2,1	6,2	18,1	45,1	15,6	0,2	**20.190**
	Total	12,7	2,1	7,0	18,1	43,9	15,7	0,3	**24.419**
Total RMC	**Migrant**	**19,0**	**0,8**	**6,3**	**15,1**	**44,0**	**14,4**	**0,5**	**160.204**
	Non-migrant	**15,9**	**1,2**	**5,5**	**17,8**	**41,4**	**17,7**	**0,5**	**977.089**
	Total	**16,3**	**1,1**	**5,6**	**17,4**	**41,8**	**17,2**	**0,5**	**1.137.293**

Source: FIBGE, 2000 Demographic Census (special tabulations, NEPO/UNICAMP)
(*)Includes Non-remunerated apprentices and trainees, Working at home but not remunerated, Working to produce for his or her own [and family] consumption and Poorly specified occupations"

[9] A more detailed study is underway on socio-spatial segregation in the Campinas Metropolitan Region, using these socio-occupational categories. The categories analyzed here are the result of an adaptation and simplification of the proposal by Portes for the case of Brazil, and can be summarized into the following groups: capitalists, executives and professionals, small business owners, manual laborers, non-manual laborers and a final residual category that, for the case of the Campinas Metropolitan Region, represented, in 2000, a mere 0.5% of the economically active population age 14 and over.

The typically dormitory towns, such as Hortolândia and Sumaré, show very limited presence of the strata defined as "capitalists" and "executives and professionals." The same cannot be said, however, of Campinas itself, as might be expected, as it is the region's central municipality. Nor does it hold true for Valinhos and Vinhedo, both of which have undergone processes of "elitization" of their populations since the 1990s, when the trend toward construction of gated communities for upper-income strata of the population began in these two areas. The opposite can be seen when the category of "manual laborers" is considered, since the proportion of this social stratum is much higher in Hortolândia and Sumaré.

An even more interesting fact to note from these data is that migration seems to be contributing to greater socio-spatial segregation in the region, at least when considered on the municipal level. In fact, whereas in municipalities with higher concentrations of poverty (Hortolândia and Sumaré), the differences between the distribution, by social stratum, of migrants and non-migrants are virtually negligible, this is certainly not the case for the municipalities in the southeastern section of the region (Valinhos, Vinhedo and others). In these cases, the most recent migrants occupy more privileged social positions than the non-migrants. As can be seen, migrants in this area of the region, as compared to non-migrants, are much more highly concentrated in the "capitalist, executive and professional" strata, than in the "manual laborer" strata. As mentioned above, this process of "elitization" of the population in these areas is perfectly understandable in view of the processes of change underway in the this part of the metropolitan region.

III. Data and methods of analysis

Sources of data and indicators used

All the data used in the present analysis were derived from the Demographic Census of 2000. Besides being organized on the municipal level, this material can be disaggregated for analysis on the intra-municipal scale. Considering the hypotheses and theoretical proposals on which this study is based, the data make it possible to apprehend, on the one hand, the socio-demographic characteristics of the population (gender, ethnic group/color, age, marital status, condition as migrant) and, on the other, to construct an indicator of socio-spatial segregation to evaluate the behavior of the variables related to inclusion of individuals in the labor market. For this purpose, dichotomous variables were created for the economically active population (EAP) age 14 and older, considering the following aspects: 1) unemployment, 2) having a formal job and, 3) contributing to social security.

The category of *unemployed* refers here to economically active individuals age 14 or over who stated that they were not working at the moment of the census. Only those individuals who were working under signed labor contracts were considered as having formal jobs. Finally, contributing to social security was characterized by the fact that an individual was contributing to some social security system, whether employed or not.

Socio-spatial segregation: concept and measurement

The concept of socio-spatial segregation employed in this text is based on considerations made both by Massey and Denton (1988), Sabatini (2004) and by Sabatini, Cáceres and Cerda (2004) in regard to its multidimensional character. For our purposes, the measurement of segregation used must reflect not only the degree of separation of one social group from another, but also and, especially, the degree of grouping that these social strata present in the metropolitan space. We therefore sought measurements of segregation that would detect the degree of social homogeneity (or heterogeneity) in existence in the region. The starting point was the similarity or dissimilarity existing among neighboring spatial units.

Therefore, in order to analyze the dimension which Massey and Denton (1988) defined as "clustering," which, according to Sabatini (2004), is the true and only measurement of residential segregation, we decided to employ a methodology based on spatial self-correlation (Local Moran's I). The application of this procedure to areas smaller than entire municipalities allowed us to determine uniform sub-spaces, using the correlation existing between one spatial unit of analysis and its neighbors. Thus, for a given variable, which, in our case, was "socio-economic status" (SES), this technique makes it possible to identify areas with high concentrations of poorer persons (hot spots, which the model labels as "high-high") those that house populations with more comfortable living conditions (cold spots, or "low-low"), and even very heterogeneous zones (which the model labels as "not significant").

Identifying the "Segregation zones"

Due to the numerous characteristics of the individuals included in analysis, several difficulties regarding the spatial unit of analysis arose in determining an indicator that could categorize the distinct regional sub-spaces. One aspect is the use of census tracts. Because they are smaller than weighted areas, in terms of territory, their use is more suitable for understanding the phenomenon of socio-spatial segregation. However, this approach was deemed unfeasible for two reasons. Not only is there little information available at this level, but socio-economic characteristics were asked only in reference to the heads of households.

As for the other approach, the use of weighted areas, all the information obtained by the questionnaire for the sample of the demographic census was available, but its volume, both in terms of area and of population, would certainly not provide any assurance as to the degree of social uniformity of the area involved.

Table 3 demonstrates the difference in using one or another of these strategies. Whereas over 32% of the census tracts could be classified in the category of "high-high," only 18% of them could be kept in this category by the classification obtained by the model based on an analysis made at the level of weighted areas. It is clear, in other words, that the high spatial aggregation of weighted areas would reduce our perception of the real existing segregation.

Table 3
Share of the number of census tracts considering classification by Local Moran's I for different scales of analysis
Campinas Metropolitan Region, 2000

Scale	Local Moran´s I classification					Total of Census Tracts
	Not Significant	High - High	Low - Low	Low - High	High - Low	
Census Tracts	38.1	32.3	15.5	9.8	4.4	**3,106**
Weighted Areas	42.3	17.8	23.7	4.4	11.8	**3,106**

Due to this problem, we proposed a solution that blended the two spatial levels in a way that we could make the best of each. That is, the spatial disaggregation of census tracts was joined with the greater amount of information provided by the weighted areas.

The idea was to evaluate how much of the classification obtained by using weighted areas would be corroborated by the analysis at the census tract level. First, the weighted areas[10] that contained only census tracts with the same classification were identified. For example, of a total of 111 weighted areas in the Campinas Metropolitan Region, 48 could be classified as "not significant," since they contained only "not significant" census tracts. That is, the internal heterogeneity in the remaining 63 weighted areas could not be immediately classified, due to the classification of the census tracts contained in them.

In these situations, the solution was to determine that the new classification to be used for the weighted areas with internal heterogeneity would be that shown by the total of the census tracts that represented over 50% of the inhabitants of the weighted area. To our satisfaction, this criterion could be observed in all these weighted areas. In fact, in approximately 70% of the cases the percentage represented by the population living in the census tracts with the chosen classification that should prevail surpassed 75%.

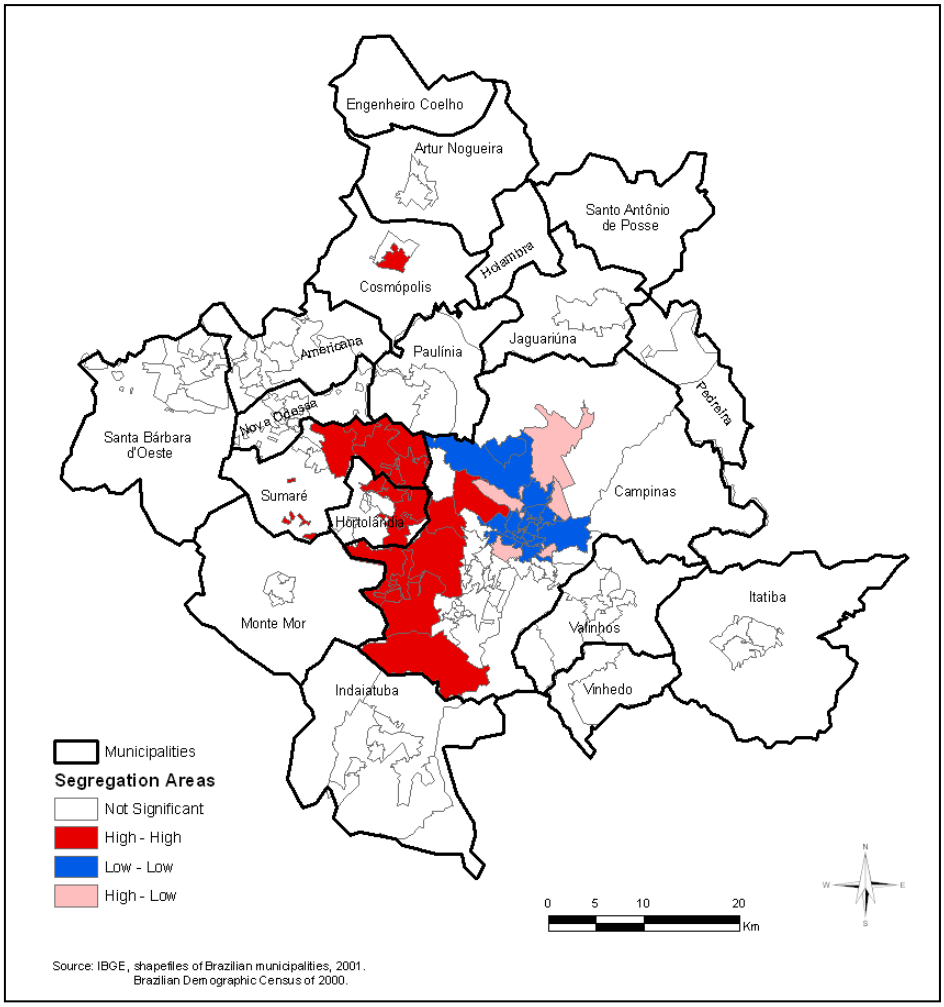
As a result, and based on these criteria, we were able to classify all 111 weighted areas while respecting as closely as possible the indications of the socio-economic uniformity obtained from the analysis of the census tracts. The following classification of the weighted areas resulted from this procedure, the locations of which can be seen in Map 4.[11]

[10] One should not forget that weighted areas consist of groupings of census tracts.

[11] It should be recalled that Map 4 provides information only on the urban areas of the municipalities. It does not contain information on the municipalities of Engenheiro Coelho, Holambra and Santo Antônio de Posse, all of which are demographically quite small.

Classification	Number of Weighted Areas
High/High	18
Low/Low	15
High/Low	5
Not significant	73

Map 4
Weighted areas classified by segregation zones
Campinas Metropolitan Region, 2000



The above map shows that these segregation zones are more concentrated in the municipality of Campinas. But this is not surprising since Campinas itself comprises almost half of the region's entire population. However, other areas that were chosen (in the high-high category) can be noted in peripheral municipalities such as Sumaré, Hortolândia and Cosmópolis, all of which are usually considered bedroom suburbs.

IV. Results: the impacts of segregation on participation of individuals in the labor market

This paper analysis is carried out in two stages. The first involves an exploratory analysis to evaluate the different behaviors of individuals in the three dimensions related to participation in the labor market (unemployment, formality, and contributing to social security), according to their socio-demographic characteristics and their specific position in the region, based on their location in the different "segregation zones." The second stage will be the construction of a multivariate model in an effort to isolate the effect of segregation on participation in the labor market, after individual characteristics have been controlled.

Table 4 summarizes the results obtained in the descriptive analysis. This information shows that, in regard to color/ethnic group, whites were in a better situation than blacks in 2000. This was true both for levels of unemployment and for contributing to social security, this latter item being much higher among the whites. However, the same trend was not seen in regard to having a signed labor contract. It was, in fact, even inverted (55.4% for the employed whites against 57.2% for the employed blacks). However, this was not surprising because, in terms of socio-occupational categories[12], the whites include a higher proportion of owner of small businesses, and self-employed professionals.

In regard to education, a negative correlation can be seen between the number of years of study and the level of unemployment, as well as a positive correlation in terms of contributing to social security (44% of the economically active population with up to four years of schooling contribute to the social security system, against 63% of those with eight years of more of study). The trend is the same in regard to having a signed labor contract (47% of the economically active population with less than four years of schooling have a signed labor contract, as compared to 60% of those who have finished high school).

Marital status also clearly affects an individual's participation in the labor market. In 2000, married persons showed a much lower percentage of unemployment than singles (11% and 22%, respectively). In regard to contributing to social security, married persons were 10 percentage points higher than singles (61% and 51%, respectively). As was the case for the whites, and probably for the same reasons, a lower proportion of married individuals was formally employed.

[12] Data not shown.

Table 4
Economically active population age 14 or over by socio-economic characteristics and indicators of participation in the labor market
Campinas Metropolitan Region, 2000

Variable	Categories	Unemployment		Contributing to social security		Formality (signed labor contract) (*)		Occupied EAP age 14 or over	EAP age 14 or over
		No	Yes	Yes	No	Yes	No		
Color/ ethnic group	White	85.2	14.8	58.4	41.6	55.4	44.6	**711,531**	**835,527**
	Black	79.4	20.6	50.0	50.0	57.2	42.8	**225,286**	**283,798**
	Other	83.2	16.8	54.9	45.1	48.7	51.3	**14,948**	**17,967**
	Total	**83.7**	**16.3**	**56.2**	**43.8**	**55.7**	**44.3**	**951,765**	**1,137,293**
Formal education (years of study)	Up to 4	80.9	19.1	43.9	56.1	46.9	53.1	**106,742**	**131,885**
	4 to 7	81.8	18.2	48.7	51.3	50.6	49.4	**278,900**	**340,755**
	8 or more	85.2	14.8	62.6	37.4	59.9	40.1	**561,633**	**658,929**
	Not declared	78.4	21.6	52.6	47.4	60.3	39.7	**4,490**	**5,724**
	Total	**83.7**	**16.3**	**56.2**	**43.8**	**55.7**	**44.3**	**951,765**	**1,137,293**
Marital status	Married	88.5	11.5	61.3	38.7	53.9	46.1	**486,302**	**549,197**
	Single	77.9	22.1	51.3	48.7	59.4	40.6	**386,210**	**495,772**
	Others	85.8	14.2	52.6	47.4	49.3	50.7	**79,253**	**92,324**
	Total	**83.7**	**16.3**	**56.2**	**43.8**	**55.7**	**44.3**	**951,765**	**1,137,293**
Age	14 to 20	62.7	37.3	33.4	66.6	51.0	49.0	**81,620**	**549,197**
	20 to 39	85.3	14.7	60.6	39.4	61.8	38.2	**556,741**	**495,772**
	40 or over	88.4	11.6	56.7	43.3	46.1	53.9	**313,404**	**92,324**
	Total	**83.7**	**16.3**	**56.2**	**43.8**	**55.7**	**44.3**	**951,765**	**1,137,293**
Gender	Male	87.3	12.7	60.0	40.0	55.6	44.4	**583,592**	**668,821**
	Female	78.6	21.4	50.9	49.1	55.9	44.1	**368,173**	**468,472**
	Total	**83.7**	**16.3**	**56.2**	**43.8**	**55.7**	**44.3**	**951,765**	**1,137,293**
Migration	Intrametropolitan migrant	83.2	16.8	54.3	45.7	56.2	43.8	**30,449**	**36,585**
	Migrant from outside MR	80.4	19.6	50.6	49.4	54.6	45.4	**99,371**	**123,619**
	Non-migrant	84.1	15.9	57.0	43.0	55.9	44.1	**821,946**	**977,089**
	Total	**83.7**	**16.3**	**56.2**	**43.8**	**55.7**	**44.3**	**951,765**	**1,137,293**
Commuting	Non-commuter	81.4	18.6	53.2	46.8	53.2	46.8	**798,254**	**980,063**
	Commuter	97.6	2.4	75.2	24.8	69.0	31.0	**153,512**	**157,230**
	Total	**83.7**	**16.3**	**56.2**	**43.8**	**55.7**	**44.3**	**951,765**	**1,137,293**
Segregation zone	Not significant	84.1	15.9	56.3	43.7	56.2	43.8	**660,056**	**785,236**
	High-High	78.0	22.0	49.7	50.3	56.9	43.1	**145,947**	**187,008**
	Low-Low	89.2	10.8	64.7	35.3	50.8	49.2	**107,428**	**120,487**
	High-Low	86.0	14.0	60.6	39.4	56.6	43.4	**38,334**	**44,562**
	Total	**83.7**	**16.3**	**56.2**	**43.8**	**55.7**	**44.3**	**951,765**	**1,137,293**

(*) only for working people
Source: FIBGE, 2000 Demographic Census (special tabulation, NEPO/UNICAMP)

Another item in Table 4 refers to age. Also in this case a negative correlation can be seen regarding unemployment (37% of the persons up to age 20, and 12% of those age 40 or over). The same phenomenon can be seen in regard to contributing to social security (33% of those up to age 20 contribute, compared to 57% of those age 40 or older). The results are more variable in terms of having a signed labor contract. Up to age 40, most of the EAP had signed labor contracts (this rate being 62% between the ages of 20 and 39). However, the percentage falls to approximately 46% after the age of 40, a fact that reflects the problems faced by adults at older ages.

As for differences in terms of gender, the results present no surprises. Men showed less unemployment than women (13% against 21%) and 60% of men contribute to social security as compared to 51% of women. The variable of contributing to social security showed little variation between the sexes, in that approximately 56% of both economically active men and economically active women had signed labor contracts in 2000.

The participation of individuals in the labor market can also be evaluated in terms of their condition as migrants. As might be expected, the data show that unemployment was somewhat lower for intrametropolitan migrants than for those who came from outside the Campinas Metropolitan Region (17% and 20%, respectively). Contributing to social security was also slightly higher for migrants from the region (54% of the intrametropolitans contribute, as compared to 51% of those from outside). No significant difference can be noted in terms of formal labor contracts between those from inside and those from outside the metropolitan region.

Also, as was mentioned above, all indicators show better results for non-migrants than for migrants, whether they be from somewhere else in the metropolitan region or from elsewhere. This fact helps corroborate our hypothesis as to the impact of migrant condition on the participation of individuals in the workforce.

In regard to spatial mobility, the behavior of individuals can also be evaluated according to their condition as commuters. In this case, the data in Table 4 leave no doubt that those who commute every day are considerably better off than those in the other groups studied.

Unemployment is obviously very low for commuters, and many more contribute to social security (75% contribute to social security, as compared to 53% of those who do not commute). Also, in regard to the formality in the labor market, 69% of the employed commuters have signed labor contracts, against 53% of those who are employed but do not commute. Although no relationship of causality can be established, the data indicate that daily trips from one municipality to another seem to represent an advantage, as it seems to guarantee more stable participation in the labor market.

Finally, as for where individuals live in terms of "segregation zones," it is clear that place of residence seems to be closely associated with a person's access to formal employment. In fact, whereas in the high-high zones unemployment was as high as 22%, only 11% of the residents of the low-low zones were unemployed. Only 50% of the economically active population in the high-high zones were contributing to social security, whereas 65% in the low-low zone were. In relation to formal employment, the main differences are also evident according to the different categories of segregation analyzed. In the zones classified as high-high, 57% of the EAP had signed labor contracts, as compared to 51% in the low-low zones. Data on socio-occupational categories help explain at least part of

this situation, since they show that, in 2000, there was a higher percentage of employers living in the low-low zones who, obviously, cannot be analyzed according this characteristic.

Another result, less obvious and, perhaps, more interesting for our purposes, was obtained by comparing the high-high and the high-low zones, that is, comparing those that are more uniform and have high concentrations of poor families, with those where the poor live nearer to people who are better off.

In fact, both in regard to unemployment and to contributing to social security, those who live in less uniform (high-low) zones prove to be in better situations. The only variable where no differences can be seen is having a signed labor contract, which suggests that segregation does not have a great effect on this factor, since the individuals managed to enter the labor market in either case.

It should be recognized that the associations described above should not be treated as unmistakable indications of the effect of segregation on the possibility and form of inclusion of individuals in the labor market. It would be a mistake to claim a causal relationship simply on the basis of these data, since it is also reasonable to conceive that, just as place of residence can have an effect on participation in the labor market, the opposite might also be the case. In other words, the fact of being well or badly placed in terms of employment may have decisive implications in determining the place where an individual lives or moves to in the region.

It is not easy to come up with any clear answers to this doubt, and the attempt would require new approaches and, especially, other sources of data and methods of investigation, such as qualitative research. However, in view of the considerable evidence found in the literature about the effect that certain characteristics of place of residence can have on people's behavior, it can be stated with a certain degree of assurance that the data analyzed here comprise one further indication to sustain this line of reasoning.

Space matters: some empirical evidences

With this theoretical impasse settled, or at least clarified, one must still consider that the indications uncovered to date are not sufficiently solid, in view of the relationships that exist between individuals' places of residence, and their socioeconomic and demographic characteristics. In this regard, a way must be found to isolate the effect of segregation, using a model that controls other individual characteristics, which, as was shown, have a clear impact on access to the labor market.

The multivariate statistical model chosen for this purpose was logistics regression, which estimates the probability of the occurrence of a given event (dependent variable) for a set of categorical variables that, theoretically, may be influencing it (explanatory variables). By applying this model, it will be possible to detect the individual effect of each socio-demographic variable and the effect of place of residence on the three aspects related to the individual's participation in the labor market (unemployment, having a signed labor contract - or formality, and contributing to social security), once the effects of the other variables have been controlled.

The categories used for each variable and those used as references in the model are

described as follows:

- **Color/ethnic group**: "white", "black" and "others" (control);
- **Formal Education** (in years of study): "up to 4 years", "from 4 to 8 years", "8 or more years" and "not declared" (control);
- **Marital status**: "married", "single" and "other" (control);
- **Age:** "under 20", "20 to 39" and "40 or over" (control);
- **Migration**: "intrametropolitan migrant", "migrant from outside" and "non-migrant" (control);
- **Commuting**: "non-commuter" and "commuter" (control);
- **Gender**: "male" and "female" (control);
- **Segregation zone**: "high-high", "low-low", "high-low" and "not significant" (control).

Unemployment

The first model was adjusted with the dependent variable of *unemployment* for economically active persons age 14 or over.[13]

Table 5 shows that the effects of the socio-demographic variables are consistent with expectations, namely, a higher probability of being employed for white persons. Likewise, the probability rises for those with over eight years of study, for those who are married, for adults between ages 20 and 39, and for men.

Specifically in regard to migration,[14] our hypothesis that intrametropolitan migrants should be better off than migrants from outside was not confirmed. As can be seen, the chance of an intrametropolitan migrant's being employed is 12% lower than that of a non-migrant, whereas the probability of a migrant from outside being employed is 6% lower than a non-migrant. Although this result contradicts our expectations, it could be the consequence of the definition of migrant used here. That is, by defining migrants as persons who have settled in during the last five years, it is likely that the expected effects for accumulating information and social capital has not yet been fully perceived. Another possibility could be related to the fact that migrants from outside may often migrate to the region to take on jobs already arranged before arriving. Of course this issue needs to be more deeply analyzed because, as shown above, the univariate analysis revealed a better situation for intrametropolitan migrants;

However, what interests us most for the effects of this study is to underscore the results

[13] This model responds for approximately 68% of the people, has an adherence coefficient of 31% and a response rate of up to 80% in the best deciles. It is therefore an acceptable model.

[14] The condition of "commuter" was not included in the model, since the likelihood of a commuter over the age of 14 being employed is very high, in view of the way the census gathered this information. For this reason, it would not make sense to compare such subjects with those who do not commute.

related to the variable of socio-spatial segregation (segregation zone). In this case the model shows that living in areas classified as low-low (that is, a high concentration of more affluent people) increases the chances of holding down a job by 33.5%. In addition, this probability falls by 40.2% when the individuals live in areas with high concentrations of poverty (high-high). More interesting yet are the results obtained for the poor zones surrounded by not-poor zones (high-low). In this case, there is an estimated increase of 24% in the individual's probability of being employed, although this figure contrasts with what was seen for the zones with high concentrations of poverty (high-high).

Table 5:
Results of the logistic model, taking *unemployment* as the dependent variable
Campinas Metropolitan Area, 2000

Parameter	Classes	DF	Estimate	Standard Error	Wald Chi-square	Pr > Chi-square	exp(Est)
Intercept		1	0.6019	0.0631	90.85	<.0001	1.826
Color/race	White	1	0.0873	0.0321	7.38	0.0066	1.091
	Black	1	-0.0963	0.0337	8.14	0.0043	0.908
Education	Less than 4 years	1	-0.2029	0.0456	19.83	<.0001	0.816
	4 to 7 years	1	-0.00978	0.0416	0.06	0.8141	0.990
	8 or more years	1	0.2792	0.041	46.34	<.0001	1.322
Marital status	Single	1	0.1922	0.019	102.90	<.0001	1.212
	Married	1	-0.2781	0.021	174.72	<.0001	0.757
Age	Less than 20 years	1	-0.769	0.0253	921.99	<.0001	0.463
	20 to 39 years	1	0.3009	0.0163	341.71	<.0001	1.351
Migration condition	Intrametropolitan	1	-0.1324	0.0465	8.10	0.0044	0.876
	Outside CMR	1	-0.0574	0.0322	3.17	0.075	0.944
Sex	men	1	0.3177	0.0117	732.29	<.0001	1.374
Segregation zone	High-High	1	-0.515	0.028	337.77	<.0001	0.598
	Low-Low	1	0.2892	0.0338	73.36	<.0001	1.335
	High-Low	1	0.2168	0.0452	22.96	<.0001	1.242

Contributing to social security

As for the variable related to individuals' contributing or not to social security , Table 6 shows that education carries an even higher weight than does unemployment.[15] In fact, individuals with "8 or more years" of schooling tend to have a 57.3% better chance of contributing to social security . Individuals between the "ages of 20 and 39" (47.5%) and males (20.6%) also seem to have higher probabilities. The differences are much less marked in the other socio-demographic variables.

[15] This model responds for approximately 62% of the persons, has an adherence coefficient of 25%, and a response rate of up to 50% in the best deciles. It is therefore a reasonable model.

In this model the effects of migration are similar to those observed above: migrants from outside the region continue to have a slight advantage over those from within the metropolitan region with respect to contributing to social security. One can also see that the condition of commuter gives an individual a great advantage over those who do not commute.

Table 6:
Results of the logistic model, taking *contribution to social security* as dependent variable
Campinas Metropolitan Area, 2000

Parameter	Classes	DF	Estimate	Standard Error	Wald Chi-square	Pr > Chi-square	exp(Est)
Intercept		1	-0.2665	0.0352	57.19	<.0001	0.766
Color/race	White	1	0.0868	0.0188	21.35	<.0001	1.091
	Black	1	-0.0433	0.0199	4.73	0.0296	0.958
Education	Less than 4 years	1	-0.3413	0.0279	149.20	<.0001	0.711
	4 to 7 years	1	-0.1429	0.0256	31.17	<.0001	0.867
	8 or more years	1	0.4528	0.0252	323.19	<.0001	1.573
Marital status	Single	1	0.1463	0.0108	184.77	<.0001	1.158
	Married	1	-0.0983	0.0121	65.72	<.0001	0.906
Age	Less than 20 years	1	-0.6419	0.0162	1561.20	<.0001	0.526
	20 to 39 years	1	0.3888	0.0099	1543.25	<.0001	1.475
Migration condition	Intrametropolitan	1	-0.132	0.0263	25.20	<.0001	0.876
	Outside CMR	1	-0.064	0.0186	11.83	0.0006	0.938
Commuting	Non-Commuter	1	-0.484	0.0107	2040.49	<.0001	0.616
Sex	men	1	0.187	0.00683	749.21	<.0001	1.206
Segregation zone	High-High	1	-0.296	0.0165	322.98	<.0001	0.744
	Low-Low	1	0.1561	0.0187	69.73	<.0001	1.169
	High-Low	1	0.1473	0.0262	31.61	<.0001	1.159

The place where people live also has a significant effect on contributing to social security. In other words, to live in a "high-high" zone (high concentration of poverty) implies 25.6% less chance to be contributing to social security, whereas those living in zones with concentrations of wealth (low-low) are 17% more likely to be contributing. Once again, one can see that the poor seem to benefit from the fact of living in zones that are also populated by higher-income families (high-low zones), since their probability is approximately 16% higher.

Having a signed labor contract

Finally, a model was adjusted for the variable related to the condition of formality in the labor market, that is, for individuals classified as having or not having a signed labor contract. In the first place, it should be noted that, of the three adjusted models, this one showed the poorest results, since the standards of adjustment do not recommend its being used.[16] In fact, it is very likely that formality of employment does not depend only

[16] The model responds for approximately 59% of the people, has an adherence coefficient of 17%, and a response rate of up to 40% in the best deciles. These figures suggest that there is need for more information

on socio-demographic characteristics and the place where individuals live, since other variables may also influence this factor, such as the sector in which the individual works, his or her specific occupation, and his or her position at work (that is, if the individual was employed, employer, self-employed, etc.).

In any case, the data in Table 7 once again show higher probabilities for economically active persons between ages 20 and 39 and with eight or more years of school to have signed labor contracts. What stands out most, however, is the greater probability of "blacks" being formally employed than "whites". This situation, apparently unexpected, probably reflects a factor of blacks and whites in terms of a variable not considered in the model, namely, the position in one's occupation. Since blacks are more often employed than whites, they may also show a higher probability of having formal contracts, whereas whites are more commonly distributed into other categories, such as "employers."

Table 7:
Results of the logistic model – taking *having a signed labor contract* as dependent variable
Campinas Metropolitan Area, 2000

Parameter	Classes	DF	Estimate	Standard Error	Wald Chi-square	Pr > Chi-square	exp(Est)
Intercept		1	-0.1537	0.0388	15.65	<.0001	0.858
Color/race	White	1	0.0475	0.0209	5.15	0.0233	1.049
	Black	1	0.1582	0.0223	50.43	<.0001	1.171
Education	Less than 4 years	1	-0.2279	0.0312	53.46	<.0001	0.796
	4 to 7 years	1	-0.1878	0.0286	43.03	<.0001	0.829
	8 or more years	1	0.1728	0.0281	37.86	<.0001	1.189
Marital status	Single	1	-0.0171	0.0116	2.17	0.1406	0.983
	Married	1	0.0991	0.0132	56.21	<.0001	1.104
Age	Less than 20 years	1	-0.1754	0.0188	87.37	<.0001	0.839
	20 to 39 years	1	0.3439	0.0112	948.11	<.0001	1.410
Migration condition	Intrametropolitan	1	-0.1395	0.0288	23.51	<.0001	0.870
	Outside CMR	1	-0.00084	0.0205	0	0.9673	0.999
Commuting	Non-Commuter	1	-0.3307	0.0105	991.76	<.0001	0.718
Segregation zone	High-High	1	0.00696	0.0182	0.15	0.703	1.007
	Low-Low	1	-0.1939	0.0197	96.40	<.0001	0.824
	High-Low	1	0.124	0.0281	19.51	<.0001	1.132

Regarding migration, whereas intrametropolitan migrants have 13% less chance of having a signed labor contract than non-migrants, migrants from outside the Campinas Metropolitan Region have virtually the same chance as non-migrants.

As for the place where the individual lives in the region, the situation is similar to that seen in the analysis of the variable of "color/ethnic group". That is, the best results are not found, as one might expect, in the zones with higher concentrations of wealth. The fact is that persons living in low-low zones are in worse situations than those who live in areas of greater concentration of poverty (high-high). The same explanation suggested for the case

for the model.

of color/ethnic group might possibly apply in this case, especially because the correlation between color and poverty in Brazil is very significant.

These data indicate that, in all the models, the zone where an individual lives plays an important role, and is only less significant than variables such as gender, age and education. In fact, in the case of unemployment, even education has less impact on an individual's situation than segregation. On the one hand, this fact shows the unstable situation of the Brazilian labor market at this beginning of the 21st century. On the other, it reinforces the hypothesis as to the effect of the place where individuals live on their behavior.

Final Remarks

It is not a simple task to analyze and conclusively identify the effect that the place where individuals live in a large urban area has on their behavior, their vulnerabilities and their general living conditions. On the one hand, the literature has indicated mechanisms by which this can take place. On the other hand, however, the methods of investigation and, especially, the data with which many authors have worked are not always adequate enough to provide clear-cut conclusions.

This is the case of the present article. Even though we made empirical efforts to isolate the effect that different situations of segregation might have on certain characteristics related to participation of an individual in the labor market, it is clear that, due to the complexity of the problem, there are shortcomings in terms of both the source (the Demographic Census) and the manner of characterizing various situations of segregation (segregation zones). In fact, the results obtained by using information from the census, in the best of cases, could be used as guides for developing further investigation and more precise methodologies aimed at isolating the possible mechanisms that would explain this effect.

In any case, the data analyzed here suggested that different places in the region where people live do indeed have significant impacts on their populations' participation in the labor market. The models adjusted for three dependent variables, namely, unemployment, having a signed labor contract, and contributing to social security, showed that even when important socio-demographic variables are controlled to explain the phenomena in question, the effects of place of residence were significant, especially regarding unemployment and contributing to social security. In the case of having a signed labor contract, the quality of the adjusted model was not adequate, and this raises the need to consider other variables related to a worker's sector of activity, his or her specific occupation, and the position in the work he or she performs.

In regard to the effect of place of residence, it should be stressed that, beyond the significant differences found between the population living in extreme "segregation zones" (high-high and low-low categories), the results encountered were very interesting regarding the zones of residence of the poor population that live near areas inhabited by higher-income levels of society in the region (high-low category). In this case, the estimates showed better possibilities for this population in comparison to those who lived

in zones of high segregation of poverty (high-high category). In fact, this result reinforces hypotheses such as those which consider the "role effects", or less social isolation, as mechanisms on the basis of which the conditions of vulnerability of the poorer population could be ameliorated.

Lastly, one theoretical/methodological shortcoming that arises from the type of focus employed here must be recognized. Even considering the indications from other studies, as well as theoretical considerations on mechanisms that might influence the effect of neighborhood on an individual's behavior, at least in the case of the labor market, there is always a doubt as to the causal relationship between one phenomenon and the other. In effect, is the fact of living in segregated areas one of the causes of better or worse placement on the job market? Might it not be precisely the better job placement that explains why an individual lives in a given place in the regional space? It should also be recalled that, in developing countries, and in Brazil in particular, a worker's job is his or her best tool for getting out of the poverty cycle. This fact makes it even more complex to identify a relationship of causality between segregation and job placement.

It is not easy to come up with an answer to this query, especially in the case of the present study, centered as it is on cross-section type data. Longitudinal studies would probably be more adequate to answer this type of question, to the extent that it would then be possible to better evaluate the situations that lead individuals to move to this or that area of the city, in view of their occupational history.

Despite the above comments, we agree with the numerous authors who posit that the effect of place of residence is a promising path, especially in view of what this means in terms of proposals for public policies. All indications are that socio-demographic characteristics are insufficient to explain an individual's participation in the job market. Therefore, space, or what it means in the process of social reproduction, seems to be an aspect that should always be taken into account.

Bibliography

BOURDIEU, P. Efeitos do lugar. IN: BOURDIEU (org). **A miséria do mundo**. Petrópolis: Vozes, 2003.

CASTELLS, M. ***A Era da Informação*: Economia, Sociedade e Cultura**. Vol. 1 A Sociedade em Rede. São Paulo: Paz e Terra. 2º ed., 1999.

CUNHA, E. M. G. P. Panorama actual de las condiciones socioeconomicas e demográficas de la población negra brasileña y sus consecuencias en la salud.
Anais... IX Jornadas Argentinas de Estudios de Población. Córdoba, Argentina, 2007.

CUNHA, J. M. P., JAKOB, A.A.E. JIMÉNEZ, M.A., and TRAD, L.T. "Expansão Metropolitana, Mobilidade Espacial e Segregação nos anos 90: o caso da Região Metropolitana de Campinas," In: CUNHA, J.M.P. (org), ***Novas Metrópoles Paulistas: população, vulnerabilidade e segregação***. Campinas, SP:NEPO/UNICAMP, 2006.

CUNHA, J.M.P. et al. **Social Segregation and Academic Achievement in State-Run Elementary Schools in the Municipality of Campinas**, Brazil. Paper presented at Annual meeting of the Population Association of America, New York, 2007.

CUNHA, J.M.P. e JIMÉNEZ, M.A. **The Process of Cumulative Disadvantage: Concentration of Poverty and the Quality of Public Education in the Metropolitan Region of Campinas**. Working paper presented at the Conference on Spatial Differentiation and Governance in the Americas, Austin, Texas, November 17-19, 2006.

CUNHA, J.M.P.; JAKOB, A.A.E.; JIMÉNEZ, M.A. **The Geography of Opportunity: Social Segregation and its Effects on Public Education in the Metropolitan Region of Campinas**. Paper presented at 2006 annual meeting of the Population Association of America, Los Angeles, CA, 2006.

DEDECCA, C.S.; BALTAR, P.E.A. **Mercado de Trabalho e Informalidade nos anos 90.** Estudos Econômicos, 27(Especial), Fea/Usp, 1998.

DEDECCA, C.S. **O Trabalho no Brasil do Início do Século XXI: Metodologia e Análise do Censo Demográfico 2000**. Relatório de Pesquisa. Instituto de Economia/UNICAMP, Campinas, 2006.

FLORES, C. Consequências da segregação residencial:teoria e métodos. In: CUNHA, J. M. P. (Org.). **Novas metrópoles paulistas: população, vulnerabilidade e segregação**. Campinas: NEPO/UNICAMP, 2006.

GALSTER, G.; KILLEN, S. The geography of metropolitan opportunity: a reconnaissance and conceptual framework. **Housing policy debate**, 6(1), p.7-43, 1995.

GALSTER, G.; MIKELSONS, M. The geography of metropolitan opportunity: a case study. **Housing policy debate**, 6(1), p.73-102, 1995.

HARVEY, D. ***Condição Pós-Moderna:*** **uma pesquisa sobre as origens da mudança cultural.** São Paulo: Loyola. 14. ed., 2005.

JENKS, C.; MAYER, S. The consequences of growing up in a poor neighborhood. In: LYNN, L.; MCGEARY, M. G. H. (Ed.). **Inner - city poverty in the United States.** Washington: National Academy Press, 1990.

KAZTMAN, R.; FILGUEIRA, F. As normas como bem público e privado: reflexões nas fronteiras do enfoque "ativos, vulnerabilidade e estrutura de oportunidades" (Aveo). In: CUNHA, J. M. P. (Org.). **Novas metrópoles paulistas: população, vulnerabilidade e segregação**. Campinas: NEPO/UNICAMP, 2006.

KAZTMAN, R. Seducidos y abandonados: el aislamiento social de los pobres urbanos. **Revista de la CEPAL,** Santiago do Chile, 75, p.171-189, dec, 2001.

_____ (Coord.). **Activos y estructura de oportunidades. Estudios sobre las raíces de la vulnerabilidad social en Uruguay.** Uruguay: PNUD-Uruguay e CEPAL-Oficina de Montevideo, 1999b.

_____ et al. **Vulnerabilidad, activos y exclusión social en Argentina y Uruguay.** Santiago do Chile: OIT, 1999a. (Documento de Trabajo, 107)

MASSEY, D.S.; DENTON, N.A. "The Dimensions of Racial Segregation," **Social Forces,** 67, p.281-315, 1988.

PORTES, A. Latin American Class Structures. **Latin American Research Review**, 20 (3), p.7-39, 1985.

PORTES, A.; HOFFMAN, K. Latin American Class Structures: their composition and change during the neoliberal era. **Latin American Research Review**, 38 (1), p.41-82, 2003.

PRETECEILLE, E. - "*Divisão Social e Desigualdades: Transformações recentes na Metrópole Parisiense*". In: RIBEIRO, L.C. de Q. (org.). **O futuro das Metrópoles: Desigualdades e Governança Rio de Janeiro**, Ed. Revan, 2000.

RODRÍGUEZ VIGNOLI, J. "Segregación residencial socioeconómica: ¿qué es?, ¿cómo se mide?, ¿qué está pasando?, ¿importa?". **Serie Población y Desarrollo**. Santiago, Chile: CEPAL, 2001.

SABATINI, F. "Medición de la segregación residencial: reflexiones metodológicas desde la ciudad latinoamericana." In: CÁCERES, F.; SABATINI, F. (eds), **Barrios Cerrados en Santiago de Chile: Entre la Exclusión y la Integración Residencial.** Cambridge, MA: Lincoln Institute of Land Policy, 2004.

_____; CÁCERES, G.; CERDA, J. "Segregação Residencial nas Principais Cidades Chilenas: tendências das três últimas décadas e possíveis cursos de ação," **Espaço & Debates,** 45, p.60-74, 2004.

SAMPSON, R.J.; RAUDENBUSH, S.; EARLS, F. Neighborhoods and violente crime: a multilevel study of collective efficacy. **Science**, 277 (5328), 1997.

SASSEN, S. ***The global city*: New York, London, Tokyo**. Princeton: Princeton Univ., 1991.

SOBREIRA, D.; CUNHA, J.M.P. A metrópole e seus deslocamentos populacionais cotidianos: o caso da mobilidade pendular na Região Metropolitana de Campinas em 2000. **Anais...,** XII Encontro Nacional da ANPUR. Belém, Pará, 2007.

TORRES, H. da G.; FERREIRA, M.P.; GOMES, S. "Educação e Segregação Social: Explorando o Efeito das Relações de Vizinhança." In: MARQUES, E.; TORRES, H. da G. (eds.), **São Paulo: segregação, pobreza e desigualdade**. São Paulo: Editora do Senac, 2005.

WILSON, J. Studying inner-city social dislocations: the challenge of public agenda research: 1990. **American Sociological Review,** US, 56 (1), p.1-14, 1991.

_____. **The truly disadvantaged.** Chicago: The University of Chicago Press, 1987.