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IMPORT SUBSTITUTION AND GROWTH IN BRAZIL, 1890S-1970S[1]

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Abstract

The paper analyses the origins of import substitution from the early days of the Republic in the 1890s to 1930 and proposes an original explanation to conciliate high protection and a high growth path. The golden age period of import substitution in Brazil from the 1930s until the early 1960s is then considered. There is some discussion of the links between foreign exchange regimes and sectoral important substitution as well as of the possibility of adoption of alternative policies given the international context in the late 1940s and 1950s. The shift in economic policies in the direction of closer links with the international economy following the military coup of 1964 is analysed and the possible role of sustained import substitution in explaining the declining growth performance from the late 1970s discussed.

1. Introduction

It is extremely difficult to disentangle for analytical purposes the origins and deepening of import substitution in Brazil from the consolidation and continuous growth of the coffee export economy and also from the 40-odd year rubber boom. In an almost trivial sense this is because the demand generated by the rapidly growing coffee economy served as an engine of growth, first in the case of products whose domestic production was protected by relatively high transportation costs. Then, more generally, as animal spirits, manpower availability, credit facilities, tariff protection and foreign supply disturbances made possible the substitution of more sophisticated imports.

High tariffs, or non-tariff barriers after 1930, have been a crucial feature of import substitution in Brazil. The standard literature[1] stresses the convergence of interests between coffee growers and industrialists rather than the opposition of such interests as suggested by Furtado (1959). Furtado's interpretation stresses such opposition of interests mainly in connection with the exchange rate policy and the so-called socialization of losses.[2] Dean (1969) in his well established revision underlined the complementarity of interests between coffee growing and industrialization: often industrialists were also coffee growers. Others have stressed the lack of commitment to laissez faire in Brazil even as early as the late nineteenth century as shown by the intervention in the supply of labour to an expanding coffee growing economy so as to assure that it was reasonably inelastic. Interventionist tendencies culminated in the endorsement or involvement in coffee "valorization" by the Federal government after 1907. The case of Brazil has been contrasted to that of Argentina, as tariffs were much lower in golden age Argentina than in

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[1] Dean (1969).

[2] In spite of this emphasis Furtado (1959) also mentions that import substituting industry after its installation had a vested interest in foreign exchange devaluation.

Brazil. As opposed to Argentina, there was no laissez faire tradition in Brazil a price making export economy where rent-seeking behaviour played a paramount role.[3]

Once import substitution started in the 1880s, its importance varied with the fluctuations of the world economy and, in particular, with the position of the balance of payments. Crucial periods were the 1890s, the 1930s and from the late 1940s to the early 1960s. In some of the subperiods there was significant desubstitution. But import levels were so low as a proportion of total supply that it became impossible for import substitution to continue to play an important role as a source of industrial growth.

Standard hypotheses on the impact of foreign sector variables on growth include in a central role the idea that "outward-looking" policies enhance growth. There is much ambiguity in the definition of an outward looking stance by a country: it may mean opening up domestic markets, fostering exports or keeping the exchange rate in the "right level". A link between growth and openness has been shown to be likely by cross-section work[4], even if some of the literature is based on rather **ad hoc** definitions of outwardness.[5] But high protection of domestic industry against import competition did not prevent a very successful growth performance from the beginning of the century to the early 1980s: Brazil's 1900-1973 growth performance is only bettered by Japan - by an ample margin - and Finland - by a very modest margin.[6]

This paper is divided into four sections, besides this introduction. Section 2 considers the origins of import substitution from the early days of the Republic in the 1890s to 1930 and proposes an original explanation to conciliate high protection and a high growth path. In the next section the high noon period of import substitution in Brazil from the 1930s until the early 1960s is analysed. There is also a discussion of alternative policies given the international context. Section 4 focuses on the period from the shift in

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[3] Abreu (1994).
[4] See, for instance, Taylor (1996) and Frankel and Romer (1996).
[5] See, for instance, Greenaway and Nam (1988) and World Bank (1987).
[6] Maddison (1989).

economic policies following the military coup of 1964 until the late 1970s. The possible links between import substitution and the declining growth performance are discussed. The final section presents the conclusions.

2. Import substitution before 1930[7]

By the turn of this century Brazilian industry was already well established as an industrial boom followed the high inflation during the Encilhamento period in the early 1890s. The boom in imports of capital goods, first stressed by Fishlow (1972) based on 5-year average British export data, has been confirmed for all relevant Brazilian suppliers.[8] In 1900 imports were only 40% of the total domestic supply of textiles. By 1919 the share of imports in total supply of industrial products was reduced to only 25%. It is, of course, well known that the comparison of imports and domestic industrial production leads to the underestimation of the importance of imports in total supply, as imports should embody industrial inputs to be comparable to domestic industrial production which includes final goods and their inputs. Corrective techniques depend on input-output data which are not available for such an early period. It is thus reasonable to adopt cruder methods which result in an adjustment for the 25% ratio in 1919 to around 37% on a "value added" basis.[9] Industrial output increased almost five-fold between 1900 and 1930, while total output increased only 3.5 times.[10]

Tariffs in Brazil fluctuated very substantially from the 1840s. The ratio between tariff revenues and total imports remained around 17%, until constraints to a higher tariff, imposed by the 1828 Trade Agreement with Britain, were removed in the 1840s. It then rose to a peak of 30% in 1848-49 and remained roughly between 23% and 28% until the late 1860s. It rose again to reach 40% in 1871-1872, then once again in the early 1880s to peak at almost 50% in 1888. In the first half of the 1890s it fell to almost 20% as the

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[7] This section draws from Abreu (1994).
[8] Suzigan (1986), table 18.
[9] Fishlow (1972), p.323-4.
[10] Haddad (1978).

exchange rate depreciated to less than 30% of its 1889 level. Then it rose to 35% in 1896 and reached a peak again of 50% in 1906-07. It started to fall in the early 1910s and fell below 20% during the war. It increased afterwards, and in the second half of the 1920s it was beyond 25%. Table 2.1 presents disaggregated information on ad valorem equivalent tariffs which would have been applied to selected goods without duty exemptions or reductions.

Table 2.1: Ad valorem tariffs, Brazil, 1908, %

	1901	1913	1928
Steel bars and rods	42.9	63.0	49.5
Cement	46.9	42.4	49.8
Cotton textiles, bleached	388.0	378.8	126.4
Motorcars	...	...	21.9
Railway equipment	40.3	40.1	93.7
Rails	45.2	44.7	35.6
Wines	106.8	84.1	65.3
Wheat flour	14.9	16.4	11.9

Notes and sources: Villela (1993), p. 181.

Tariffs corresponded to a lower bound of total estimates of price divergences between domestically produced and imported goods in Brazil, as there were additional charges which may have had a significant additional impact in raising the cost of imports. These included, at different times, statistical taxes, administrative taxes, taxes to improve harbour facilities and roads, and discretionary social contributions.[11] Illegal state taxes on imports may also have been important, especially in the poorer states. Tariff exemptions were also frequent in Brazil, but in many cases required registration of importing firms, generally, but not exclusively, railway companies and public utilities. However, after 1911, duty exemption could not benefit goods which could be produced domestically and an official register of domestic firms was kept.[12] The concept of "similar domestic production" would be transformed into the most efficient non-tariff barrier providing absolute protection for many industrial sectors.

[11] Nunes and Silva, 1929, pp. 1-23.
[12] Nunes and Silva, 1929, pp. 252-70.

The contrast with other major commodity exporters such as Argentina is very marked. The Argentinian tariff in the early 1880s was quite high but after the turn of the century, when it reached a peak around of 30% ad valorem, it had been substantially reduced to reach a level in 1913 around 20%, similar to those of other staple economies such as Canada and Australia. By the early 1920s the Argentinian average tariff was considerably below Canada's: 15% compared to 24.9%. [13]

In contrast with other commodity exporters, commitment to economic liberalism, and particularly to a low tariff, was virtually non existent in Brazil. Groups which would be favoured by it -- parts of the emerging, but politically unorganized, urban middle class, and the working class -- lacked the clout to make a mark in the economic policy formulation process. Bad memories counted also, as the low tariff ceiling imposed by the treaties with Britain until 1845 -- in a curiously overlooked episode in the business imperialism debate -- had resulted in severe fiscal constraints during the period of political turmoil which followed independence.

Coffee planters, on the other hand, could barely stress with any credibility a serious commitment to economic liberalism. From the early nineteenth century their stand had emphasized rent extraction through illegal extension of the slave trade, followed by subsidized immigration paid by the government and restrictive land policies. This trend had culminated in the coffee "valorization" schemes after 1906, based on a freeze of productive capacity and aimed at reaping monopoly profits based in the country's market power in the coffee market.

The segregation between agricultural and import substituting industrial interests was not well defined. There is in fact evidence of considerable involvement of coffee interests in the fast growing Paulista industry already in the turn of the century. About 45% of industrial workers in São Paulo in 1901 were employed in firms controlled by

[13] Solberg (1987, p.105)

coffee interests.[14] This confirms a trend of portfolio diversification by coffee growers which started in the 1870s and included investment in the export infrastructure, including railways, and in the processing of agricultural products. Contemporary evidence indicates that the industrial lobbies had considerably more political weight than in Argentina. Quite early industrial interests were able to gauge correctly their ability to extract concessions from the government including a very protective tariff.[15]

A feature of paramount importance in this context which has been overlooked in the literature is the link between tariff levels and the extent to which each particular commodity producing country was able to influence relevant commodity prices. The lower the market share of a given economy in a specific market, the weaker will be the influence of developments in this economy on world prices of this commodity. In such economies, the scope for high protection of domestic production, and in particular of goods demanded by the export sector, is constrained by the need to maintain costs of production in line with those of competitors.

Brazil, however, is a special case among commodity exporters. Since quite early in the nineteenth century its share of the world markets of coffee was such that cost conditions in Brazil tended to determine world prices. The Brazilian coffee sector marginal cost curve was to a very large extent equivalent to the world coffee supply curve. In the long-run, of course, the Brazilian price "umbrella", by making possible the survival of not so efficient competitors, ended up by undermining the Brazilian dominance. But Brazil's dominance of the market subsisted until the 1960s. Brazil also had a major share of the world market of rubber from the 1870s to the early 1910s. Thus, the country had degrees of freedom in its commercial policy which did not exist in commodity exporters which were price takers in world markets. The Brazilian government consequently had scope for the adoption of a high import tariff as "the foreigner would pay it". This is an essential

[14] Dean (1969), pp. 37-38, based on Bandeira Jr. (1901).
[15] See Stein (1957), pp. 96-7 for their ability to do so in the 1890s and 1900s.

element to understand the coexistence over a long period of a very protectionist trade policy and a very good growth performance.

In order to test the empirical relevance of this hypothesis, a standard reduced form equation for the determination of world coffee prices was estimated, using annual data for 1884 to 1930.[16] During that period the average Brazilian share of the world coffee market was about 67 percent. In the basic specification, real coffee prices (PRICE) are a function of their own lagged values and of the lag of a variable that tries to capture the supply-demand balance in the coffee market (MARKET). Here, this variable is constructed as the ratio of world coffee consumption to the sum of world coffee supply and world coffee stocks. Therefore, an increase in this variable should have a positive impact on real coffee prices. The inclusion of this explanatory variable is justified by the special characteristics of the coffee market. Since the product can be easily stored and production responds to prices with a lag of several years, a standard model where supply and demand are functions of current prices and determine the market price through a clearance condition is not appropriate for the case of coffee.[17]

Table 2.2 presents the main estimation results. Equation 1 displays the baseline coffee price equation. Except for the constant term, all estimated coefficients are statistically different from zero at standard confidence levels. As expected, real coffee prices increase when consumption raises in proportion to the sum of coffee production and coffee stocks.

In the second equation in Table 2.2, the baseline especification is augmented by a variable that captures the increase in production costs associated with higher import tariffs (COST). It is constructed as the product of the real exchange rate and the implicit tariff rate. The variable enters the equation with a lag of 5 years. The reason for such a lag is that in the beginning of the century production started, in general, 4 years after coffee trees were planted,

[16] After the balance of payments crisis following 1930, tariffs are a poor measure of protection since exchange controls became the rule. The extension of this work for the period after 1930 will be incorporated in the revised version of this paper.
[17] See De Vries (1975).

and some three fourths of total costs in the coffee sector were associated with fixed costs.[18] Therefore, cost increases through higher tariffs should have most of its impact on coffee prices about 5 years later. As the results in Table 2.2 show, this variable has the expected positive impact on real coffee prices and its estimated coefficient is significantly different from zero at very high significance levels.

Table 2.2
Brazil: Coffee Price Regressions, 1884-1930

Variable	Equation 1	Equation 2	Equation 3
CONSTANT	-0.14	-2.24	-3.23
	(-1.36)	(-3.10)	(-3.11)
PRICE (-1)	0.78	0.76	0.77
	(9.30)	(9.67)	(9.76)
MARKET (-1)	0.31	0.44	0.41
	(1.72)	(2.53)	(2.39)
COST (-5)	-	0.42	-
		(2.93)	
TARIFF (-5)	-	-	0.23
			(2.03)
RER (-5)	-	-	0.49
			(3.11)
Adjusted R^2	0.73	0.78	0.78
Number of observ.	47	47	47
Standard error	0.19	0.18	0.18

Sources: Data adjusted to calendar years. Coffee prices: imports into USA, United States (1975); world coffee production, consumption and stocks: Bacha and Greenhill (1992), Statistical Appendix; domestic prices USA: United States (1975); exchange rates: Brasil (1941); Average tariffs: computed from Brasil (1941), Brasil (1990) and Fritsch (1988).

Finally, there is a chance that the most of the effect of the COST variable on coffee prices occurs through real exchange rate devaluations and not through tariff increases. In order to examine this possibility, the last equation in Table 2.2 separates the COST variable in its two components: tariffs (TARIFF) and real exchange rate (RER). The results indicate that the cost variable is not simply a proxy for real exchange rate devaluations. When tariffs and the real

[18] See Rowe (1936), p. 37.

exchange rate enter the equation separately, both have the expected signs and their estimated coefficients are highly significant.

The argument linking market power in the world coffee market and the adoption of a high tariff is akin to that, familiar in the literature, which links world coffee prices and the Brazilian real exchange rate, or for that matter world prices and the exchange rate in any commodity exporter which holds a substantial share of the relevant market.[19] It is remarkable how little the recognition of such links has been reflected on the qualification of the standard argument on "socialization of losses". The gist of the "socialization of losses" argument is that through exchange rate devaluation coffee growers were able to recoup the losses entailed by the fall in world prices of their commodity exports. This argument is much more relevant for a small commodity exporter than for a price maker such as Brazil. In the case of a price maker, the devaluation of the exchange rate increased the amount of domestic currency generated by each unit of foreign exchange received by exporters; but it also weakened the world prices denominated in foreign currency.

3. The golden age of import substitution: 1930-early 1960s

The great depression and the consequent balance of payments shock provoked a significant shift in relative prices by making imports more expensive as the foreign exchange rate was massively devalued. Import controls were also imposed in most developing economies. After all, there were unexpected advantages in having adopted inefficient trade and industrial policies. With the depression the scope for expenditure-switching was much ampler in relatively more protectionist economies than in economies with more liberal commercial policy regimes. These are important qualifications to standard evaluation of commercial policies strictly based on efficiency grounds.

[19] For early perceptions of such a link see Gudin (1933) and Williams (1934). See Cardoso (1983) for an empirical investigation on such a link in the case of Brazil.

It was part of the standard answer to the depression in many economies to maintain the exchange rate overvalued and meet excess demand for imports with rationing. This was due to fiscal reasons, as governments feared the impact of expenditures in foreign currency on their budgets, and, as already mentioned, in countries with an important share of commodity markets, by the conscience that exchange devaluation did have an unfavourable impact on world prices denominated in foreign currency.

The impressive rates of GDP growth in Brazil from 1932 to 1937 relied to a great extent on the increased importance of domestic industrial production (see Table 3.1). The fall in import quantum following the recession was substantial: it reached a minimum of 40% of the 1928 level in 1932, but towards the end of the decade was around 80-90%. From 1919 to 1939 the import-domestic supply ratio, using current prices, decreased only from 25% to 20%. But the change in relative prices, with imports becoming much expensive in relation to domestic prices, hids the sharp advance of import substitution. Using 1939 prices this is spectacular as the imports-total supply ratio fell from 45% to 20%. Even at current prices some subsectoral decreases of the import-supply ratio were substantial: from 12-14% to 2-5% for textiles and food, from 60% to 40% for major intermediate goods such as metallurgical and chemicals, from nearly 100% to 65-80% for mechanical and electrical equipment.[20]

[20] Fishlow (1972), pp.323-4 and Tables III, VII and IX.

Table 3.1
Brazil: GDP and industrial output growth rates, 1930-1980

Year	GDP	Industrial output	Year	GDP	Industrial output	Year	GDP	Industrial output
1930	-4.2	-6.7	1947	3.9	3.3	1964	3.2	5.2
1931	-3.8	1.2	1948	9.6	12.3	1965	2.9	4.0
1932	3.7	1.4	1949	7.9	10.7	1966	6.7	11.7
1933	11.1	11.7	1950	6.6	12.3	1967	4.2	2.2
1934	9.1	11.1	1951	4.6	5.7	1968	9.8	14.2
1935	3.8	11.9	1952	7.6	5.5	1969	9.5	11.2
1936	12.5	17.2	1953	4.8	9.2	1970	10.3	12.0
1937	4.5	5.4	1954	7.9	9.1	1971	11.4	11.8
1938	3.6	3.7	1955	8.5	10.9	1972	11.9	15.1
1939	3.0	9.3	1956	3.0	5.7	1973	13.9	16.6
1940	-2.0	-2.7	1957	7.7	5.4	1974	8.2	7.8
1941	5.5	6.4	1958	10.7	16.8	1975	5.1	3.8
1942	-3.7	1.4	1959	9.8	13.2	1976	10.2	11.9
1943	10.1	13.5	1960	9.4	10.7	1977	4.9	2.1
1944	8.0	10.7	1961	8.5	11.0	1978	4.9	6.2
1945	2.9	5.5	1962	6.7	8.0	1979	6.8	7.0
1946	11.6	18.5	1963	0.6	0.2	1980	10.2	9.2

Sources: 1930-1947: Haddad (1978), sectoral data aggregated using 1947 weights; 1947-1980:Brasil (1990). Industrial output 1971-75 manufacturing industry only.

Table 3.2
Brazil: GDP Shares (%)*, 1910-1980

Year	Agriculture	Industry	Services
1910	35.8	14.0	50.2
1920	31.9	17.1	50.9
1930	30.6	16.5	52.9
1940	25.0	20.8	54.2
1950	24.3	24.1	51.6
1960	17.8	32.2	50.0
1970	11.5	35.8	52.6
1980	10.1	40.9	48.9

* GDP at factor prices, including financial intermediation.
Services include government.
Sources: see Table 3.1.

From the end of the nineteenth century industry gained ground as a proportion of GDP basically at the expense of agriculture with the share of services roughly around 50%. This trend was monotonic after 1930 and more marked in the 1950s than in any other decade (see Table 3.2). Data on food production show that the supply per capita was roughly maintained between 1900 and 1930. For the 1930-1947 period food production increased at an yearly rate of 2.7% and outpaced population growth compared to by 0.4% yearly.[21] There is no readily available compatible information on food production for 1947-1980 but with the exception of beans, and to a lesser extent beef, the expansion of output of all items of popular consumption amply exceeded populational growth.

To a large extent such advance of domestic industrial production was due to traditional wage goods and to a lesser extent to intermediate goods. The contribution of consumer durables and capital goods was limited and would continue to be so until the 1950s. This is shown in Table 3.3 with data on industrial production from 1919, 1939, 1949 and 1959 censuses. The share of consumer goods in total industrial value added fell, but not spectacularly, between 1919 and 1939. Textiles still corresponded to 22% of industrial value added in 1939 compared to 24.4% in 1919. It was in food processing that the contraction was more substantial -- from 32.9% to 23.6% of industrial value added -- opening space for increased production of intermediate goods and to a much lesser extent consumer durables and capital goods.

As it could have been expected, import substitution proceeded by waves, affecting first the more basic industrial branches from the point of view of capital divisibility, availability of manpower with the required skills and access to technology. It was initially concentrated on wage goods, especially textile and clothing, and food-processing. Then it reached other consumer goods, intermediate goods and, only after long maturation, and

[21] Data from Haddad (1978), pp. 60-61, and Brasil (1990).

generally with the involvement of foreign capital, consumer durable goods and capital goods.

Table 3.3
Brazil: Distribution of industrial value added, 1919-1959

	1919	1939	1949	1959
Consumer goods	80.2	69.7	61.9	46.6
Textiles	24.4	22.0	19.7	12.0
Clothing	7.3	4.8	4.3	3.6
Food	32.9	23.6	20.6	16.4
Other	15.6	19.3	17.3	14.6
Consumer durables	1.8	2.5	2.5	5.0
Intermediate goods	16.5	22.9	30.4	37.3
Metallurgy	3.8	7.6	9.4	11.8
Non-metallic minerals	2.8	4.3	6.5	6.1
Chemical	0.8	4.2	4.7	8.3
Wood	5.7	3.2	4.2	3.2
Other	3.4	3.6	5.6	7.9
Capital goods	1.5	4.9	5.2	11.1
Mechanical	0.1	1.3	2.1	3.4
Electrical	0	0.3	0.8	1.0
Transport equipment	1.4	3.3	2.2	6.7

Source: Fishlow (1972), Tables III, VII and IX.

From 1937 to 1942 the Brazilian economy entered into a period of stagnation following the US 1937 recession and the shocks related to the war (see Table 3.1). But starting in 1942 the Brazilian economy entered a period of 20 years of almost continuous growth, in which industrial output growth and import substitution would play a key role. Due to the massive recovery of imports which took place after 1945, the contribution of import substitution to increased industrial production between 1939 and the early 1950s was insignificant. This is reflected in the relatively slow change of industrial structure between 1939 and 1949 (see Table 3.3). [22] Industrial output almost always expanded at higher growth rates than GDP. Generally this was not the case only in recessive years(see Table 3.1).

[22] Malan et al. (1978), p. 349. Import quantum doubled between 1944 and 1947 and remained at least 70% above the 1944 level in 1948-1950.

Policy based on an overvalued exchange rate, which had been adopted for most of the 1930s and the early 1940s, became a pillar of Brazilian economic policy after 1946. Ironically, it was the proponents of orthodox economic policies which initially placed emphasis in maintaining a grossly overvalued exchange rate cum import controls due to the importance attached to price stabilization. The implications of such policies on the industrial sector have been recognized in the literature. Industry would benefit from absolute protection due to import controls, which prohibited imports of competitive goods, and also from access to inputs and capital goods, purchased at the overvalued exchange rate (or cheaper rates in case of multiple exchange rate regimes). Specific foreign exchange regimes varied between 1947 and 1964, but the favourable distributive features from the point of view of domestic industry remained in place. Government policies attracted foreign capital in the second half of the 1950s, when export earnings were falling rapidly with the collapse of coffee prices, by a massive use of subsidies which included the possibility of importing capital goods at favourable exchange rates and the use of their market power behind an extremely high tariff wall. From the late 1940s import duties, which were specific and thus eroded by inflation, had become irrelevant and protection depended on import controls or multiple exchange rates regimes. From 1957, however, very high ad valorem import duties were established reaching in some cases 150%. On top of this, imports were restricted by the "similar domestic production" non-tariff barrier.

The transfers to the industrial sector entailed by exchange rate overvaluation in 1947-1952 have been estimated between 15 and 20% of income originating in the manufacturing sector. Implicit subsidies created by incentives to attract foreign capital were also significant later in the 1950s, rising from 2.1% in 1955 to a peak near 20% in 1958-59 and still at 11.6% in 1960.[23] The income transfers to the industrial sector related to such foreign exchange policies before 1964 were sizeable, but it is not clear to what extent they were transferred to consumers. It is reasonable to argue that these transfers are

[23] Fishlow (1975), Tables IV and VIII.

inversely correlated to market power. The more competitive an industrial subsector is, the more likely it is that consumers ended up by appropriating such low import costs through lower prices.

Was there an alternative to the continuation of an import substitution strategy in post-war Brazil? Under the post-war system built in Bretton Woods and Geneva industrialized countries performed quite well after initial difficulties. The American answer to these difficulties was the Marshall Plan launched in 1947 whose transfers to Europe through 1952 amounted to nearly US$ 14 billion, approximately 5% of the United States GDP in 1948. Nevertheless, developing countries continued to be marginal in this international reconstruction effort and had difficulties to adapt to the fixed exchange rate regime being continually forced to devalue their currencies due to recurring foreign exchange crises. The situation was worse in Latin America where prices of the major agricultural exports registered a steep downward trend after having reached their peak during the Korean War in the early 1990s. This generated serious balance of payments problems for countries that relied almost entirely upon those products for foreign exchange earnings.

The situation of these countries was further aggravated by the lack of capital inflows since the United States, the only potential supplier, had assigned high priority to other regions of the world, and proposals for the revision of the policy towards Latin America were repeatedly denied by the State Department.[24] To obtain foreign financing, countries that were not held to be strategic priorities depended on loans from international

[24] The "Soviet threat" was the single most important element in the allocation of aid, as the following official memo illustrates: "Secretary Dulles said that of course all of us would like to see our economic objectives in the under-developed countries achieved through the use of private capital investment. But some of the most critical of these under-developed countries existed under conditions were they will have to be able to see genuine hope of a transformation provided by the West, or else they will turn to the USSR. So large were these under-developed areas that if they turn to the Soviet Union the area of the Free World will shrink by another two-thirds. Accordingly we have got to provide economic development assistance, and furthermore, we must as a nation realize more fully the importance of this assistance for our national security"; in "Review of Basic National Security Policy: Foreign Economic Issues Relating to national Security", in United States (1987), p. 182.

institutions but the volume of such loans was almost negligible.[25] The perspectives for primary exporting nations substantially worsened throughout the 1950s and 1960s. Agricultural commodities faced a rise of protection in the developed economies and, in the case of Brazil, coffee prices after 1953 collapsed, following their long-term cyclical pattern.

Yet, another road was allegedly open to developing countries which by the 1950s had already established an industrial base in processed food and light manufactures, accomplished basically through the import substitution of the inter-war period. It is argued that after World War II these countries should have taken advantage of their competitive edge on the production of those goods (due to low labour costs and inputs availability) and promote these exports to developed countries. This strategy would have had the virtue of providing a much more efficient pattern of development than continuing import-substituting industrialization.

The argument, however, ignores the state of the world economy throughout the post-war period. The possibility of following a manufactured-based, outward-oriented strategy was not available at least until the mid-1960s. The expansion of trade in the 1940s and 1950s was largely limited to inter-industrialized countries trade. Actually, there was a clearly identifiable pattern among the industrialized nations by means of which not only nominal tariffs, but effective protection grew in inverse proportion to the sophistication of the production process: the more capital- and technology-intensive the production process, the lower the required level of protection.[26] In labour-intensive production processes, where some developing countries had an obvious comparative advantage, the effective level of protection in developed economies was inordinately high. In turn, products that required more sophisticated technology, such as electrical and non-electrical

[25] Brazil, moreover, had very difficult relations with the IMF and the World Bank from the early 1950s to 1964.

[26] See the United Nations 1962 special report on developing nations trade: "the highest tariff rates are those applied to consumers goods (cotton textile and footwear) which compete with domestic production in developed countries" and further it was observed that "industrial countries maintain a clear progression in their tariff rates according to the degree of processing", United Nations (1962), Part I, pp. 66-7.

machinery, and transport equipment, faced lower nominal duties and effective protection. There is also evidence showing that non-tariff barriers were disproportionately levied on exports of less developed countries.[27]

The critique assumes further that such an export promotion strategy was not pursued only due to policy-makers' miscalculations regarding the capacity of international markets to absorb developing nations' exports. Accordingly, the superiority of the export promotion strategy is allegedly illustrated by the East-Asian experience with an outward-oriented, distortion-free, strategy in the sixties. The major problem with this critique is that it essentially ignores history. The shift in Asia towards an outward oriented strategy occurred only in the 1960s. The world economy in the 1950s presented real obstacles for an outward-oriented strategy.

Brazil and other more advanced Latin American economies ventured into a new phase of import substituting industrialization. Yet, import-substitution needed not be incompatible with a more rational export policy. In the Brazilian case, the government could have created incentives to promote the exports of manufactured goods, such as cotton-textiles, in which the country already had some exporting experience.

The golden age of import substitution was roughly between the early 1950s and the early 1960s. Estimates ascribe about 31% of industrial growth to import substitution between 1949 and 1962.[28] The import-supply ratio which had stood at 14% in 1949 fell to 6% in 1964. For machinery only it fell from 65.7% to 30.9%.[29] Industrial growth between 1958 and 1961 was at the average yearly rate of 11.9% (see Table 3.1). This was comparable to former industrial booms in 1933-36 and 1948-50 when average yearly rates were of 13% and 11.6%. But the boom of the late 1950s lasted longer and, more importantly, it was based neither in the utilization of idle capacity or on the expansion of

[27] See Balassa (1965) and Walter (1971).
[28] Fishlow (1972). World Bank (1983) estimates the ratio at 24% for 1949-1964.
[29] World Bank (1983), p. 35.

traditional subsectors. As can be seen from Table 3.3 this was the period when it is possible to speak of a decisive change in industrial structure.

There is ample literature on the causes of the Brazilian recession after 1962. The limits to import substitution as an engine for growth have been underlined. In some cases use was made of arguments about the increasing marginal capital-output ratios due to substitution of imports in more capital intensive sectors or the large optimal size of plants in relation to the Brazilian market. Others emphasized the lack of compatibility between supply and demand structures due to the emphasis on the production of consumer durables which was especially marked after the implementation of Kubitschek's Plano de Metas.[30]

4. Import substitution peters out: early 1960s to late 1970s

With the recovery of the balance of payments position after 1964 there was once again negative import substitution. The import-total supply ratio for manufacturing industry increased from 6.1% in 1964 to 11.9% in 1974, but was still below its 1949 level. For machinery the ratio from 1964 to 1974 was roughly constant at around 30-32%. This was a surprisingly slow trend in the direction of a more open economy given the recovery of the balance of payments position and the avowed emphasis of governing policies in opening up the economy.[31]

1964 marked a shift towards a more open economy. But this was a very peculiar definition of openness. The new approach to trade policy relied on the implementation of several incentives to manufactured exports.[32] Subsidies in some years were equivalent to a devaluation of more than 70% of the ruling foreign exchange rate. The results of these policy measures were quite impressive. The rate of growth of manufactured exports was

[30] United Nations (1964) and Furtado (1968). For a short review of explanations of the 1962-67 downturn see Abreu (1990), pp. 208-9.
[31] World Bank (1983), p. 35.
[32] The importance of these incentives for the export performance has been well established in the literature. See, for example, Neves and Moreira (1987).

twice as great as that of overall exports between 1965 and 1975, and well above the rate of expansion of international trade. Table 4.1 shows the dramatic impact of export promotion on export structure from the 1960s.[33] Exports which expanded the most in the period were precisely those of sectors which were either established or consolidated through the post-war ISI: motor vehicles, communications and transport equipment, ship-building, iron, steel, basic chemicals, and aircraft.[34] Brazilian export performance after the sixties would not have been possible without the industrialization effort which preceded it as export growth was largely based on sectors established through ISI in the 1950s.

Much emphasis was also placed on the role of foreign capital and care was taken to assure that economic reforms attracted direct investment. But the crucial shortcoming of reform was that tariff liberalization, which had been introduced in 1967, was almost immediately reversed. A high tariff remained in place as crucial factor in the attraction of direct investment as there was ample scope for the use of market power to extract high profits.

The decision-making processes involving industrial and trade policies remained very closed for the whole period under consideration. The government has proved to be a poor representative of underrepresented or not represented interests. Suffice it to say that even today, the discussion of issues in *câmaras setoriais*, which involve government, domestic producers and directly affected trade unions are deemed to be "democratic" even by opposition parties. No wonder that in most sectoral issues there is a close coalition of affected producers and workers to the exclusion of consumers and/or taxpayers. The difference in relation to the past, of course, is that trade unions were not engaged in such negotiations before the mid-1980s.

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[33] See World Bank (1983), pp. 184-8 and Neves (1985), pp. 245.
[34] World Bank (1983), pp. 191.

Table 4.1
Brazil: Share of coffee and manufactured exports in total exports, 1930-1980

	Coffee	Manufactured products
1930	62.9	0
1940	32.0	13.5*
1950	63.9	1.1**
1960	56.1	2.6**
1970	34.2	11.2
1980	12.3	44.8

Source: Brasil (1961) and Banco Central, **Relatório**, several issues.
* Estimated: classes III (animal products) and IV, **AEB, 1940-45**, pp. 262-4.
** Estimated: classes V to VIII, Brasil (1961), p. 83.

From 1974 to 1979 the contribution of import substitution to industrial growth was again positive but extremely limited: no more than 10.1% for industry as a whole. It was more important for capital goods (explaining 16.1% of growth), less so for intermediate goods (14.6%) and negligible (2.5%) for consumer goods. In 1975-85 import substitution was negligible as an explanation for industrial output fluctuations.[35] Import substitution as a source of growth was exhausted by the progress of import substitution itself.

It is reasonable to suppose that there are significant links between the ratio of capital goods imports in total investment and GDP growth rates. The underlying idea is that the lower this ratio is, the higher the capital-output ratio will be as domestic substitutes become more expensive and /or less efficient than imported capital goods. Information on the relative cost of investment and specifically on domestically produced capital goods seems to lend support to this hypothesis. The ratio between the investment deflator and GDP deflator increased by about 40% from the mid-1970s to the early 1980s. By the end of the 1980s it had reached 100%.[36] The ratio of imported capital goods in total investment, which was typically 13-14% in 1971-1975, fell below 6% for most of

[35] Bonelli (1986).
[36] Carneiro and Werneck (1993).

the 1980s. Preliminary econometric results indicate that, in addition to capital stock and labour, the share of imported capital goods in total investment is a significant variable to explain growth in the long-run in Brazil.

It is impossible to deal adequately with the links between social development and import substitution in the context of this paper. To the extent that high growth and import substitution were linked at least until the early 1960s, one can say that the evolution of social indicators was rather reasonable if compared with stagnation in the 1960s and a slow improvement thereafter (see Table 4.2). It is well known that Brazil is an outlier if comparison is made between income per capita and level of main social indicators. Given its per capita income, it should have much better social indicators.[37] But this process of deterioration as well as the growing inequality in the distribution of income would seem to have been speeded up after the golden age of import substitution.

Table 4.2
Brazil: Life Expectancy at Birth, in Years, 1940-1980

1940	42.7
1950	45.9
1960	52.4
1970	52.7
1980	62.0

Sources: Abreu (1987).

5. Conclusions

Some basic ideas have been advanced in this paper a basis for an understanding of import substitution in Brazil in the long run. Some are new, some well established in the literature. The first concerns the genesis of Brazilian industrialization and the role of a high tariff . The explanation advanced here, that high tariffs were possible because of Brazilian market power in the coffee and rubber markets is of crucial importance to explain why substantial industrialization occurred in Brazil without hurting export proceeds in the mid-

[37] Abreu (1987).

term. The second basic idea is that, given the international context, there was no little room for an alternative industrial strategy for Brazil in the early 1950s, even if export pessimism resulted in an almost total disregard of export incentives. The third, well-known, idea stresses the importance of import substitution as an engine of growth between the late 1940s and early 1960s. The fourth idea is that import substitution after the mid-1960s killed itself, as import penetration was so low that a fortiori that the domestic markets and exports were to play the most important role in explaining industrial growth. The fifth, and final, idea is that it is likely that the late stages import substitution affects capital goods and there is an adverse impact on growth. This is because domestically-produced capital goods are more expensive or technologically less advanced than competitive imports. Capital-output ratios are increased and such consequences add up to those related to the deterioration of the macroeconomic situation and result in stagnation, in spite of high savings and investment ratios.

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