THE DOMESTIC MARKET AND INDUSTRIAL GROWTH IN BRAZIL, 1830S TO 1920S [1]

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ABSTRACT

This paper summarises available data and information about the Brazilian economy for the period 1830-1930, in order to identify some of the possible causes of the failure of the export-led growth model in setting the country in a path of sustained development. Although favoured by its size and abundance of natural resources, and in spite of all the progress brought about by the export-led growth model, Brazil remained a very poor country in 1929/30. The main causes of this poor performance are related to built-in characteristics of the export-led growth model that failed to induce political, institutional, social and economic changes in the country.

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1 - INTRODUCTION

The continental size of the country and its natural resources endowment tended to make domestic market growth a natural outcome in Brazil after independence. Population expansion and demographic changes increased the prospects for growth and industrialisation based on domestic market dynamics. The successful agricultural commodities export-led growth model that was adopted resulted in moderate rates of GDP and per capita income growth until the 1880s and more significant rates of growth thereafter. There were large investments in physical infrastructure (railways, communications, electric power); domestic banking grew; trading and manufacturing activities increased.

Economic policy making was strongly influenced by the clash between contemporary political economy currents (metalistas versus papelistas), by planter and exporter interests and, to a minor degree, by industrialists. However, adherence to one or another current or interest group was also subject to practical considerations (for instance, to provide for foreign debt payments at the minimum domestic cost), and by events related to domestic political upheavals, financial crises, wars, and international crises that affected the country and its export markets. All in all, planter and exporter interests predominated, although manufacturing interest groups also succeeded in obtaining protection for specific industries (but not for industrial development in general).

Yet, despite of the progress brought about by such agricultural commodities export-led growth model Brazil remained a very poor country in 1929/30. This was the result of built-in effects of income concentration and regional inequalities, as well as of limited economic, social, political and institutional changes.

The purpose of this paper is to synthesise the information about the Brazilian economy available for the period, in order to identify some of the possible causes of the failure of the export-led growth model in placing the country in a path of sustained development.

2 – THE DOMESTIC MARKET AND INDUSTRIAL GROWTH IN BRAZILIAN EXPORT ECONOMY

The following notes are intended only as a summary discussion based on available data and information, arranged in order to show how a substantial domestic market (and especially an industrial structure) developed within the agricultural-export economy that characterises Brazilian economy in the period from the 1830s to the 1920s.

In order to be brief I will succinctly describe the main factors that helped domestic market creation and growth in Brazilian export economy, namely:

Population expansion;

GDP growth;

Growth and composition of foreign trade;

The building of infrastructure;

The development of banking and money, and

Economic policies.

Finally, trends in industrial investment will be discussed to sum-up domestic market growth. Data are presented in the appendix tables.

Population.

Population size and growth, as well as country size and natural resources, are important determinants of a sizeable domestic market. It is unnecessary to emphasise the natural advantages of Brazil regarding country size and natural resources for the development of domestic market activities. As to population, it was estimated at 5.3 million in 1830 and 33.6 million in 1930, with a long-term annual rate of growth of approximately 1.9%. Trans-Atlantic slave trade and later immigration accounted for a substantial portion of this population growth, and both were related to plantation labour needs. Economically active population was mostly employed in agriculture: 63.3% in 1872 (20% slave labourers) and 66.7% in 1920. Most important from the point of view of domestic market development was the transition to free labour and the promotion of immigration. Net immigration amounted to 2.2 million in the 1872-1930 period and, after the turn of the century, increasingly focused on growing urban centres.

GDP growth.

It is well known that official estimates of Brazilian GDP growth begin in 1947. For the period 1900-1947 the estimates by Haddad (1978) have been widely used;. although they are poor for the first years of the period. For the nineteenth century we can only use proxies as did Goldsmith (1986). Combining indices of foreign trade, wages, central government expenditures and money supply he arrived at an average index of real GDP growth. This index shows an average rate of growth of approximately 2% per year in the period 1850-1900. In the same way, Angus Maddison's (1991) estimates of per capita real income produce an implicit annual GDP growth rate of 2.15% between 1820 and 1890. The growth of foreign trade in pounds sterling, on the other hand, shows an annual average rate of growth of 2.9% between 1830 and 1900.

Considering that foreign trade data are in current prices and also that exports were leading economic growth, and taking into account the other estimates, we could venture to say that the order of magnitude of GDP growth in the nineteenth century was between 2 and 2.5 per cent. Since population growth was in the order of 1.9% in the same period, we can figure out that GDP per capita was increasing at a rate of not more than 0.6% per year. This was not a brilliant performance, of course, but it was not too bad when compared to other countries (see Maddison, 1991). Growth performance was substantially improved in the first three decades of the twentieth century. Annual average rates of growth for GDP, agriculture and industry achieved respectively 4.5%, 3.7% and 5.6% between 1900 and 1929.

Foreign trade.

Exports were the engine of growth, of course. Between 1850 and 1930 the quantum of exports increased at an average rate of 3% per year. The structure of exports shows that only four export staples (coffee, sugar, cotton and rubber) accounted for between 65% and 89% of total exports in the whole period from 1830 to 1929. Adding cocoa, maté tea, tobacco and leather the share of the 8 products goes up to 95%. Structural changes occurred only among these 8 products and especially among the first four of them. Only temporary and minor export diversification occurred during the First World War and in the early 1920s (cottonseed oil and meat products).

One important point to be noted is the regional concentration of production of these export staples. This concentration shaped regional markets that would act as location factors for domestic activities, especially manufacturing industries (coffee in RJ and SP; sugar, cotton, tobacco and cocoa in the NE; maté, meat products and leather in the south).

Infrastructure.

The building of transportation and communication facilities as well as of electric power generating capacity was the most important outcome of the staples export growth model for creating a domestic market, although not a national domestic market. Railway lines increased from a mere 15 km (less than 10 miles) in 1854 to 32,478 km (20.2 thousand miles) in 1930. The number of items posted by mail increased from 1.8 million in 1850 to 1,909.3 million in 1930. Electric power generating capacity increased from just 0.7 MW in 1889 to 778.8 MW in 1930.

However impressive, these figures deserve two orders of qualifications. First, regarding efficiency: quantitative increases did not always match with efficiency improvement. In 1929/30 infrastructure services in general were considered inefficient and relatively expensive in Brazil. Second, regarding regional inequalities: a large portion of the railway network was built in the South-eastern region (the coffee producing and exporting region) and about two thirds of the electric power generating capacity were built in the states of SP and RJ. These regionally unequal developments are obviously related to the performances of different export staples and contributed to reinforce industrial concentration in SP and RJ in the wake of a technical paradigm change to electricity in industrial production in the first two decades of the twentieth century.

Banking and money.

The number of banks and the amount of bank operations increased somewhat in pace with economic growth. Some indicators are: (1) per capita money stock (M1), which increased from 58.7 mil-réis in 1872 to 102.2 mil-réis in 1930, in 1913 constant prices, or about 1% per year, and (2) the ratio between the amount of currency held by the public (C) and money stock (M1), which dropped from 97% in 1850 to 38% in 1930. However, there is wide belief that constraints imposed by the government on the development of the banking system, especially during the Empire (1822-1889), actually restricted growth performance (Villela, 1999).

Economic policy.

With the exception of some measures to foster specific industries in the 1910s and 1920s, economic policy-making never focused on domestic market activities before the 1930s. Foreign trade and government financial needs (to service the foreign debt and to cover budget deficits) almost always prevailed. But these policy objectives were not a matter of consensus. As a matter of fact, all over the period from the 1830s/40s to 1929 a rather intricate net of interests and conflicting political economy views continuously influenced economic policy-making. Politicians and policy makers sympathetic to the metalistas position (convertibility, monopoly of issue) clashed with proponents of papelistas ideas (fiduciary currency, plurality of issue) on money and banking[1]. Planters and exporters had to contend with interests

[1] See Villela (1999) for an excellent discussion of the *metalistas* versus *papelistas* debate in the 1850-1870 period.

seeking protection for textile, hat, shoe and other manufacturing industries. Moreover, policy-making was of course subject to events related to internal political upheavals, domestic and international financial crises, wars, and international economic crises that affected the country and its export markets.

An overview of the ups and downs of economic policy in the 1830-1929 period is shown in tables 1 and 2 in the Appendix. It can be seen that trade balances increased substantially as coffee and other products consolidated their share of foreign markets, and more strongly in the first three decades of the twentieth century as a result of coffee valorisation schemes. Despite this accumulation of trade balances, foreign debt also accumulated. This was the result of foreign loans to finance infrastructure investments, central government deficits, and coffee valorisation. Monetary, banking and exchange-rate policies, in turn, oscillated according to the prevalence of specific political-economy thoughts, government sensitivity to the plight of one or another interest group, adherence or not to convertibility, the formal institution of convertibility funds (Caixa de Conversão, 1906-14; Caixa de Estabilização, 1926-1930), and major events like the War of Triple Alliance, the abolition of slavery, the proclamation of the Republic, and the First World War.

There are two points I would like to emphasise. First, that although coffee was the engine of growth, the valorisation scheme had deleterious effects on domestic market activities, as large amounts of resources were transferred to coffee plantations, creating an enormous excess capacity and oversupply in that sector, at the expense of non-export agricultural and industrial production, and setting the causes of the tragic coffee crisis which began in 1929. Second, that protection to manufacturing industries was not a policy objective but came as a result of fiscal policy objectives (import duties were the main source of revenue for central government) and of the action of sector-specific interest groups.

Industrial investment.

Finally, to illustrate the growth of domestic market activities I would like to point out the trends in manufacturing industry investments before 1930 as an outcome of export-led growth and of economic policies and political events (see Table 3 in the Appendix). It can be seen that investments increased in periods of general progress of the export economy and declined during export crises. Political events like the abolition of slavery and the fall of the Empire had strong influence on investments. The relationships between investments and policy variables, on the other hand, is not straightforward. But generally speaking, soft money and stable or appreciating exchange rates favoured investments. Protection afforded by import duties can only be assessed at the level of specific industries. The ones most active in seeking protection and which developed in this period were: cotton-textile and clothing, shoes, hat, beer, wheat mills, sugar refining, meat-packing, vegetable oils refining, matches, and light agricultural equipment. Some diversification of production structure began in the 1920s with investments in industries like cement, steel, paper, rubber products, and agricultural and industrial machinery.

3 - FINAL COMMENTS

Although favoured by its size and abundance of natural resources, and in spite of all the progress brought about by the export-led growth model, Brazil remained a very poor country in 1929/30. Why? There are several causes, of course, but I would like to point out four of them: (1) there was no actual political change. The same oligarchies that dominated the political arena during the Empire remained in power during the Old Republic through the so called "café-com-leite" political pact; (2) little institutional change was achieved: democracy did not advance. In 1930 still less than 5% of the population could vote, and illiteracy rates were in the order of 80/90 percent, higher among elder people and females; (3) the export-led growth model had built-in effects of income and property concentration and of regional inequalities, and it diverted real resources from domestic to export sectors, especially to coffee plantations. The social and regional implications of these characteristics are felt even today. Finally (4) there was little structural change in the economy: agriculture still was responsible for nearly two thirds of total employment and about three fourths of GDP; agricultural commodities and slightly processed products still accounted for most of export revenues (the share of coffee alone reached 72.5% of total exports in 1924-1929), and the diversification of industrial structure was very limited; the growth of industrial production up to 1929 was still characterised as mainly induced by income growth related to the export economy.

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APPENDIX

Table 1. Brazil, Trade Balance, Foreign Debt and Central Government Finances in Selected Periods, 1830-1929

PERIODS	TRADE BALANCE (£ 1000) PER YEAR AVERAGES	FOREIGN DEBT (£ 1000) VARIATION IN PERIOD	EFFECTIVE EXPENDITURE/ Revenue ratio (%)
1830-1849/50	- 686.3	855	113.7
1850/51-1857/58	- 1,385.3	- 842	99.4
1858/59-1863/64	336.5	5,475	109.4
1864/65-1873/74	2,780.4	4,233	145.4
1874/75-1879/80	3,385.2	2,101	135.0
1880/81-1889	2,600.1	13,950	112.1
1890-1895	3,499.7	8,713	117.1
1896-1902	7,424.0	19,952	123.4
1903-1913	13,495.6	84,464	110.2
1914-1918	15,631.6	9,445	154.8
1919-1922	14,146.0	31,699	140.0
1923-1926	19,541.5	25,077	107.0
1927-1929	7,996.7	41,832	93.9

Source: Elaborated from data in IBGE (1990).

Table 2. Brazil, Yearly Average Changes in the Real Stock of Money (M2) and in the Implicit Rate of Exchange*, 1830-1929 (%)

PERIODS	MONEY STOCK	**EXCHANGE RATE ****
1830-1849	...	- 0.6
1850-1857	5.3	1.1
1858-1863	0.1	- 0.4
1864-1873	4.0	0.8
1874-1879	0.9	2.6
1880-1889	1.5	- 2.1 (2.0 till 1887)
1890-1895	7.7	17.8
1896-1902	- 4.5	- 2.6
1903-1913	4.9	- 2.7
1914-1918	7.4	4.5
1919-1922	9.7	19.4
1923-1926	- 5.3	- 2.8
1927-1929	10.4	6.3

Source: Elaborated from tables in IBGE (1990). The money stock was deflated by domestic price indices from Lobo (1978: 748-50) and Malan et al. (1977: 382-3), the latter for 1902-29.

* *Obtained by dividing the total amount of foreign trade (exports + imports) in mil-réis by the same amount in pounds sterling.*

** Expressed in mil-réis per pound sterling. Positive changes mean devaluations of the mil-réis.

Table 3. Brazil, Relationships between Industrial Investment and Export Earnings, Import Prices, Exchange Rate and Money Stock, 1869-1929
Annual Average Rates of Change in Selected Periods (%)

PERIODS	INDUSTRIAL INVESTMENT[1]	EXPORT EARNINGS[2]	REAL PRICE of imports[3]	EXCHANGE Rate[4]	MONEY stock[5]
1869-1873	13.0	5.7	2.5	-7.8	8.9
1874-1879	- 4.4	0.4	- 3.2	3.4	- 0.7
1880-1895	11.2	5.2	- 2.0	4.9	4.3
1896-1901	- 7.9	0.2	1.0	-1.3	- 6.7
1902-1913	17.5	5.2	2.7	-2.9	5.2
1914-1918	- 13.1	-15.6	16.8	4.4	4.0
1919-1929	18.9	10.6	- 7.7	7.4	5.8

SOURCE: SUZIGAN, W. (1984). PRIMARY DATA FROM IBGE (1990) AND ABREU (1990).

1. Estimated by adding exports of industrial machinery and equipment from Great Britain, United States, France and Germany to Brazil.
2. Rates of growth calculated with one-year time lag.
3. Defined as the implicit ad valorem average tariff on imports corrected by changes in relative prices (import prices over domestic prices).
4. Expressed in mil-réis per pound sterling. Thus, a negative variation corresponds to an appreciation of the exchange rate.
5. M2 definition, i.e. including time deposits. Rates of growth calculated with one-year time lag.