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Banking networks across Brazilian cities: Interlocking cities within and beyond Brazil

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The interlocking network model of inter-city relations is used to evaluate Brazilian cities within contemporary globalization. Using data on 31 leading banks in Brazil across 30 Brazilian city-regions/detatched cities and 25 world cities, interlock connectivities are computed for overall, domestic and transnational links. From these results, cartograms are constructed to show Brazilian inter-city links both domestically and transnationally. The findings are interpreted in the light of contrasting arguments about contemporary Brazilian urban trends: concentration versus decentralization. We argue that our results show both trends operating simultaneously. On the one hand, it is clear that Sao Paulo remains dominant especially with respect to global links. On the other hand, firm evidence for medium-sized cities having relatively strong domestic and global links is presented. It is suggested that such confluence of contrary trends may be typical of geographical effects of globalization.

Keywords: Brazilian banking system, Brazilian cities, inter-city connectivity, world cities, world city network

Introduction

The purpose of this paper is to investigate how banks in Brazil link national cities to each other and to world cities in the wider global economy. The banking sector constitutes a critical advanced producer service wherein individual banks provide capital and financial instruments to Brazilian-located firms, both domestic and foreign. This financial servicing takes place within cities and through city networks. Thus, detailed geographical research on the office networks of major banks in Brazil enables us to provide a particular insight into how Brazilian cities are faring under conditions of contemporary globalization.

Of course, Brazilian cities with 'international' links, integrated city networks, and a developed banking system all predate contemporary globalization in Brazil. As with other countries, Brazil's cities evolved with its economy through several urban-economic stages. IPEA (2001, v.2, p. 346) have identified three such historical periods before the pressures of contemporary globalization. First, an *Atlantic slave territorial formation* from the sixteenth century to the national independence, when cities and hinterlands were complementary in their functions in a trans-Atlantic colonial framework; after independence the rise of *latifundium* power led to cities assuming endogenous financial functions, produced a network of (largely) seaport cities facilitating, in Frank (1969, pp. 6 and 7) famous terminology, 'metropolis-satellite relations' that linked local and national economies to the 'metropolitan centre in Europe or the United States' in a single

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'global, national, and local structure'. Second, from the 1870s through the 1940s a *national agricultural-market territorial formation* led to a clear separation of cities from hinterlands, continuing the city's role in underdevelopment. Third, a *national industry-urban territorial formation* from the 1950s through the 1970s created an industrialization process and began to establish an endogenous accumulation logic, thus giving rise to the integration of the national urban network (IPEA, 2001, v.2, p. 346). Therefore, before the onset of globalization in the last decades of the twentieth century, Brazilian cities were firmly embedded in a city-based industrial economy. Interpretation of the latter formation and how it relates the contemporary era is contested.

In his well-known analysis, Santos (1993) focuses upon communications: integration of a national market based upon metropolises had to await state government investment in communication infrastructure after 1945. However, with the economic collapse of the 1980s, it is major firms, both domestic and foreign, that take control of the recently constituted national market, creating a vertical structure centred on Sao Paulo. Thus, in Santos's interpretation, through a combination of market failure and new information technology, the state has lost its role as articulator of national planning. This appears to have continued into the 1990s: according to Fernandes and Negreiros (2001, pp. 425 and 428), Brazilian urban development in the 1990s was acutely influenced by the reduction of import barriers. The effect on production chains reduced industrial activity and drove less privileged regions into competition for foreign investors at both city and regional levels. In terms of location, public and private investment was then concentrated in the Southeast (64.3%), followed by Northeast (17.6%), South (9.4%), North (7.5%), and Centre-West (1.2%).

On the other hand, IPEA (2001, v.2, p. 346) offer an alternative understanding of this process that they term an *international financial phase* starting in the 1970s through to the 1990s. Here, the exhaustion of the financial model of the state (Deák, 1999) has resulted in dispersion rather than concentration. IPEA points to the birth of new dynamic centres such as Manaus, Brasilia-Goiania and Fortaleza and a simultaneous reduction in the growth of Sao Paulo and Rio de Janeiro. Data from 1991 to 1996 Census have revealed that the urban growth has changed from concentration to dispersion, in comparison with the 1980s – the growth rate decreased in the metropolises (the Northeast excluded) and rose in medium-sized cities. Brasilia, Curitiba, Goiania, Belem, Fortaleza, Campinas and Vitoria all posted a population growth rate above the average (IPEA, 2001).

These diverse interpretations draw upon different aspects of recent urban change and therefore they may not be as contradictorary as they first appear. Sassen (2001a,b) has always emphasized that the economic geography effects of globalization are a subtle mix of concentration and decentralization processes. Certainly, there is one thing all parties will agree on: the myriad processes behind globalization have had major impacts upon Brazilian cities and how they relate to each other and to the global economy. In this paper, we do not directly test the veracity of the two diverse interpretations. Rather we take a step back and try to provide some initial measurements of inter-city relations within and beyond Brazil. We offer a cross-sectional analysis of the connectivities of Brazilian cities at the beginning of the 21st century. Thus, we are addressing questions relating to the first theme that Fernandes (2001) identifies – 'global cities' – from the seven topics he recognises in his review of the Brazilian urban studies literature. However, within this theme, research has employed national data: for instance, the last IPEA study (2001) asserts that Sao Paulo and Rio de Janeiro are 'global metropolises' but does not identify or measure the global connections of these two leading Brazilian cities. It is precisely this omission that we seek to rectify in this paper.

The argument is presented in 4 substantive sections. First, we present the interlocking model relating firms to cities upon which our analyses are based. Second, we describe the data collection for operationalizing this model. This involves tracing the office networks of leading banks in Brazil. Third, we present banking connectivity of Brazilian cities within Brazil. This is compared to existing descriptions of the 'Brazilian urban system'. Fourth, we look at the connectivity of Brazilian cities with major world cities beyond Brazil. In a conclusion, we consider briefly how these analyses inform debates on contemporary Brazilian cities.

Interlocking city networks

The methodology upon which this research is based has been described in detail as a 'world city network' in Taylor (2001) and applied in practice in Taylor (2004). Here, we provide a summary, first describing the interlocking network model that is the framework, and then showing how the model can be used to derive measures of connectivity between cites.

Most network models have two basic components, the nodal level and the net level, Usually, the nodes are the agents that produce and reproduce the network, for instance a set of individuals who form a gang wherein gang members are agent-nodes and their inter-relations define the gang as a network. Such a model is inappropriate for studying economic networks of cities, however, because it would reify the cities. In other words, we do not want to model cities as agents creating economic networks, rather