Urban and Rural Variants of Pre-industrial Demographic Regimes in Nineteenth-Century Brazil

Maria Luiza Marcílio

Numéro hors-série, 1980

Urbanization in the Americas : The Background in Comparative Perspective

URI : <https://id.erudit.org/iderudit/1020697ar>

DOI : <https://doi.org/10.7202/1020697ar>

[Aller au sommaire du numéro](#)

Éditeur(s)

Urban History Review / Revue d'histoire urbaine

ISSN

0703-0428 (imprimé)

1918-5138 (numérique)

[Découvrir la revue](#)

Citer cet article

Marcílio, M. L. (1980). Urban and Rural Variants of Pre-industrial Demographic Regimes in Nineteenth-Century Brazil. *Urban History Review / Revue d'histoire urbaine*, 71–75. <https://doi.org/10.7202/1020697ar>

Résumé de l'article

Les recherches préliminaires sur les données démographiques du XIX^e siècle au Brésil ont révélé des modèles différents de ceux qu'on a proposés pour l'Ancien régime en Europe. Pour le Brésil, il s'en dégage quatre, liés aux degrés d'isolement de la population, à l'accès aux ressources naturelles, à la nature du travail et aux liens avec l'économie mondiale : 1) économies de subsistance; 2) économies fondées sur les plantations; 3) les esclaves; et 4) les régions urbaines, et notamment les ports. Le nombre des esclaves se maintient grâce à un apport constant en provenance de l'Afrique, et la population des villes, par l'achat d'esclaves et l'immigration européenne.

Urban and Rural Variants of Pre-industrial Demographic Regimes in Nineteenth-Century Brazil

Maria Luiza Marcílio

Résumé/Abstract

Les recherches préliminaires sur les données démographiques du XIX^e siècle au Brésil ont révélé des modèles différents de ceux qu'on a proposés pour l'Ancien régime en Europe. Pour le Brésil, il s'en dégage quatre, liés aux degrés d'isolement de la population, à l'accès aux ressources naturelles, à la nature du travail et aux liens avec l'économie mondiale: 1) économies de subsistance; 2) économies fondées sur les plantations; 3) les esclaves; et 4) les régions urbaines, et notamment les ports. Le nombre des esclaves se maintient grâce à un apport constant en provenance de l'Afrique, et la population des villes, par l'achat d'esclaves et l'immigration européenne.

Preliminary research in nineteenth-century Brazilian demographic data already indicates patterns different from the Old Regime model formulated for Europe. For Brazil there emerge four demographic regimes, involving degrees of isolation of population, access to natural resources, kinds of work, and relationship to the world economy: 1) subsistence economies; 2) plantation economies; 3) the slave population; and 4) urban areas, mostly ports. The slave population maintained its numbers by steady importation from Africa; the cities, by purchase of slaves and immigration from Europe.

The sparse literature extant on the development of Brazilian cities in the nineteenth century has devoted itself almost exclusively to quantitative aspects of evolution and change in their numbers and sizes. A few essays are more comprehensive in that they try to relate the process of urbanization to socio-economic changes taking place at the same time.¹ Other studies examine the phenomenon of urbanization only in subsidiary aspects despite very real contributions to our knowledge of it.² Usually studies of urbanization analyze the phenomenon for Latin America as a whole, so that Brazilian data are spread through tables and interpretations attempting to deal with the entire continent and a half. Actually, published research on the historical demography of Brazilian cities does not number more than ten items, this in spite of the rising acceptance in recent years of historical demography as a respectable field of study. For these reasons, analysis of the history of urbanization in Brazil and of the varying demographic regimes in its urban and rural spaces must be highly tentative.

Nevertheless, I do have a basis for the beginnings of analysis in my now long experience in studying the historical demography of Brazil, in the on-going accumulation of basic data, and in a rising output of monographs and studies of Brazilian demographic and social history covering the eighteenth to the twentieth centuries. The data are being stored in the data bank of the Program of Historical Demography of the Universidade de São Paulo (now being established). So I can move a few steps forward in detecting different regimes of population behaviour, structures, and dynamics as they existed in pre-industrial, traditional Brazil.

In this paper, obviously, I shall advance hypotheses or preliminary results derived from the first findings of empirical demographic researches, but many new detailed studies of specific sectors are required in order to test and prove what I set forth here. I suggest also that discussion of the demographic regimes that I am going to indicate and, above all, further analysis of the differential nature of the urban demographic regime in nineteenth-century Brazil will help to deepen and enrich my hypotheses.

As is well known, hundreds of studies have now been carried out on the demography of European villages, towns, cities and regions during the Old Regime (XVth to XVIIIth

centuries) and during the initial phase of industrialization (XIXth century). They are based on serial data derived from Roman Catholic church registers (baptisms, marriages, burials) and analyzed with the methodological rigour we owe to Louis Henry. These studies have uncovered similar demographic models and mechanisms so that we may talk today of a European demographic model or structure characteristic of the Old Regime or pre-industrial phase.

The European pre-industrial demographic system operated on the basis of a natural equilibrium with certain conjunctural imbalances because of short-term crises. To be more specific, the dynamic and structure of traditional populations in modern Europe may be described through the following general characteristics:

- 1) A mode of marriage marked by late formation of family units (average of 25 years for women and 27 for men) as a means of social control of births; a relatively high proportion of individuals never married.
- 2) The intergenerational rhythm, that is, the spacing between births of children to a couple, was not as short as had been supposed (an average of 1.8 years).
- 3) In consequence of 1) and 2) legitimate fecundity was less than had been claimed previously and illegitimate fecundity practically non-existent (in general, about 1.0 per cent of births).
- 4) General levels of mortality in normal years were relatively high (between 25 and 35 per thousand of population). At the same time, a graph depicting mortality would show frequent sharp changes because of massive deaths in epidemics or crop failures (*crises de subsistance*).
- 5) Finally, the medium and long-term tendency for these populations, with both death and birth rates relatively high, was for a rhythm of balanced, low natural increase, never more than an annual long-term rate of 0.7 per cent a year.³

The demographic model of Old Regime Europe evidently operated within a well-defined agricultural and commercial economy. In the prevailing level of agricultural development,

cultivation of the soil may be defined as intensive, with annual or triennial crop rotation. Technology was advanced and based on monoculture of grains. In these terms, given the precarious conditions of transport and communications, if for any reason the supply of grain failed, virtually all food was gone. This is the reason why the graphs of mortality show fluctuations (epidemics and famines) with immediate effects on births and marriages.

Since Brazil from the beginning of colonization was part of the world economy controlled by and based on the hegemony of western Europe, would the Brazilian demographic models have been determined by the European model? Should we find demographic mechanisms operating in Brazil, or in Latin America as a whole, like the model now established for Old Regime Europe? In truth, we find some similarities in the demographic behaviour of certain sectors. They are, however, superficial and secondary, they do not alter structures and tendencies which are basically different. For the cultural and socio-economic base is different; rhythms are different; equally divergent are the pulsations of growth of population and changes in it.

Such initial findings support my present determination to discover and define the possible demographic systems of traditional Brazil, especially those existing in the nineteenth century. I am convinced that, in addition to their originality relative to Europe, we may speak of various demographic regimes in nineteenth-century Brazil, and above all, of sharp differences between the urban demographic regime and those prevailing at the same time in the countryside.

For Brazil, in its pre-industrial nineteenth-century phase, I propose that there existed at least four types of demographic regime:

TOWARD A TYPOLOGY OF THE PRINCIPAL DEMOGRAPHIC REGIMES OF BRAZIL IN THE NINETEENTH CENTURY:

Analysis of the provisional graphs of birth and death rates for the eighteenth and nineteenth centuries, derived from demographic data for the first Brazilian parishes and regions studied, comprising both urban and rural areas, and findings derived from my current studies on the social history and historical demography of Brazil in those centuries, lead me to detect the existence of differing mechanisms of population behaviour for the physical and social spaces which coincide with the predominant regional economies. I suggest four differing principal demographic systems for traditional Brazil, which may be defined in the following terms:

DEMOGRAPHIC REGIME CHARACTERISTIC OF SUBSISTENCE ECONOMIES

A relatively substantial number of studies already carried out on the historical demography of parishes and regions characterized by subsistence agriculture in pre-industrial Brazil allow a more nearly accurate description of the mechanisms of demographic behaviour found in them.⁴ Subsistence agriculture in such parishes and regions in pre-industrial Brazil essentially meant a relatively primitive cultivation of clearings opened in bush or forest that was generally virgin. Cultivation was based on a number of main crops (most important: millet, manioc, rice, and beans), and was complemented by the small-scale raising of chickens and pigs.⁵ Cultivation was further characterized by the practice of allowing the land to return to bush or forest for long periods of time, generally twenty to thirty years. After the bush or forest had been restored, clearings might again be opened in a system that is often called slash and burn or swithen cultivation. In such an essentially itinerant mode of cultivation, the idea of private ownership of the land as property that might

be bought and sold was little developed and rarely precise. At the same time, social relations were based fundamentally on family work, on the ties of blood and marriage relationship. They involved mutual assistance (called *mutirão*) or collective forms of work in periods of heavy need in agriculture or in the felling or burning of bush. Slave labour might exist with these forms, but it was secondary and complementary; furthermore, it was quantitatively insignificant. In this form of economy, settlement was dispersed throughout the wide limits of the basic administrative divisions, that is *municípios* (counties in Anglo-American usage). Houses were built by preference along roads or streams or on the coast and the central nuclei of towns fulfilled religious and administrative functions that were minimal and shifting.

Food supply for the family group was secured throughout the year from domestic cultivation and animal raising without the ups and downs of crises of subsistence. Manioc which, if left in the ground, keeps for many months without deterioration, served as a natural food reserve against periods of shortage or intervals of want that might arise between planting and harvesting of cereals. The small amount of stockraising and even more food secured by hunting and fishing in nearby areas or by gathering in the bush or forest further assured a continuous supply through the year for the family groups of the slash and burn cultivators.

Given these circumstances, the demographic mechanisms of such populations showed the following characteristic elements:

Mortality was relatively high, even without the occurrence of so-called crises of mortality (when the number of deaths in a year doubled or tripled because of epidemic or wide-spread famine). In other words, the graphs of mortality were always high, without sharp fluctuations such as occurred for pre-industrial populations living on cereal agriculture. An ample and varied diet (grains, tubers, meat, fish, and fruit) was assured during the entire year without the ups and downs of crises of subsistence. The dispersed nature of settlement, without large urban nuclei, created natural barriers against contagion and the spread of epidemic disease. In all the vast *Capitania* of São Paulo during its phase of predominance of subsistence agriculture (that is, before the dominance of coffee) mortality generally remained constant at a level of about 42 per thousand of population.⁶ No crisis of mortality was detected for the region during the whole of the period.

Fecundity was high. Since work was predominantly centred in the family group and the rhythm of mortality was high, the survival of family units of production could be assured only by a high birth rate. In fact, in the region of São Paulo (the formal province) rates for births were always higher than 50 per thousand. Concretely, in 1798 the rate was 53.7 per thousand of population; in 1808, 54; in 1818, 54.3. These levels went even higher in 1828, reaching 56.7 births for each thousand of population.⁷

Natural increase, that is, excess of births over deaths, was in consequence always high, on average around 1.0 per cent a year. In long-range terms, such a population dynamic meant rapid increase in total population relative to similar primitive societies elsewhere.

Family based on legal marriage was dominant to a far greater extent than in other sectors of the Brazilian economy of the time, in large measure because of the greater territorial stability of the populations engaged in slash and burn cultivation. In the small settlement of Ubatuba (on the Paulista coast) between 1785-1830, parish registers covering the entire local population show a proportion of illegitimate births of no more than 17.0 per cent.⁹

High though this may seem, it is among the lowest coefficients of illegitimacy found for nineteenth-century Brazil.

The average age for the first marriage was furthermore relatively low, about 21 for men and 20 for women, as in the instance of Ubatuba for the years mentioned. In addition, birth intervals occurred at an accelerated rhythm, that is, with shorter periods between births for the same woman.

DEMOGRAPHIC REGIME OF THE PLANTATION ECONOMIES

In those parts of Brazil where agriculture was predominantly monocultural, organized in plantations, and both integrated into and dependent on the world economy (in the now accepted concept of Wallerstein), the population was organized in a demographic system that varied from the previous one in various ways. In such areas, even though there often existed subsistence agriculture to guarantee provision of food for the domestic group, including slaves, that supply was neither reliable nor varied. The best soils and most accessible lands were used for the prevailing monoculture and export (sugar cane, coffee, tobacco, cotton, or cacao). The result was unbalanced nutrition and a food supply poorer in variety and nutritive content. Settlement was equally dispersed as for previously described populations and such dispersal provided a barrier to the spread of epidemic diseases. However, infectious and parasitical tropical diseases of endemic nature steadily caused heavy damage in the population, especially among infants. Exploitation of the soil was intensive to the point of exhaustion. Land in these areas became a commercial good, with its value rising because it was close to a port, because it was fertile or lay close to means of transport and communication. On the plantations, the family group around the owner was preponderantly legitimate; the forms of transmission of the land and of inheritance much more structured. As a general rule, marriage was endogamic and even consanguineous in order to preserve the integrity of the landholding and even extend it. At the same time, sharing the plantation with the legitimate family, a swarm of bastards, usually of mixed race, arose from the casual matings by the master and other free males. These are, in summary, some of the most characteristic elements of Brazilian plantation societies that brought about differences in demographic structure.

Even though we still lack studies of the historical demography of the free people living in the great plantation sector of the Brazilian economy, bits and pieces scattered through existing literature⁹ and my studies now under way do yield enough information for me to propose the existence of a special demographic system characteristic of the free population of the plantations. It includes the following characteristics:

Mortality (among the free portion of the plantation population) was very high. Wretched sanitary conditions combined with a diet relatively poor in nutritive value led to very high rates of infant and child mortality. Endemic diseases, especially tropical ones, brought death to all ages. On the other hand, outbreaks of epidemic disease were of limited effect because of the dispersed nature of settlement.

Fecundity was high. Legitimate fecundity was relatively higher than in regions of subsistence agriculture, for landowners tried by means of the legitimate family to guarantee the transmission of holdings; hence a very high birth rate aimed at overcoming the risks inherent in the high mortality of the first years of life. Illegitimate fecundity also reached high rates. Unlike the case of other economic regions of Brazil, it was the result of temporary consensual unions rather than long-term and stable ones as, for example, in the urban zones.

Natural increase had a less rapid rhythm among the free people of plantation society than among those of subsistence agriculture. A high degree of spatial mobility most probably prevailed equally in the one as the other because of the movement of individuals.

THE DEMOGRAPHIC REGIME OF SLAVE POPULATIONS

In Brazil, in practically all periods and regions, the owner of slaves placed obstacles in the way of or a least discouraged legal marriage and the formation of legal, stable family units among his human chattels. This phenomenon has already been well studied. In explaining it, scholars always advance the thesis that Brazilian slave owners were deficient in or completely lacked the mentality of capitalist entrepreneurs in that they did not try to encourage maintenance of their labour force by natural increase. Low prices for slaves and ease of importation of new ones from Africa provide an equally plausible explanation for such behaviour. These factors began to lose force only in the decade of the 1850s with the end of the slave trade. One consequence among the slave population was that the rate of marriages was insignificant and that the proportion of illegitimate births was extremely high. At the same time, conditions of living, work, diet, and housing contributed to mobility and a very heavy mortality.

In sum, the demographic regime characteristic of the Brazilian slave population may be defined in the following terms:

Mortality was extremely high at all times and in all regions, infant mortality particularly so. Epidemics were frequent and murderous, especially smallpox, and after the 1850s cholera morbus and yellow fever.

Very low rates of marriage, with an almost complete absence of the legal, stable family. According to Robert Slenes, who studied Brazilian slave populations from 1850 to the abolition of slavery, in 1872 only 8.5 male mulatto slaves per thousand were married and only 7.8 per thousand of female slaves of the same degree of colour. For Negro slaves, corresponding values were 8.3 males and 8.5 females. In the imperial capital of Rio de Janeiro in the same year the census report for female slaves was only 1.1 married per thousand.¹⁰

Sex structure of the Brazilian slave population always showed a sharp imbalance in favour of males. In 1836 the city of São Paulo had 51.0 percent of males among its slave population. In the sugar region of Campinas in 1818 the proportion of males among the slave force was 71.0 per cent; between 1800 and 1820 in the urban and mining parishes of Ouro Preto there were 217 male slaves for every hundred female ones.¹¹ According to the census of 1840, the returns for the 33 *municípios* of the province of Rio de Janeiro found 63.38 per cent of the slave population to be male, and in the coffee raising *município* of Vassouras the predominance of males rose to 72.23 per cent in the slave population.¹²

Fecundity in the slave population, whether in stable family units or temporary consensual unions, was among the lowest anywhere in Brazil.

Natural increase among Brazilian slaves in these conditions was normally a minus quantity. The continuing general growth in the slave population was brought about only through forced immigration, i.e., the slave trade.¹³ Since such immigration was characteristically highly selective in sex (males being preferred) and in age (adults over 10-12 years old), the *age pyramid* for the slave population was always unbalanced and irregular. Its nature too contributed to low fecundity among slaves.

THE DEMOGRAPHIC REGIME FOR URBAN AREAS IN THE NINETEENTH CENTURY

We can state today with a good deal of confidence that in the nineteenth century the areas with densest human settlement—the great cities—had a demographic regime different in various aspects from that of other regions. Demographic structures and rhythms showed considerable differences from those prevailing in rural zones.

At the beginning I should emphasize that, in spite of all the problems of concept and evidence in separating the truly urban from the rural in pre-industrial Brazil, I deal here with only the large urban concentrations existing in the period I am analyzing. In nearly all instances they were also regional city-capitals, with varied functions: administrative, commercial, port, religious, etc. They were almost entirely located on the coast, with the exception of the urban concentrations associated with mining. The latter lay in the interior, especially in the province of Minas Gerais.

In addition to the diversity of the functions they fulfilled, the great cities also contained a labour force, free and slave, with a far greater degree of and more variety of specialization than any in the rural zones. The demographic regime of the free populations as it developed during the course of the nineteenth century in the great cities may be described in terms of its basic elements. If I am accurate, they displayed both originality and differences relative to the other demographic regimes in rural Brazil of the same period.

Mortality in normal times was very high and marked over the long term by high frequency of collective crises of mortality (unknown in rural areas) primarily because of easy access to sources of contagion (ports) and the ease of spread of epidemics among dense human aggregations. In such circumstances, mortality of the great Brazilian cities of the nineteenth century, whether in normal times or in years of crises of mortality (hunger, epidemics, social conflict) was steadily higher than births.

For example, the census of 1849 and vital statistics for the same year indicate that in the urban parishes of the city of Rio de Janeiro, the crude death rate for the free population was 35.8 whereas for the same population the crude birth rate was 22.3. The birth rate was unusually low because 1849 was a year of demographic crisis. For the slave population in the city in the same year the death rate was 42.5 and the birth rate, 27.5. The overall population would have fallen were it not for other factors as we shall see below.

In this period in the strictly urban zone of the city of Rio de Janeiro, during a normal year (1838), the general birth rate was 40.8 (42 for free people and 40 for slaves) and the general death rate, 65.8 (53.8 for free people and a startling 85.3 for slaves).¹⁴

In the nineteenth century the frequent occurrence of generalized epidemics was closely connected with the greater exposure of urban populations to contagion, brought especially by ships (from Europe or from Africa) and the high concentration of populations in restricted areas, which facilitated the transmission of infection. Queirós Mattoso and Athayde have constructed a chronology of the various epidemics which desolated some of the principal Brazilian cities in the past century. Their findings are surprising. Smallpox alone attacked the city of Rio de Janeiro in massive form in the years 1830, 1834, 1835, 1836, 1837, 1838, 1844, 1847, 1848, 1850, 1851, 1858, 1861, 1862, and 1865. Yellow fever brought by ships sailing from Europe devastated the Brazilian port cities in 1849. In

Salvador, Bahia, yellow fever was epidemic in 1856, 1860, 1876, and 1879; in Recife, it attacked in massive form in 1873, 1876, 1883, and 1884. In Rio de Janeiro the worst years of mortality due to yellow fever in the past century were 1850, 1861, 1869, 1873, 1874, and 1880.¹⁵ For its part, cholera morbus, which was brought to Brazil for the first time in 1855 by European ships, reappeared frequently in the following years. Its ravages were confined almost entirely to urban populations.¹⁶

The birth rate for the free segment of the population of the great cities was relatively less high than among rural folk. The birth rate for the city of Recife in 1813 was 51.3 (and death rate, 64.6).¹⁷ But in Rio de Janeiro, as already stated, in 1849, the birth rate was 42 for each thousand of free people and in the small urban nucleus of the city of São Paulo, between 1800 and 1809, the birth rate was 47.8. In this last instance, demographic behaviour fell midway between the urban and rural models.

Stable consensual family unions were a pronounced characteristic of urban populations. The indices of illegitimacy for the urban free population, accordingly, were extraordinarily high, to degrees seldom encountered elsewhere. In Ouro Preto between 1719 and 1723, 89.47 per cent of all births were illegitimate, and when this city reached relative stability in size, the proportion of illegitimate births nevertheless continued high: 58.4 per cent for the years 1800-1820.¹⁸ For the city of São Paulo from 1741 to 1845, in those years a semi-urban nucleus of little importance, 39.0 per cent of all children born were illegitimate.¹⁹ The great cities such as Rio de Janeiro, Salvador, and Recife, had indices of illegitimacy that were always above 60.0 per cent. A high degree of spatial mobility among city inhabitants, often involving travel over great distances, added to the obstacles interposed by the civil bureaucracy and requirements by the Church for legal marriage. All of these plus the heavy expenses attached to legal marriage ceremonies explain in part the phenomenon of high percentage of family units based on stable consensual unions. A similar phenomenon was equally characteristic of the other large cities of Latin America.

Natural increase for the free population of the larger urban concentrations of Brazil in the nineteenth century was different from that of the other areas of the country in that it was intermittent, with years of gain interspersed among years of loss.

During the same period the population of the great cities in general grew steadily and substantially because of *high rates of immigration*. The immigrants came from the nearby countryside and from abroad; those from abroad until 1850 from Africa and after the decade of the 1850s from Europe. European immigration was particularly important in the growth of the cities of the centre and south. From the 1870s on it reached massive proportions.

Social mobility in this period became a more prominent phenomenon through the increase in manumissions of slaves. It was more characteristic of cities than the countryside and increased the body of the urban free population.²⁰

Racial intermixture was considerably greater in the large cities than in the countryside because of the concentration of slaves. It is related to the high index of illegitimacy. In the city of Salvador in 1807, for example, the population comprised 28.0 per cent of whites, 20.0 per cent of mulattos and 52.0 per cent blacks. In 1872 in the same city, the whites constituted barely 32.5 per cent of the population; mulattos were 44.3 per cent, Negroes 18.3 per cent, and

caboclos (mixed white and Indian) 2.2 per cent.²¹ Even in smaller cities, like Curitiba in 1854, a quarter of the population was mulatto.²² A similar phenomenon could be found in Rio de Janeiro, Recife, Aracaju, Fortaleza, etc.

Rates of infant mortality for both free and slave populations in the great urban centres were significantly higher than for the countryside. The causes lay, at least in part, in the steady problems of food supply, of sanitary conditions, and of housing in the larger urban concentrations. Thus, for example, in Ouro Preto during the years 1800-1809 the death rate for infants of under 1 year was 151.8 (136.4 for free people and 224.1 for slaves).²³ In the greater port cities, infant mortality was never under 200 per thousand.

Finally, the large cities because of their very nature and the structure of social relations within them had the highest level of specialization and the greatest complexity in socio-professional stratification and social hierarchy. Their work force was always proportionately more concentrated in tertiary activities as may be seen in the instance of the city of São Paulo during the first half of the century²⁴ and in that of Salvador.²⁵

Such are my provisional findings for a demographic typology of Brazil in the nineteenth century. Because research on these matters is still in an early stage, they should be subjected to critical examination and discussion. Above all else, they await further evidence and verification. Only many more studies on these points can bring confirmation.

NOTES

- For the first category, I mention the following studies: R.E. Boyer and K.A. Davies, *Urbanization in 19th Century Latin America: Statistics and Sources* (Los Angeles, 1973); M.L. Conniff, et al., "Brazil," in R.M. Morse, ed., *The Urban Development of Latin America, 1750-1920* (Stanford University, 1971), pp. 36-52; B. Cowell, Jr., "Brasil," in R.M. Morse, ed., *Las ciudades latinoamericanas* (Mexico City, Sepsetentas, 1973), I, 79-117. In the second category, prominent works are: S. Schwartzman, "Urbanización y desarrollo en Brasil," in J.E. Hardoy, and C. Tobar, eds., *La urbanización en América Latina* (Buenos Aires, 1965), pp. 363-388; M.E.L. Lobo, "El papel comercial de las ciudades en la América Latina de los siglos XVIII y XIX," in J.E. Hardoy, et al., eds., *Ensayos histórico-sociales sobre la urbanización en América Latina* (Buenos Aires, 1978), pp. 219-248; P.P. Geiger, *Evolução de rede urbana brasileira* (Rio de Janeiro, 1963); L. Jeanjean, "Croissance urbaine et croissance régionale au Brésil depuis l'indépendance," in France, Centre National de la Recherche Scientifique, *L'histoire quantitative du Brésil de 1800 à 1930* (Paris, 1971), pp. 465-477. F.L. Almeida, ed., *A questão urbana na América Latina* (Rio de Janeiro, 1978); R. Cardona Gutiérrez, ed., *América Latina: distribución espacial de la población (Primera Reunión de Trabajo sobre Políticas de Migración y Distribución de la Población en América Latina)*, (Bogotá, 1975); and others.
- I may cite as an example M. Diegues, Jr., *Imigração, urbanização, industrialização* (Rio de Janeiro, 1964), which essentially analyzes the cultural contribution of the European immigrants to Brazilian urbanization and industrialization.
- See especially J. Hajnal, "European Marriage Patterns in Perspective," in D.V. Glass, and D.E.C. Eversley, eds., *Population in History, Essays in Historical Demography* (London, 1965), pp. 101-143; P. Goubert, *Beauvais et le Beauvaisis de 1600 à 1730*, 2 vols., (Paris, 1960); and E.A. Wrigley, ed., *An Introduction to English Historical Demography from the Sixteenth to the Nineteenth Century* (London, 1966).
- Studies of old agrarian communities, now become classics, took the first steps toward determining the nature of the demographic regimes in rural areas of subsistence agriculture: E. Willems, *Tradição e transição em uma cultura rural do Brasil* (São Paulo, 1948); D. Pierson, *Cruz das Almas* (Rio

de Janeiro, 1966). In the early 1970s my inaugural studies of the historical demography of Brazil were directed especially to rural populations of large regions, for example, M.L. Marcílio, *Crescimento demográfico e evolução agrária paulista: 1700-1836* (São Paulo, 1974), mimeographed.

- The classification of agricultural systems by means of demographic characteristics and degree of intensity of use of land was proposed in a magisterial essay by E. Boserup, *Evolution agraire et pressions démographiques* (French trans., Paris, 1970).
- M.L. Marcílio, "Croissance de la population pauliste de 1798 à 1828," in *Annales de démographie historique*, 1977, p. 259. See also Marcílio, 1974, cited in n. 4.
- Ibid.*
- Preliminary finding of research still under way to apply the method of family reconstitution employed by Louis Henry.
- Especially useful is the work of Stanley Stein, *Vassouras* (Cambridge, Harvard University Press, 1957).
- See R.W. Slenes, *The Demography and Economics of Brazilian Slavery: 1850-1888* (Ph. D. Thesis, Stanford University, 1975), p. 418.
- See respectively M.L. Marcílio, *La ville de São Paulo: peuplement et population, 1750-1850* (Rouen, 1972), pp. 128-130; and N. Costa Iraci, *Vila Rica: população, 1719-1826* (Master's Thesis, Universidade de São Paulo, 1977), p. 80.
- Slenes, 1975, as in fn. 10, p. 273.
- The best estimates on the numbers of African slaves imported into Brazil from the sixteenth century to 1888 are in P. Curin, *The Atlantic Slave Trade: A Census* (Madison, 1969).
- Census data from: Brazil, *Relatório do Ministério dos Negócios do Império* (Rio de Janeiro, 1839), and E.M.L. Lobo, *História do Rio de Janeiro*, I (Rio de Janeiro, 1978), p. 225. Lobo gives no indication of the source of her information. Data of vital statistics were from all parishes of Rio de Janeiro and are published in Lobo.
- Statistical reports on deaths in Rio de Janeiro for the later years of the nineteenth century show clearly the ravages of yellow fever in that city, which had an evil reputation abroad until the sanitation project of 1905 eradicated the disease.

RIO DE JANEIRO

1st quarter of	Deaths through Yellow Fever	Deaths for Other Causes	Total
1873	2,884	3,738	6,622
1874	325	2,364	2,599
1875	576	2,419	2,995
1876	1,798	3,208	5,006
1877	52	2,743	2,795
1878	717	2,602	3,319
1879	440	2,549	2,899
1880	972	2,835	3,807

Source: Brazil, *Relatório do Ministério do Império* (Rio de Janeiro, 1882), p. 47.

- K. de Queirós Mattoso, and J. de Athayde, "Epidemias e flutuações de preços na Bahia na Bahia, no século XIX," in France, Centre National de la Recherche Scientifique, *L'histoire quantitative du Brésil de 1800 à 1930* (Paris, 1971), pp. 183-202.
- Mapa da população das três freguesias de Recife de Pernambuco: 1813, in Braga (Portugal), Arquivo Distrital, MS 669(10).
- Costa Iraci, 1977, as in fn. 11, p. 78.
- Marcílio, 1972, as in fn. 11, p. 183.
- See especially K. de Quirós Mattoso, *Bahia, a cidade do Salvador e seu mercado no século XIX* (São Paulo, 1978); and the same author, "A carta de alforria como fonte complementar para os estudos da rentabilidade de mão-de-obra escrava urbana (1819-1888)," in Peláez, Carlos Manuel and Mirceo Buescu, coord., *A moderna história econômica* (Rio de Janeiro, 1976), pp. 149-164.
- Quirós Mattoso, 1978, as in fn. 20, p. 147.
- B.T. Miranda, *Aspectos demográficos de uma cidade paraense do século 19: Curitiba 1851-1880* (Master's Thesis, Paraná, 1978).
- Costa Iraci, 1977, as in fn. 11, p. 79.
- Marcílio, 1972, as in fn. 11, p. 152.
- Quirós Mattoso, 1978, as in fn. 20, p. 155.