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The Brazilian Economy, 1930-1945

By

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ABSTRACT
This working paper is a first draft of the section on the Brazilian economy 1930-1945 to be included in volume IX of the Cambridge History of Latin America edited by Leslie Bethell. It will form part of a long chapter on the Brazilian economy 1930-1979 which will include a first section on structural change over the period as a whole, followed by sections dealing with economic policy and performance in the periods 1930-45, 1945-64 and 1964-79. This section on 1930-45 is divided chronologically into three parts: depression and recovery (to 1933), boom (1933-6), and slow down, recession and second (war time) boom (1937-45). The relatively favourable performance of the Brazilian economy in the first two periods is seen as being facilitated by devaluation, import controls and the existence of excess capacity. The presence of the latter, however, limited the extent of the structural transformation that took place. A bibliographical essay accompanies the paper. This paper was written while the author was Flemings Visiting Research Fellow at the Centre for Brazilian Studies during the Hilary and Trinity terms 1998. The author wishes to thank Professor Leslie Bethell, the Centre for Brazilian Studies and the Department of Economics at PUC-Rio for the support which made possible the writing of this paper.

RESUMO
O texto analisa o desenvolvimento econômico do Brasil desde a grande depressão até o fim da segunda guerra mundial. O argumento principal do autor é que a evolução econômica

relativamente positiva foi inicialmente favorecida por uma política de desvalorização monetária, instrumentos de controle sobre as importações, e pela persistência do excesso de capacidade produtiva. Paradoxalmente, embora esta última tenha representado um beneficio por limitar o impacto da depressão e da recessão, acabou por limitar a transformação estrutural da economia.

A análise divide-se em quatro partes. A primeira oferece uma descrição sumária das principais características da economia brasileira. A segunda analisa o período de depressão e recuperação entre 1929 e 1933. O autor faz notar que a economia brasileira, durante os anos iniciais do regime de Vargas, se caracterizou pela capacidade de recuperação rápida das conseqüências da depressão de 1929, como resultado da maciça desvalorização da moeda brasileira, reforçada pelos efeitos positivos dos mecanismos de controle cambiais e de importações. A terceira parte versa sobre os anos de grande crescimento econômico em 1933-1936. O autor argumenta que a significativa capacidade industrial pré-instalada foi determinante para permitir uma recuperação fomentada por um desenvolvimento do setor industrial extremamente positivo a partir de 1932, bem como pela natureza expansiva da política fiscal e, em particular, pelas políticas de apoio à produção de café. A seção final analisa o arrefecimento econômico, a recessão e o grande crescimento fomentado pela guerra, entre 1937 e 1945. O papel da capacidade industrial pré-instalada explica novamente o timing e a força da recuperação. Para o autor, este fenômeno também explica os limites da transformação estrutural da economia nos anos 30. De fato, foi apenas após a guerra que a estrutura da produção industrial foi diversificada e começou a se transformar significativamente.

O autor dedica uma boa parte do trabalho à análise do legado negativo herdado no fim dos anos da guerra. A evolução da relação com os Estados Unidos, o principal sócio comercial, teve conseqüências negativas para o poder de barganha do Brasil, dado que este perdeu os sócios comerciais alternativos na Europa como resultado da guerra. Em termos de dívida externa, apesar do estabelecimento de um acordo com os credores em 1943, o endividamento excessivo deixou uma marca negativa sobre a evolução e as políticas econômicas durante os anos 30 e 40 e na época posterior. Em terceiro lugar, embora a intervenção estatal tenha sido positiva em muitos aspetos – realizada para compensar a ausência de interesse privado –, o aumento de agências setoriais normativas também acabou por gerar ineficiências. Finalmente, a situação macroeconômica piorou significativamente durante os últimos anos da guerra, não apenas pelos limites impostos às políticas econômicas, mas também como resultado de desequilíbrios herdados, incluindo níveis inflacionarios altos e um cambio sobreavaliado.

O autor conclui o estudo com um ensaio bibliográfico que sublinha os temas e os argumentos dos principais livros e artigos sobre este tema. O texto é uma primeira versão da seção sobre a economia brasileira em 1930-1945 que será publicado no IX volume do Cambridge History of Latin America, editado pelo Professor Leslie Bethell. Faz parte de um capítulo mais alargado sobre a economia brasileira entre 1930 e 1979, que incluirá uma primeira parte sobre a mudança estrutural durante este período, seguido por outras seções que versam sobre o desenvolvimento e a política econômica em 1930-45, 1945-64 e 1964-79. O texto foi

preparado enquanto o autor foi Flemings Visiting Research Fellow no Centro de Estudos Brasileiros, durante parte do ano letivo de 1998. O autor agradece ao Professor Leslie Bethell, ao Centro de Estudos Brasileiros e ao Departamento de Economia da PUC-Rio pelos apoios que permitiram a feitura do texto.

1. Introduction

Brazil was a very poor country in the late 1920s. Gross Domestic Product (GDP) *per capita* peaked in 1929 at around US$ 300 (1996 US$ dollars), about 8% of its level in the mid-1990s. This was only about a quarter of the Argentine GDP *per capita* at the time and a fifth of the British GDP *per capita*. United States GDP *per capita* was more than nine times that of Brazil. (These data do not take into account distortions related to purchasing power parity differences.) GDP increased at 5.6% a year during the 1920s while population was growing at 1.5%. There was surprisingly little change in its structure: the share of agriculture in the 1920s fell from 31.9% to 30.6%, and that of industry decreased from 17.1% to 16.5%. The ratio of gross fixed investment to GDP reached 13.3% of GDP in 1929, a peak in the 1920s but considerably below the very high peak of 22.5% of GDP in the pre-First World War boom.

Brazil was very sparsely occupied in 1930: with a population of 35.5 million there were only 10.7 inhabitants per square mile. Population was also very unevenly distributed with a heavy concentration in the coast and in the Southeast (44.6% of the total) and the Northeast (35.9%). The North and Centre West regions had shares of 4.1% and 2.8% of total population respectively. But while the population in the North stagnated it was expanding in the Centre West at 2.6% p.a. Population increase between 1920 and 1940 in the South (12.7% of total population in 1930) was only slightly lower than in the Centre West. In the Northeast it was below the national average and in the Southeast close to it. Data not strictly comparable indicate that the share of the population in cities with populations of over 50,000 increased from an overestimated 10.7% in 1920 to 12.6% in 1940. About 72% of Brazil's exports in 1928 were from ports in the Southeast (52.9% from Santos). Exports from the Northeast amounted to 13.2% of total exports of which almost two thirds were from ports in Bahia. Southern ports contributed with 11% and fluvial ports in the North and Mato Grosso 3% and 0.8%, respectively. Brazil's infrastructure was rather poor. The total length of roads in 1930 was 70,385 miles of which only 566 miles were paved. The 20,185-mile railroad network was generally inefficient, with the major exception of the British-owned railway connecting the Paulista plateau to the port of Santos. Many harbours, however, had been modernized in the 'golden decade' preceding the First World War. Electricity generating capacity was of 779MW, about 25MW per million inhabitants compared to about 350MW in the early 1990s.

Brazilian exports all of which were of agricultural commodities (71% coffee) had reached an all time peak of £97.4 million in 1928. This was about 1.45% of total world exports. The export-GDP ratio was more than 13 % in the late 1920s, falling to under 10% in the later stages of the Second World War. Brazil was by far the main supplier of coffee to the world market and this made possible the control of supply through stock building. The price inelasticity of coffee demand made this policy especially attractive. There was thus a powerful incentive to maintain the concentration of resources in coffee culture. Other commodity exports were sugar, cocoa, mate, tobacco, cotton rubber and hides and skins. Imports also reached a peak in 1928 of £90.7 million. All capital goods and durable consumer goods were imported and the share of import duties in total Federal revenue excluding industrial revenue was nearly 50%. Food imports were relatively insignificant, except for wheat (of which there was no domestic production) and luxury goods such as salted cod and wines. The economy was dependent on energy imports since domestic coal was of poor quality and no oil was found until 1939. But there was widespread use of wood as a substitute for coal and liquid fuels. Exports in 1928 were mainly directed to the United States (45%), Germany (11.2%), France (9.2%) and a large number of smaller European economies as well as Argentina, all with market shares around 5-6% of exports. Britain had become a minor export market, buying only 3.4% of Brazilian total exports. Main suppliers of imports were the United States (26.6%), Great Britain (21.5%), Germany (12.5%) and Argentina (11.5%). Only Argentina had any significance as a Brazilian trade partner in Latin America. A sizeable trade surplus was the rule and the services account was negative due to interest payments, profit remittances, freight payments, and immigrants' remittances.

Brazilian public foreign debt in 1930 was substantial at £252.9 million: 64.5% floated in sterling, 30.3% in US dollars, 4.9% in French francs and 0.3% in guilders. Public loans had been mainly floated in London before 1921 but in the 1920s New York became the most important source of loans for Brazil. While most of the foreign debt was Federal (56.1% of the total), the share of states and municipalities had increased to more than 30% and loans directly related to coffee support to 13.4%. The debt-export ratio was 2.36 and debt service corresponded to almost 25% of exports. Direct foreign investment was of the same magnitude of public foreign debt by the end of the 1920s, but of the total of almost £250 million at least one third corresponded to watery French investments which seem to have been wiped out by the Depression. Foreign banks still played an important role in Brazil but their importance had steeply declined since the beginning of the century: they held about a quarter of total deposits, roughly equivalent to the share of the Banco do Brasil.

In 1928, the two most important taxes were customs duties (42.4% of total Federal revenue) and excise taxes [*imposto de consumo*] (19.2%). Income tax, introduced in 1924, accounted for only slightly more than 3% of Federal revenue. The Federal government deficit was less than 5% of expenditures. These were mostly in government consumption (56.9% of the total) and debt service (33%). The share of investment was only slightly above 5% of total expenditure. In line with developments in many peripheral economies in the second half of the 1920s a currency board arrangement had been introduced at the end of 1926, with a *Caixa de Estabilização* [Stabilization Office] exchanging gold and foreign currency at the rate of 5 31/32 pence per *mil-réis*.

2. Depression and recovery, 1928-1933

Brazil was among the developing countries that first faced the sharp reduction in the flow of foreign capital after June 1928 as the Wall Street boom gained strength and interest rates were increased in the United States. Monetary contraction followed as the level of foreign reserves in the *Caixa de Estabilização* started to fall. Between the end of 1928 and the end of the third quarter of 1930 the monetary base fell by 14%. Coffee price support, under the administration of the state of São Paulo since 1924, depended on the ability to raise foreign loans on a permanent basis, especially if, as was the case, coffee stocks increased significantly as a bumper crop in 1927 was followed by yet another in 1929. Accurate coffee crop forecasts can be based on the flowering almost a year before the crop so that already in 1928 it could be anticipated that, barring a severe frost, the 1929 crop would be very big. The lack of foreign finance and the increase in stocks resulted in the collapse of coffee prices towards the end of 1929 and thus of coffee exports which represented two-thirds of total exports. These difficulties were compounded by the fall in economic activity in the United States, then in all Brazil's export markets. By the end of 1929, coffee prices (Santos 4) had fallen from 11 to under 7 pence per pound. The fall would continue in 1930 and 1931 to reach a trough around 4 pence. The value of coffee exports in sterling fell by almost 40% between 1929 and 1930 and a further 9.5% in 1931. The Federal government refused to bail out the ailing coffee support programme of São Paulo and stuck to the gold standard. Reserves dwindled as exports fell and the inflow of loans was again interrupted after some recovery in the first half of 1930. There were widespread bankruptcies in agricultural activities: coffee growers could not pay their debts as prices fell much below the advances they had received from the valorization authorities in the past.

As happened in every other country in Latin America, economic difficulties caused by the crisis fostered political unrest and led to changes of government, most of them through political coups. Getúlio Vargas, governor of Rio Grande do Sul who had been defeated by the official candidate in the presidential elections March 1930, initiated a military rebellion in October which led first to a military coup and then in November to the handing over of power to Vargas. The provisional government headed by Vargas faced an extremely serious economic crisis. Foreign exchange reserves which had stood at £31 million in September 1929, had reached £14 million in August 1930 and had disappeared by November. Coffee prices and the foreign exchange rate were still plunging; there was a substantial fall in the level of output; and a severe fiscal crisis followed foreign exchange devaluation after mid-1930.

An important Paulista rump had backed Vargas as presidential candidate earlier in the year and they were duly represented in the provisional government by the new Finance Minister, José Maria Whitaker. The stance adopted by Whitaker was to wait and see what were going to be the consequences for Brazil of the crisis in the developed economies. In spite of the continuing fall in coffee prices, public foreign debt service continued to be paid and there was no decision on a permanent basis on the foreign exchange regime. Monetary policy continued to allow the monetary base to fall even after foreign reserves had reached zero. The foreign exchange policy nominally did not involve well defined controls, but in fact there was a succession of moratoria on foreign – and domestic – debts and many *ad hoc* decisions which did not interrupt the exchange rate devaluation trend. The government resorted to unorthodox trade policies such as barter with Germany and the United States to meet the scarcity of foreign exchange.

Government intervention tried to support the foreign exchange rate, avoiding full devaluation. This was in line with experience in other developing economies, but in the case of Brazil there was as a more complex set of arguments to justify it. It was well known that devaluation resulted in an adverse fiscal impact as a significant share of government expenditure was indexed to the exchange rate, as for example the debt service, while revenues were not. In fact, revenues were more likely to fall with exchange devaluation: import duties still corresponded to almost 50% of total revenue and the Brazilian tariff was specific, that is defined in terms of units of domestic currency per physical unit, and only partly pegged to gold. An overvalued exchange rate made it easier for economic agents indebted in foreign currency, and particularly the government, to pay their debt service. The same argument applied to profit remittances, and is especially important for those firms providing public services as their revenues were dependent on rates defined in domestic currency. If a country is a significant world supplier of a particularly commodity the world price of such commodity will be influenced by the exchange rate regime in the major supplier. Contemporary views in Brazil, endorsed by well known international experts, tended to accept that a devaluation would stimulate holders of commodity stocks to dump their goods in the market with a consequent reduction in world prices denominated in foreign currency. While in the short-term the overvalued exchange rate tended to influence favourably world coffee prices, this influence was reversed in the longer-term. An overvalued exchange rate also made imports relatively cheap. How this affected final consumers depends crucially on the distribution of market power in specific markets. The more market power a domestic firm has, the more likely it is that cheap capital goods and input import prices will be transformed into higher profits. The volume of imports was of course limited, either informally, or by explicit rationing by means of discretionary controls.

The only major decision reached during this first year of economic policy-making under the Provisional government was on coffee. The government considered the alternative of either buying the new output from coffee growers, or bailing out those economic agents which had been involved in the accumulation of coffee stocks in the boom period. Whitaker's opted for the latter. During most of his year in office Whitaker kept hoping for a new foreign loan which would signal that the world financial markets were back to normal and that Brazil could again use foreign loans to restore balance of payments equilibrium. It took some time to become clear that this was not to be. The blunders of Edwin Morgan, the United States Ambassador to Brazil, in convincing Washington that Vargas was not going to succeed in his bid for power in 1930, opened political space for British financial interests to try to exert some influence on the course of events in Brazil. Following up initial talks with Júlio Prestes, the President-elect who never took office, the Brazilian authorities were prompted by N.M. Rothschilds to invite a British expert to advise on the financial position. The British expert, Sir Otto Niemeyer, produced a report in early July 1931 which included standard orthodox recommendations such as that Brazil should phase-out its coffee price support policies, bring its finances under control and curtail independent foreign borrowing by states and municipalities. More notably it included complete draft statutes for a Central Bank totally independent from the government but with significant foreign influence, as well the recommendation that Brazil should return to the gold standard. To be able to do so Brazil was to raise a sizable new loan in the London market. The abandonment of the gold standard by the United Kingdom in September 1931 put an end to optimistic views of a 'business as usual' nature and to the hopes of financial support in London.

The consequences on Brazilian policy-making were immediate. Brazil decided to suspend servicing the federal debt and announced a funding loan arrangement – the third, following those of 1898 and 1914 – which suspended amortization payments and financed interest payments by the flotation of new bonds issued during the following three years.

In November 1931, Whitaker was substituted by Oswaldo Aranha, one of the leaders of the 1930 revolution and close personally and politically to Vargas. New policies were introduced on the foreign exchange regime and coffee, issues which had been left undecided while the government had still some hope that the back to normal scenario could prevail. Marking the inauguration of an extremely long period of government intervention in the foreign exchange markets, it was decided to adopt an exchange regime which involved government monopoly in purchases and sales of foreign exchange cover. As the exchange rate was relatively overvalued, the excess demand for foreign exchange was removed by controls taking into account criteria which ordered with declining importance: official purchases, 'essential' imports and other exchange cover, including profit remittances, imports on a non-documentary basis and commercial arrears.

Between 1928 and 1932 imports fell by 60% in volume and exports by 16%. In dollar terms imports fell by 70%, while exports were reduced by almost 50%. So terms of trade deteriorated by almost 30% and the capacity to import by 40%. Imports were crowded out by other types of expenditure in foreign exchange as shown by the gap between the shrinkage of capacity to import and of import volume. The average mil-réis-US dollar devaluation was 8% in 1930 and 55% in 1931 so that, as domestic prices fell by 11-12% in both years, real devaluation of the mil-réis was of more than 110% in relation to the dollar. The significant expenditure-switching caused by devaluation and discretionary controls on imports had important beneficial consequences on the level of domestic output as spare industrial domestic capacity was put to use. That there was scope for such a switch tends to qualify the more extreme criticisms of the inefficiencies of import-substitution which had begun with the first big spurt in industrial growth in the early 1890s.

It is certainly not reasonable to construe such policies as a result mainly of a conscious move in the direction of compensating for the effects of the depression, as there was not in fact much room to avoid devaluation. Based on rather shaken evidence on the tariff policy it is still less reasonable to characterize policy in the initial years of Vargas' rule as being somehow anti-industrial. Not only were the tariffs not decreased but, more decisively, any assessment of protection in most of the period after 1930 must take into account the crucial role played by import and foreign exchange controls. Tariffs were wholly relevant only in those periods when there was no rationing of foreign exchange, which during the 1930s was true only in the year 1935-1937.

Other public policies, such as those related to coffee, had an important effect in maintaining the level of economic activity. With Aranha, the Federal government officially took over coffee policy from the state of São Paulo, and an embryo of what would become the *Departamento Nacional do Café* [National Coffee Department] was created. The new coffee policy would be maintained with relatively minor adjustments until 1937. It was based on the attempt to solve the problem of massive overproduction. In 1933, when the policy was made permanent, 30% of the annual coffee crop was freed for immediate commercialization, 30% was stocked by the *Departamento Nacional do Café* and 40% was destroyed. More than 70 million bags of coffee – equivalent to about three years of world consumption -- were destroyed, almost all of it between 1931 and 1938.

Government purchase of coffee stocks depended partly on sizable deficits, which reached in some years more than one third of the total cost of the coffee support programme. While it is reasonable to see some Keynesianism *avant la lettre* in such policies, the same could have been said of other important expenditure programmes in the *Republica Velha* financed by deficit creation: the significant construction of dams in the early 1920's comes to mind. That Vargas comes to be more often mentioned as an instinctive pre-Keynesian is perhaps to be explained by the apparent irrationality of both Keynes' 'burying of holes in the ground' and the massive destruction of coffee stocks as an important element of Brazilian coffee policy for most of the 1930s. Data on the aggregate public deficit in the 1930s tend to support the link between early recovery of the level of activity and public deficit: deficits in 1931-33 were above 12% of expenditure (40% in 1932) and after 1933 planned deficits became usual. Policies which speeded up recovery also included the *Reajustamento Econômico* [Economic Readjustment] of 1933 which wrote off 50% of coffee agricultural debts and allowed renegotiation of residual debts with generous periods of grace.

Brazilian banks survived the crisis with the help of the Federal government. Monetary policy was accommodating during the period, and a new *Caixa de Mobilização Bancária* [Monetary Mobilization Office] created in 1932 intorduced new rules on compulsory reserves and the deposit of excessive reserves in the Bank of Brazil and financed the needs of the Treasury and of the *Departamento Nacional do Café*. It supplemented the activities of the *Carteira de Redescontos* [Rediscount Office] of the Bank of Brazil which had been reactivated in 1930.

Thus the effects of the Depression on the level of economic activity in Brazil were relatively mild. By 1933 GDP was already 7.7% above its 1929 peak level and industrial output was 4.6% above the 1928 peak level. The worst years for industry were 1930 and 1931, with output 8-9% below that of 1928. Fixed gross investment fell under 7% in the through in 1932 and hovered around 12-14% during the late 1930s. The trough for GDP was reached in 1931 with GDP 5.3% below its maximum in 1929. But the impact on real income was more important as the terms of trade deteriorated by almost 44% between 1928 and 1931. Between 1928 and 1931 real income fell by more than 11%.

In spite of foreign exchange and import controls, important commercial arrears were accumulated. The government as a monopolist in the foreign exchange market could not find enough exchange cover to pay promptly foreign suppliers of goods. Foreign firms operating in Brazil also could not make prompt remittances to their main offices. Such accumulations of arrears were thawed by successive negotiations of mid-term loans with foreign creditors, more importantly with the United States and Britain, and especially so in 1933, 1935 and 1939.

Traditional foreign investment in the provision of public services such as railway transportation and electricity faced increased difficulties in relation to the inability to maintain the return on their investments as public prices were not adjusted to compensate the devaluation of the mil-réis. The transfer of such reduced profits also faced significant delays in the periods of more intense scarcity of foreign exchange. The result in the long term was persistent underinvestment and a falling quality in the services provided even by the best foreign concerns. Investment in manufacturing fared much better as there were no significant constraints to pricing their output. Since most of the British investment was concentrated in railways, and the share of US investment in manufacturing in US total investment was increasing rapidly, this tended to be reflected in different stances on exchange control by British and US firms operating in Brazil.

While it is true that state interference in the economy substantially increased after 1930, much of it is to be explained, at least initially, less by an ideological, or even political, commitment to increased state interference as part of a growth strategy, than by the drastic changes in economic conditions which resulted from the depression. This is illustrated by the introduction of foreign exchange control as a discretionary policy adopted worldwide to face balance of payments shocks after 1928. That this form of government interference had such a long life in Brazil after the 1930s was certainly more closely related to new ideas on the role of the State than the decision to introduce it in 1931. The centralization of decision-making was also partly related to these new developments. During the Old Republic, under the constitution of 1891, states and municipalities had enjoyed free access to foreign borrowing without any interference from the Federal government. The transfer problem had become a significant aspect of Brazilian policy as the responsibility for the transfer of foreign exchange cover related to private and public payments was transferred to the foreign exchange control authorities and became clearly differentiated in relation to the ability to pay in *mil-réis*. The Federal government became interested in the size of liabilities in foreign exchange accumulated by Brazilian states and municipalities and created a *Comissão de Estudos Financeiros e Econômicos dos Estados e Municípios* [Commission of State and Municipal Financial and Economic Studies] to collect data on non-Federal finance. As already seen, the Federal government took over control of coffee policy from São Paulo and created in 1931 the *Conselho* [*Departamento* after 1933] *Nacional do Café*. The first signs of new policy on state intervention was perhaps the creation of two new ministries – Education and Labour, and Industry and Commerce – after Vargas took power. New policies were also introduced to cope with sugar overproduction, including the compulsory mixing of alcohol in imported petrol. In 1933, a *Instituto do Açúcar e do Álcool* was created to manage the complex sugar output and export policies introduced since 1931. It was only after 1933, and still more after 1937, however, that State intervention was consolidated in the case of many other sectoral policies.

3. The 1933-1936 boom

Brazilian economic policy after 1933 became more liberal with the rapid domestic recovery in output and in tune with the improvement of international economic conditions. Emphasis on dynamism of *hacia adentro* factors in comparison with stimuli provided by world economy must not obscure the fact that shifts in economic policy and in the level of domestic economic activity were dominated by the world economy. This continued to be the case in most future cyclical developments which affected the Brazilian economy in this century with the major exception of the crisis in the early 1960s.

In 1933, the Bank of Brazil had started to abandon its single pegged rate policy and was in fact operating with three foreign exchange markets: 70% of total exchange was bought and sold at the official rate to the government, to merchandise importers and to foreign-owned public services companies with fixed charges due abroad; 20% corresponded to a 'grey' market where 50% of almost all non-coffee export bills were sold and almost all exchange was sold to companies remitting profits; and less than 10% to a 'free' market fed by nonmerchandise exchange proceeds and used for residual transfers abroad. On average there was even some appreciation of the mil-réis in relation to the US dollar in 1933-34.

The substantial exchange arrears which had accumulated in 1930-33 led to widespread protests by creditors. In the United States, the intense pressure by some business interests, which counted with the sympathy of sections of the government, and particularly those advising the adoption of bilateral remedies in countries where the United States had a trade deficit, led to the visit of an official US mission in South America. The lucid report produced by John Williams, then at Federal Reserve Board of New York, recognized the difficulties faced by primary exporting countries following the depression. He found that given the circumstances Brazilian foreign exchange policy was rational and there was no evidence of discrimination against US interests. It made sense for a commodity pricemaker such as Brazil to maintain its exchange rate somewhat overvalued. This produced excessive demand for exchange cover and the need for exchange control which blocked some luxury goods produced by the United States. But this was inevitable and there was no evidence of discrimination against the United States. A further movement towards liberalization occurred in September 1934 as all non-coffee export bills as well as all exchange generated by coffee above a quite high threshold could be sold in the free market. The official market would be fed by 155 French francs per exported coffee bag sold at the official rate and the Bank of Brazil would sell 60% of the exchange required by approved imports at the 'official' rate. The residual would be purchased in the 'free' market.

There were important balance of payments difficulties in the beginning of 1935 and a concrete risk of a Brazilian default on the foreign debt whose service had been partially re-started in 1934. Negotiations on commercial arrears in Washington and London made it possible to avert the crisis and paved the way for further liberalization of the exchange policy. The 1935 new foreign exchange regime continued to be based on the idea that non-traditional exports should not suffer from the relatively overvalued exchange as, contrary to what was the case of coffee, in all these cases Brazil was a small supplier, and thus a price taker in world markets. The foreign exchange regime relied on blending two exchange rates pegged by the authorities, with an ‘official’ rate more overvalued than the ´free’ exchange rate. Coffee exporters were to sell 35% of their export proceeds to the Bank of Brazil at the official rate. Non-traditional exporters could sell as much as 100% of their export proceeds at the free rate. The government bought exchange at the official rate, while all other purchases were made at the free rate. The government was thus able to buy exchange cover at a cheaper rate and extract gains from the wedge between the two rates. The weighted average exchange rate against the US dollar in 1935 and 1936 was at roughly the same level as in 1932.

From the middle of 1935 there was a sharp improvement in the balance of payments and 1936 was an extremely good year from the point of view of output growth and the balance of payments. Exports increased by 17% and imports by less than 2%. But from early 1937 there were indications that the economy was overheating and the expansion of more than 40% of import value in the year was not matched by the 9% increase in exports. These difficulties were compounded by a more liberal policy on remittances adopted by the Bank of Brazil. Terms of trade had recovered in 1934 to reach almost 70% of the peak 1928 level. But then they fell more: in 1936-37 they were only at 45% of the 1928 level. But the fall in the capacity to import was of less than 30% as volumes exported rose by 30-35%. Weighted *ad valorem* duties suggest that the trade policy as indicated by tariff levels in the early 1930s was more protectionist than in the late 1920s. By 1936-37 the level of protection had been modestly reduced but was still roughly equivalent to that of 1928.

Brazil was deeply affected by new developments in trade policies which the United States and Germany, two of its most important trade partners, adopted in 1934. In the United States, commitment to liberal policies prevailed with the victory of the State Department after a long struggle between multilateralists and bilateralists,. The United States had been pressing for concessions from Brazil even before approval of the 1934 Reciprocal Trade Act. Negotiations led to a new bilateral trade agreement in 1935 which considerably reduced the Brazilian tariff level. There had been, however, considerable tariff padding in 1934 as Brazil pre-emptively increased its tariff levels. On a straight import revenue reduction basis, reciprocal concessions were equivalent, but while exports to the US were mainly of commodities which did not displace domestic producers, this was not the case of imports into Brazil as concessions were concentrated on manufactured goods such as transport equipment, automotive parts, chemicals, cement and durable goods. After strong resistance, especially in São Paulo, the agreement was ratified in 1936. In spite of the steep rise in manufactured imports there is no evidence of important damage to domestic industry whose output increased at a very high rate in 1936 and at almost 4% in 1937, in spite of stagnation in agriculture and the consequently bad performance of the food-processing industry.

In 1934, Germany had adopted Finance Minister Schacht's New Plan which served as a basis for the negotiation of compensation agreements with many of its trade partners. There was never a formal agreement between Brazil and Germany, given the opposition of the United States because of the resulting subsidization, trade diversion and discrimination, but bilateral trade expanded based on a more informal understanding between the Bank of Brazil and the Reichsbank. All proceeds of German purchases in Brazil were paid into a Bank of Brazil account in Berlin which could only be used to purchase German goods. Trade patterns in 1934-38 were deeply affected by such developments as the aggregate German share of the Brazilian market (corrected for the overvaluation of compensation marks) rose from 12% to 20% of total imports. The US share of Brazilian imports increased from 21.2% to 25.5%, while the British share fell from 19.4% to 10.9%. German goods displaced traditional imports from the United States, but the US aggregate share did not fall since US goods displaced traditional British manufactured exports. The German share of Brazil's export market also increased substantially from 7.4% to 15.9% total exports, a result of the importance of coffee and cotton purchases. Cotton exports were also the main explanation of the expansion of exports to Britain in the 1930s. The fall in the US share of Brazilian exports resulted also from the fall in coffee prices in relation to all other export prices and was a consequence of the long-term cyclical behaviour of coffee prices. Cotton exports increased from 4% to 18% of total exports between 1928 and 1938, while coffee exports decreased from 71% to 45%.

The attraction of compensation trade with Germany was sufficiently strong to justify a continuous ambiguity in Brazilian foreign economic policy as the United States applied pressure to block the arrangement. The expansion of cotton exports provided an outlet for the substantial increase in Brazilian domestic production, but the fact that Brazil was indirectly profiting from the price umbrella provided by the United States cotton support programme acted as a further irritant to the United States in its quest to end with the compensation trade. Quite diversified Brazilian regional export interests, mainly in the Northeast and the South, were able to find outlets to their output of primary commodities which would have been otherwise very difficult to sell. The level of imports was similarly higher than it would have been without a compensation trade deal. The German proposal to include the supply of armaments in the Brazilian purchase programme was a shrewd move as it automatically enlisted the support of the armed forces for the continuity of the arrangement. The standard argument used by the United States government on the inefficiency of compensation agreements was really not very relevant when there was such massive idle productive capacity as in the 1930s.

United States policy towards Brazil in relation to compensation trade as well as in other issues such as the foreign debt was to avoid the use of strong arm methods in spite of the considerable United States leverage Brazil due to its structural trade deficit in the Brazilian trade. This is explained partly by its overall commitment to multilateralism after 1934, which prevented the use of pressure as the British did in Argentina, and also by the increasingly central role that Brazil had in United States strategical thinking on South America as a form of containment of Argentina. Policy-making in Brazil enjoyed degrees of freedom which did not exist in Argentina, and Brazilian policies reflected this difference.

In 1934, the three-year time limit established by the 1931 Funding Loan expired. Sir Otto Niemeyer, returning from a trip to Argentina where he had acted as an adviser on the future Central Bank, made a stopover in Rio and left with Aranha a note in which the essential features of a new arrangement on the foreign debt were defined. These new ideas tried to accommodate the creditors' dissatisfaction with the lack of cash payments resulting from the funding loan and also Brazil's reluctance to agree with the rapid rise of outstanding foreign debt without any relief. In what became known as the Aranha scheme, all foreign loans to all levels of government were graded in eight categories according to the quality of their guarantees. The higher a given loan was classified, the higher the proportion of amortization and interest paid in relation to contractual terms. Payments were in some cases to rise slightly over the four years of the agreement. The gap between contractual interest payments and actual interest payments corresponded to debt relief. Total service was equivalent to about one-third of contractual service, with a much higher proportion of interest payments than in the case of contractual service. Private capital flows also became adverse. Direct foreign investment from Britain and the United States contracted by more than 10% between 1930 and 1936 but US investment started to recover in the late 1930s.

GDP growth between 1933 and 1936 was at 8% yearly. Industrial output increased at 13.4% yearly and agricultural output at 4.2% in spite of a very bad crop in 1935. This outstanding industrial performance was partly due to the extremely good performance of the textile industry whose output increased 16.8% yearly in this period. Textile production is estimated as corresponding to 20-25% of total industrial value added. Given that import substitution was complete in food processing, which corresponded to about 35%, it could not grow much above agricultural output. Output of the chemical industry, which was less than a fifth of the textile industry in the early 1930s, increased even more spectacularly at 23.8% yearly. The output of 'new' sectors such as cement, tyres and steel products also expanded at very high rates of growth but their relative importance in total industrial value added was rather limited. According to census data 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 more expensive in relation to domestic prices, hides the sharp advance of import substitution. Using 1939 prices this is nothing short of spectacular as the imports-total supply ratio fell from 46.6% to 19.7%.

There was a substantial increase in the share of industry in GDP in the 1930s, from 16.5% to 20.8%, while agriculture's share contracted from 30.6% to 25%. The share of services increased slightly to reach 54.2% of GDP in 1940. Industry continued to increase its share of GDP during the 1940's gaining a further 3.3% - mainly at the expense of services since of agriculture's share of GDP fell only 0.7%. No evidence, however, can be found which could justify emphasis on 'endogenous accumulation' as an explanation of industrial growth from the early 1930s. There was a sharp fall in investment, with imports of capital goods for industry back at a level 80-90% of their 1928 peak only by the late 1930s. (There was no significant domestic capital goods sector producing especially for manufacturing industry before the end of the 1950s. The industrial boom in the 1930s was mainly based on the use of installed capacity in traditional branches of industry, and especially of textiles. Between 1931 and 1936 cotton production expanded 25% yearly due to the shift from coffee production in the South and the inducement of new markets in Germany and Britain. All other major agricultural activities lost share in agricultural output with the exception of cocoa and beef production. Subsistence agriculture, however, was still generally growing much faster than population.

The normative presence of the State in the economic field increased markedly after 1934. An extremely influential *Conselho Federal de Comércio Exterior* [Federal Foreign Trade Council] was created. Its influence went much beyond trade matters and covered all issues related to economic development such as for instance the integrated steel mill project which was to become a government priority in the late 1930s and early 1940's. Other so-called 'defense' institutes started to take shape, but mainly at the state rather than national level. They covered cocoa and tobacco in Bahia, and rice and beef in Rio Grande do Sul. In 1936 the Federal government was spending in real terms 92% more per unit of GDP than in 1928, if payments of the foreign debt service are excluded. Much, but not all, of it had been directed to the Army which, together with the Ministry of Finance (excluding foreign debt service), was the department with the highest rate of expenditure increase in the period. The structure of Federal revenue had started to change slowly after the recession as the shares of both the consumption and income taxes started to rise in detriment of import duties. But in 1937 import duties still just exceeded the joint revenue related to the major domestic taxes: consumption tax (21.7% of total non-industrial Federal revenue), income tax (7.6%) and the stamp tax (7.7%).

4. Slow down, recession and war time boom:1937-45

When Vargas delivered his *autogolpe* in November 1937 and established the authoritarian Estado Novo there had been a clear deterioration of the economic situation which had been favourable since 1933-34. To the overheating of the domestic economy was added the fall in the level of activity in the United States which badly affected Brazilian exports. Balance of payments difficulties became once again all important. In his address to the nation to explain the *Estado Novo*, Vargas defined what was a clear reversal of the previously liberal economic policies covering policies on the foreign exchange regime, the foreign debt and coffee. The new foreign exchange policy was a return to that of 1931-33, based on a government foreign exchange monopoly with an unified overvalued exchange rate and import controls. The new unified rate was roughly equivalent to the previous 'free' rate but was almost 50% devalued in relation to the previous official rate. It is interesting, however, to note that, contrary to what could be expected, import controls did not result in an import structure which favoured 'essential' goods in 1938.

Vargas also announced that payment of the foreign debt service would be suspended as the government had decided that there were more essential commitments related to economic development and re-equipment of the armed forces. Outcry, especially in London, was substantial but the reaction in Washington was subdued. There was growing concern in the US Administration, and more especially in the Treasury, among the advisers of Secretary Morgenthau, about the situation of key regional or subregional economies such as Brazil and China. For the first time, in spite of the opposition of the more conservative State Department, it is possible to detect a policy of fostering economic development of some of the larger developing economies as part of a package to gain or sustain political preeminence in targeted economies.

Brazil was to abandon some of its former coffee policies, drastically reducing export taxes and limiting stock destruction. In spite of established views which would have predicted a fall in coffee export proceeds they actually increased after this change. It was the contraction of other exports which affected the balance of payments position. Overall terms of trade collapsed further in 1938-41, reaching an average of only 42% of the 1928 peak, with a minimum, in 1940, below 40% of that level. Capacity to import was sustained, and even slightly increased by the sharp increase in exported volumes which in 1939 reached a peak of 66% above 1928. During the Second World War, terms of trade improved about 20%, especially after 1942, and capacity to import rose slowly to reach in 1945 a level still 18% below 1928.

With the deterioration of the international political situation, Brazilian enthusiasm for holding compensation marks, which could remain blocked in Berlin for the duration of a possible war, cooled down considerably. Indeed, 1938 was the last year of important compensation trade with Germany. The path was opened for a *rapprochement* with the United States and indirectly with Britain. A Brazilian mission, headed by Oswaldo Aranha, now the foreign minister, visited Washington in March 1939, allegedly to negotiate commercial arrears finance. Its main achievement was, however, to commit Brazil, in spite of much criticism by the military, to a reversal of its foreign exchange and foreign debt policies.

After Aranha's return the government announced a new foreign exchange policy which had some of the features of the 1935-1937 policy and would remain in place for the duration of the war. There were three exchange rates, progressively more devalued in relation to the US dollar: an 'official' rate, a 'free' rate and a 'free-special' rate. The new 'official' rate was revalued more than 5% in relation to the 1938 single rate. In the other extreme, the 'free-special' rate was 24% above the 'official' rate. Thirty per cent of export proceeds were to be sold to the government at the official rate. All imports were to be paid at the 'free' rate and the financial remittances at the 'free-special' rate. In spite of the dearth of exchange cover which was to last until 1942, Brazil honoured Aranha's commitment that the foreign debt would be serviced and a new foreign debt agreement for four years was signed in June 1940. Payments were to be at 50% of Aranha's last year so that annual payments were of £4 million, equivalent to about a sixth of the service established contractually.

After the outbreak of the Second World War, in September 1939, Brazilian export markets in Central Europe were closed for the duration of the war as the British blockade became binding. War conditions also changed the structure of import demand in favour of inputs required by the war effort. After the fall of France most Western European markets were also lost. Brazilian exports to non-traditional markets, in many instances also of non-traditional goods, became relatively significant. South Africa and many Latin American markets became important absorbing textile and other manufactured exports in the wake of the contraction of exports from developed economies. The fall in demand for coffee and the consequent weakening of prices following the beginning of the war led the United States to agree to the Inter-American Coffee Agreement with the aim of supporting coffee prices. This had the explicit objective of avoiding an economic collapse throughout Latin America and which would make possible its political exploitation by Germany.

During the war Brazil and the United States signed a great number of supply agreements culminating in the Washington agreements of 1942. These generally defined prices and quantities of goods to be exported to the United States, and though initially rather unrealistic, since there was limited knowledge of the actual Brazilian capacity to supply, came to cover a large number of commodities, some of which had not been exported before: coffee, cocoa, Brazil nuts, many types of ore, industrial diamonds, mica, quartz, rubber, cotton linters, burlap, castor beans. Specific agreements also regulated shipping as the lack of ships was an import additional constraint on foreign trade. It was not enough to make sure that goods were supplied, they had to be carried and German submarine warfare put shipping under heavy strain. In some cases, such as natural rubber, which was extremely scarce since the producing regions in Asia had been lost to Japan, price incentives were complemented by other agreements which unsuccessfully tried to stimulate supply directly by improving sanitary conditions and food availability in the producing regions.

Very early in the war the British government had recognized that, for many commodities, and in many countries, its bargaining power would be enhanced by the lack of alternative buyers. It signed a number of payments agreements including one with Brazil. One of the objectives of these agreements was to make impossible the creation of a parallel market for sterling. An essential provision consequently was that sterling generated by exports to Great Britain would have to deposited in specific accounts and could be used only to pay for British imports and other commitments in sterling such as foreign debt service. Since export controls were imposed such balances were bound to increase in the long run.

After initial difficulties, the British authorities made important purchases in Brazil, concentrated in beef and cotton. With the war, the demand for beef had increased, and Brazil, which had unsuccessfully tried to export to Britain in the 1930s, sold considerable quantities until 1942. But it had thereafter to curtail exports due to adverse climatic conditions and domestic competitive demand. For the first time Brazil was aware of the classical Argentinian problem of competition between domestic consumption and exports of staples. Cotton exports rose dramatically as, following a policy suggested by John Maynard Keynes, the British government accumulated strategic cotton stocks in Brazil to meet the boom in cotton textile exports which was expected to occur after the war.

It has been suggested that the war period was particularly favourable to exporters as export prices rose faster than domestic prices. This was indeed the case but only until 1942, when export prices increased more than 28% in relation to the general price index since 1939 (and coffee prices almost 46%). The evolution of relative prices is not, however, sufficient to show that exporters were favoured by the war. The share of exports to GDP fell almost continuously from 11.8% in 1939 to 9.5% in 1945. The share of both coffee exports and other agricultural exports also fell. It was only in the case of manufactured exports that the share increased significantly from 2.8% in 1939 to reach a peak of 5.7% in 1942. But even these shares were falling rapidly in the latter period of the war.

With the displacement of other suppliers of manufactured goods by a combination of economic blockade and, as in the case of Great Britain, export controls, Brazil became since quite early in the war almost entirely dependent on the United States' ability and willingness to supply and also to assure transportation priority. There is some evidence that Brazil was badly treated in comparison with Argentina in relation to supply by the Allies, a result of the relatively strong bargaining position of Argentina in relation to Britain. Scarcity of imports was of paramount importance to explain the performance of specific branches of industry. Some, such as transport equipment, were assemblers which depended almost entirely on imports of parts and components, and ceased production for the duration. But others thrived as the competition of imports was removed. Joint import control by Brazilian and United States authorities in fact used, at least until 1944, evidence on the ability to produce locally as an important criterion to define import priorities.

The United States government's political commitment in 1940 to finance and supply the equipment required by the Volta Redonda steel mill gains particular relevance, given the overwhelming supply difficulties. It should be seen in the same light as the coffee price support commitment entered in the Inter American Coffee Agreement and marks the peak of United States' policy of cajoling Brazil. Suggestions that Brazil was able to exploit competition between the United States and Germany to supply equipment required by the steel mill at Volta Redonda fail to take into due account the insurmountable difficulties faced by cargo movements without formal previous British approval through the emission of blockade documentation (navicerts). The efficiency of British blockade had been underlined by the *Siqueira Campos* incident, when a cargo of artillery equipment purchased for the Brazilian Army in Germany before the war was intercepted by the British, and only released after much pressure by the United States. As the war progressed Brazil became an important recipient of Lend-Lease aid, some US$ 332 million, which was partly used to equip the divisions which went to fight in Italy in 1944-45.

During the war there was a reversal of the relative price trend which had favoured import substitution after the depression, since the exchange rate was maintained constant and domestic inflation was much higher than world inflation. But relative prices were rather irrelevant in explaining the level of imports as these were essentially supply-constrained. It was after the war that the imbalances related to foreign exchange appreciation would become relevant to explain the behaviour of imports and exports. Exchange scarcity and continued recession persisted until 1942 as it took a relatively long period for the economy to adjust to the demand shocks. But as supply adjusted to the new war demands, exports started to recover in nominal values. Imports, however, increased much more slowly so that foreign reserves which had been reduced to US$ 65 million in 1940, increased rapidly to reach US$ 270 million in 1942, and US$ 682 million by the end of 1945. But a substantial share of these reserves did not correspond to command over future imports as their use was restricted in various ways as would become clear after the war. After 1942, with the capacity of import slowly rising, Brazil was in the position of many peripheral economies which had substantial foreign exchange and gold reserves but no goods to buy in the world markets. This was a marked contrast with the earlier war period when there was international supply but Brazil had no exchange cover available to increase its severely constrained imports.

The year of 1942 marked an economic turning point in Brazil for other reasons besides the improvement in the balance of payments. From the point of view of growth it was the last year of the difficult period of adjustment since 1937. Between 1936 and 1942 the GDP yearly growth rate was only 2.1%, but from 1942 to 1945 it increased to 6.4% in spite of mediocre growth in 1945. 1942 was the beginning of a long period of continuous growth of GDP until the crisis in the early 1960s. Agricultural output had practically stagnated in 1936-42 growing at an yearly rate of less than 0.3%. It is true that the 1942 output was rather badly affected by weather conditions, but the agricultural performance was consistently mediocre over this period and, in fact would continue to be so until 1945. From 1942 to 1945, agricultural output rose only 2.4% yearly even after a long sequence of poor crops in the previous period. This growth record is almost entirely due to the contraction in output of traditional export crops. There was a much better performance of crops for domestic food consumption and, almost until the end of the war, of raw material crops, especially cotton. Cattle raising also expanded rapidly until1942, but stagnated afterwards. In 1939-1941 productivity by hectare was generally higher in São Paulo than in other regions both in food and industrial crops such as cotton, with the major exception of sugar cane.

Industry had a much better performance than agriculture in the transition period, with output expanding at 3.8% in 1936-42. But there is a clear difference between the period immediately before the war, when growth was 6.1% yearly, and the 1939-42 period, when output increased only 1.6% yearly. It was in the last years of the war that the industrial boom which was to last until the early 1960s started, with output increasing 9.9% yearly. It is important to note that the textile industry had a better performance than industry overall until 1942. It was only in the final year of the war that its performance was worse than that of industry as a whole. It was after 1942 that less traditional branches of industry, such as chemical products, started to increase output very rapidly.

Public expenditure per unit of GDP excluding the debt service had continued to increase in the late 1930s. In 1939 it was 110% above the 1928 level. But it declined during the war and in 1945 was about 8% below the 1939 level, corrected both for inflation and GDP growth. The government faced difficulties to raise revenues so that there was a clear deterioration in the public accounts: the Federal government deficit which had corresponded in 1939 to 11.4% of total expenditure rose to 24.5% in 1942. With the war there was a sharp rise in the importance of domestic taxes such as consumption and income tax while import duties collapsed. Between 1937 and 1942 income tax increased more than four-fold and consumption tax almost doubled while import duties fell by more than 40%. With increased inflation rates, the government was unable to borrow as it was bound by the constraints imposed by the usury law. The only possibility was to engage in compulsory 'borrowing' through the placement of *'obrigações de guerra'* [war obligations]. This expansionary public expenditure policy compounded the difficulties faced with the increasing imbalance reflected in the soaring balance of trade.

Rationing, the other basic instrument to cope with excessive demand successfully used in Britain and, to a much lesser extent, in the United States, had only a significant impact on the consumption of specific products such as beef, but it could not solve the severe excess demand problem. Other much less important instruments to control demand such as fiscal schemes to stimulate expenditure deferment were also used. Inflation after 1941 as measured by GDP's implicit deflator was, however, quite high, remaining between 15-20% yearly. Total inflation transfers including inflation tax reached a peak of almost 10% in 1942, a level similar to that reached in 1963.

It is difficult to see an alternative to inflationary adjustment given the constraints to the adoption of a more conservative fiscal stance. An exchange rate revaluation would not have its peacetime consequence of increasing imports as these were supply-constrained. On the other hand, the acceleration of inflation resulted in an increasing erosion of profit margins of exporters and a revaluation would further decrease their profits. It was impossible to increase export prices in foreign currency, given the widespread use of official procurement prices and the relative weakness of the Brazilian bargaining power. Official purchases were a high proportion of Brazil's total exports. Credit expanded at 20% yearly after 1942 and lax monetary policies sanctioned the macroeconomic structural imbalance. A monetary 'reform' in 1942 did little besides changing the name of the national currency from *mil-réis* to *cruzeiro*. A regulation partly tying domestic monetary expansion to gold reserves meant, given the fast accumulation of gold reserves thereafter, that there were no effective legal limits for monetary expansion.

The accumulation of foreign reserves led to the negotiation of a permanent foreign debt settlement in 1943 which marked the final adjustment in a long cycle of foreign indebtedness which had started back in the early 1820s with the loans at the time of independence. Bondholders were offered two options. One option maintained the original bonds but with a substantial reduction of contractual interest rates. The other option was based in the partial substitution of original bonds by new Federal 3.75% bonds. Original rates of interest varied between 4% and 8%. The residual unconverted bonds would be redeemed with a substantial discount – on average of 71% – in relation to nominal value. The principle that better secured loans carried better conditions, already established in the 1934 and 1940 temporary agreements, continued to apply but was somewhat watered down in response to pressure by the United States to improve the terms offered to dollar bonds. The agreement was equivalent to a reduction of 50% of the outstanding foreign debt of £220 million. There was bitter disappointment in London with the agreement, but much less so in the United States. British protests that their interests had been sacrificed 'in the interests of Pan-Americanism' were more a reflection of a lack of appreciation, in London, of the structural long-term fragility of the Brazilian balance of payments than a reasonable assessment of the terms of the permanent settlement.

The combined consequences of new, rather restrictive legislation on water and mining resources in 1934 and the 1937 constitution could have been very unfavourable for foreign direct investment flows. That this was not so was due to the considerable distance in certain cases between potential policies implied by the new legislation and the much more flexible policies actually adopted. The water and mining codes, by restricting the entry of foreign firms, may have affected future flows of foreign investment. But the initial commitments to limit the role of foreign capital in banks, insurance and 'essential industries' were downgraded in practice. The 'essential industries' pledge was a dead letter. Government interference in the insurance sector was stepped up with the creation on a *Instituto de Resseguros do Brasil* with a government monopoly of reinsurance business as well as by imposing limitations to the right of establishment of new foreign insurers in the Brazilian market. Foreign bank which already operated in Brazil obtained waivers to continue operations in Brazil in spite of the 1937 Constitution. These waivers were distributed on a discretionary piece-meal basis. This new legislation, while partly superseded by a new Constitution in 1946, in fact paved the way for the effective closing down of the Brazilian banking market to new entrants and also for constraints on the form of operation of the established foreign banks which would last until the late 1980's. The fast fall in importance of foreign banks which had started well before the 1930s continued in the 1930s and early 1940s as the share of foreign banks in total banking assets fell from 25.4%

in 1929 to 17.8% in 1939 and 5.2% in 1945. The contraction in the 1930s is at least partly related to the decreased importance of trade and foreign payments in relation to GDP which affected foreign banks more significantly than Brazilian banks. The role of the Bank of Brazil was strengthened as the Federal government banker, the executive arm in the administration of exchange and import controls and also as a lender to industry and agriculture through its newly created *Carteira de Crédito Agrícola e Industrial* [Agricultural and Industrial Credit Office]. This was especially true during the war as real loans per unit of GDP increased by 69% and the Bank of Brazil's share of total loans increased from 14.8% to 24.8%. The sharp fall in the importance of foreign banks during the war was partly due to the intervention of the government in German and Italian banks after Brazil entered the war in 1942.

The total nominal amount of British and United States investment at the end of the war was roughly at the same level as of 1930, but the US share rose from a quarter to about half the total of slightly more than US$ 660 million in 1945. British direct investment continued to contract during the war as it had done in the 1930s. This was due partly due to sales to other foreign investors, partly to modest purchases by the Brazilian government of assets of British railway companies. The stock of investment by United States firms, which had remained stable between 1940 and 1943, rose in the later period of the war, especially in the manufacturing sector.

After 1937 there was a wholesale creation or upgrading of many sectoral 'defense' institutes as well as the consolidation of already existing government normative institutions. New national institutes regulated the production and foreign trade of hierba mate, pine and salt. Less formalized structures were created to deal with fruit, fisheries and manioc. Institutes of a regional scope, such as the one regulating rice, were upgraded. But besides increasing very substantially the normative role of the State, policies in the early 1940s resulted with some time lag in the government becoming a significant producer of steel , iron ore and oil. Government involvement in the production of steel started with the creation of *Companhia Siderúrgica Nacional* to operate the Volta Redonda steel mill, which had been made possible by the window of opportunity in United States-Brazil relations in 1940. The Brazilian government had hoped that US Steel, which had been involved in the mill's feasibility studies, would be interested in investing in Brazil. It was only after these hopes had been disappointed that the government decided to create a state enterprise to run the mill.

Companhia Vale do Rio Doce, an iron ore mining concern which would become another important symbol of the successful involvement of government in the production of goods, was the direct result of a British procurement policy which sought to make sure that alternative sources of low-phosphorous iron ore could be found. This opened the way, in 1942, for an agreement through which the British government settled the outstanding interests in the Itabira iron ore concession, which had been for many decades a bone of contention with the government of Minas Gerais, and the United States advanced a loan to upgrade the railway from Itabira to Vitória. The Brazilian government commitment to supply iron ore to Britain was unfulfilled during the war, but *Vale do Rio Doce* was to become a world leader in iron ore production after the 1970s. The idea of a government design to play a key role as a producer of goods is not warranted by the history of the foundation of these major state enterprises in the early 1940s. The embryos of other, much less successful state enterprises, such as the *Companhia Nacional de Álcalis* and the *Fábrica Nacional de Motores*, were also established in the early 1940's. Towards the end of the 1930s oil was discovered in Bahia and a *Conselho Nacional do Petróleo* [National Oil Council] was created to regulate all aspects of the oil industry. Legislation passed in the 1930s stipulated that exploration concessions could only be given to Brazilian firms with Brazilian stockholders and that deposits of gas and oil were owned by the Federal government. The lack of imported coal due to shipping and supply constraints acted as a powerful stimulus to increase the production of domestic coal, especially in Santa Catarina and Rio Grande do Sul. Brazilian coal was, however, a poor substitute of imported coal given its high ash and sulfur content.

Following the coup of November 1937, under the Estado Novo, control of the states by the Federal government was considerably tightened. A *Departamento de Administração* *do Serviço Público* [Civil Service Administration Department] had total control not only of the process of modernization of the Federal civil service, but also of the budgetary process at the Federal and state levels. After the coup, the *Conselho Federal de Comércio Exterior* was considerably strengthened as the main decision-making forum as political pressures which could not be exerted in Parliament started to find a way of expression through some of the counselors with specific sectoral interests. A *Conselho Técnico de Economia e Finanças* [Economic and Financial Technical Council] within the Ministry of Finance mainly took over issues related to finance and taxation. After Brazil entered the war a *Coordenação da Mobilização Econômica* [Economic Mobilization Coordination] was created to cope with the mobilization of economic resources for the war effort. The consolidation of some of the 'defense' institutes was, to a certain extent, enhanced by the proliferation of quantitative controls during wartime.

With the approach of the end of the war there was much debate about the nature of the policies which would best protect national interests in peace time. By far the most important interchange was between Eugenio Gudin, a conservative engineer turned economist who worked for several British-controlled utilities, and Roberto Simonsen, a government contractor and representative of foreign banks in the 1920s who, in the 1930s and 1940s, became an industrialist and the most influential mouthpiece of industrial interests from São Paulo. Controversy centered on protection and the role of the State. Gudin contended that after the war good economic performance would depend both on reducing the interference of the State in the economy and on the opening up of the Brazilian market which was excessively protected against imports. Simonsen considered the role of the State as a promoter of economic development to be vital and also that domestic industry should have the benefit of a high tariff. While Gudin was clearly victorious from an intellectual point of view, since some of his opponent's economic concepts were primitive, or plainly wrong, it was Simonsen's programme which contained the basic elements of policies actually adopted in the post-war period.

A government-controlled social security system was established after *the Estado Novo*. It was based on a large number of *institutos de previdência*, which generally had started operations as private concerns before absorption in the public system. These *institutos* were initially cash-flush as contributions were collected and total payments were only slowly increasing. Most of the available resources were squandered in asset donations, especially through housing purchase contracts which were not inflation-proof. This source of rent-extraction, which was extremely regressive, became more evident with the substantial acceleration of inflation in the late war period.

Under the *Estado Novo*, new social legislation considerably extended the rights of workers. Minimum labour standards were established, special legislation protected the rights of children, pregnant women, and special groups of workers. A minimum wage legislation was introduced. In 1942 a consolidation of labour laws much in the same lines of its Italian matrix was enacted. An important part of government's labour policies was a deep public involvement in the strengthening of trade unions. Political control of trade unions by the Federal government played a major role in assuring support for Vargas' regime, especially under the *Estado Novo*.

Unfortunately there is no reliable source for output, employment and social indicators data for Brazil before the 1940 census (1939 data). There is also no such source for inter-census years, e.g. between 1939 and 1949. In the late 1930s Brazil continued to be a very poor country. Agriculture employed 65.9% of the economically active population. Average life expectancy at birth in the late 1930s was still 42.7 years -- with extremes of 33.5 years in the state of Rio Grande do Norte and 52.0 in Rio Grande do Sul. Infant mortality levels were similar to those in Britain at the turn of the century: 158.3 deaths per thousand live births, with extremes in the same states. Somewhat surprisingly the coffee states, including São Paulo, had indicators very near the average. The literacy rate of the population of ten years and more was 43% in 1940 (38% for women).

United States policy towards Brazil changed very substantially if the period before 1942 is compared to the last years of the war. In 1940, important concessions were made in relation to coffee prices and supplies, finance and transportation related to the Volta Redonda project.

But this initially generous United States policy became less so, especially after the United States had been granted authorization to build a string of war bases in Northeast Brazil, so that air supply of North Africa became possible. In the later period of the war, frictions started to appear between Brazil and the United States, exactly on coffee prices, which had been so generously supported by the United Sates before 1942, but had then been frozen. Since Brazilian costs of production increased with domestic inflation and the exchange rate was kept constant as the war proceeded the profit margins of coffee growers were severely reduced. The United States resisted a price readjustment in US dollars because this would have implications on their domestic price control. Only at the end of 1945 did the United States relent and allow a price increase compensated by a temporary subsidy.

Similarly, the United States, because of supply and shipping scarcity, for a long period had condoned and even promoted a policy of import substitution in Brazil. But Brazil introduced rationing of imports independently of the United States authorities in 1944. This was an attempt to save exchange cover to purchase essential imports as the supply of non-essential imports in the world markets tended to be normalized earlier than that of essential imports such as capital goods and industrial inputs. This was met by an outcry from the United States authorities making quite clear that they were prepared to claim that this was in breach of the Brazil-United States trade agreement of 1935 and led to a reversal of Brazilian policy. In the political field such changes led to the weakening of United States' support for Vargas, whose dictatorship had been thought in the past to be 'more acceptable than others', and were crowned by the very intrusive stance taken the United States in Brazilian domestic affairs in 1945 and in particular the overthrow of Vargas by military coup in October 1945.

5. **Conclusions**

The striking feature of the Brazilian economy during the initial years of the Vargas regime was its ability to recover quite rapidly from the consequences of the 1929 depression. To the conventional expenditure-switching policies related to a massive devaluation of the *mil-*

réis must be added the reinforcing effects of exchange and import controls. It was of crucial importance that there was a considerable existing industrial capacity already installed so that recovery could take place led by an extremely good industrial performance after 1932. The favourable consequences of the demand-switching policies were reinforced by the expansionary nature of fiscal policy, and particularly of coffee support policies.

But the important role of previously installed capacity in explaining the timing and strength of recovery underlines the limits of structural change which occurred in the 1930s. It was to a great extent the good performance of the traditional wage goods sector which explained the growth performance in the period. This was also true of the first half of the 1940s. It was only in peacetime that the structure of industrial production started to change significantly. The structure of exports was diversified. The share of coffee exports was reduced as other exports expanded: cotton in the 1930s and many others, including industrial products, after 1941. Part of the reduction in the share of coffee is explained by the larger fall in coffee prices in comparison to other Brazilian exports. German trade policies had an important temporary impact on the geographical distribution of Brazilian trade.

The structural characteristics of Brazilian trade, and more specifically the trade surplus with the United States, increased Brazil's bargaining power in the 1930s as, especially after the United States commitment to multilateralism after 1934, there was a marked unwillingness by the United States to use its commercial leverage to constrain Brazil to adopt specific policies which would favour US interests. Brazil exploited this advantage in relation to many aspects of its policies. Perhaps the most important was the ambiguity of its stance on compensation trade with Germany. The expansion of bilateral trade had many concrete advantages for Brazil as exportable surpluses could be sold in exchange for scarce imports.

The concentration of trade with the United States during the war and the contraction of European trade, with the exception of exports to the United Kingdom, marked a totally new situation, if contrasted to the 1930s, and even more to the 1920s. To the enhanced importance of the United States as a trade partner must be added the role of the US government as the sole supplier of foreign finance to Brazil for a long period after 1939. US influence in post-war Brazil would be paramount as the European economies, and particularly Britain, had lost most of their importance as markets for Brazilian exports, suppliers of Brazilian imports and source of capital. The selling out of British firms in Brazil which had started during the war would be accelerated after 1945.

There was much of a snowball effect in the position concerning the Brazilian foreign debt contracted during the Old Republic. Full service payments had been made only in eight years in the whole 1898-1930 period and Brazil had used to the full extent its access to foreign financial markets during the two borrowing 'windows of opportunity' in 1905-12 and 1925-28. It was an achievement to reach a permanent agreement with creditors in 1943, even if this was eased by the artificial accumulation of reserves which resulted from the constraints on imports during the Second World War. Some of the harmful consequences of pre-1930 excessive borrowing were of a long-term nature and affected policies in the 1930s and 1940s.

The 1930-45 period was one of important innovation in the field of rent-seeking. In the recent past, under the Old Republic, this had been mainly related to the policies of coffee support which assured that economic agents involved in coffee production enjoyed a higher and more stable level of income than would have been the case if such policies did not exist. A high tariff wall also benefited domestic industry, but this particular rent-seeking mode was less harmful than would appear at first sight, as coffee producers could shift at least part of their input cost increases to coffee consumers abroad. With the involvement of the authorities in the purchase and distribution of scarce foreign exchange cover at prices lower than those that would have prevailed without government intervention, a new modality of rent appropriation was inaugurated, as there was a benefit for those who had access to relatively cheap foreign exchange. The government also learned very rapidly that it could use the foreign exchange control to generate domestic resources. It was just a question of skimming exchange cover in excess of government payments in foreign currency. The economics of the foreign exchange wedge between export and import rates became a vital aspect of economic policy in Brazil at least until the mid-1960's.

The proliferation of normative sectoral agencies, many of them with ample regulatory mandate, created two important sources of inefficiency. The scope for the distribution of sinecures was considerably broadened by the increased role of the State. There were also new possibilities of rent extraction, as sectoral rationing of output or foreign trade became the rule, and price market allocation was weakened. But it is important to stress that the basic stance of the Vargas regime on State involvement in the production of goods was more restrained than the mere increase in the number and size of new state enterprises would indicate. In many instances the government opted for public ownership because there was no interest by the private sector. Criticism of the inefficiencies of state ownership should also not obscure the fact that in some cases, especially before 1945, there was no alternative to public ownership. But it remains true that there was a change of regime concerning the scope of State intervention in the economy.

Macroeconomic policy, which had been under reasonable control for most of Vargas' first period, deteriorated considerably in the last years of the war. This was to a certain extent unavoidable, given the policy constraints under which the government operated. Nevertheless democratic post-war governments inherited imbalances that proved particularly harmful. First, and foremost, a high rate of inflation. This meant that a new instrument had appeared in the rent-seeking game after a long period of relatively low inflation since the 1890s. In a market for government loans effectively regulated by the usury law, which limited the nominal interest rate to 12%, it was very attractive to borrow or to enter into long-term financial obligations. Access to inherently subsidized credit came to compete with other more established rent-extracting modalities. The second element of this unfortunate inheritance was the overvalued exchange rate: to put it back at the 1939 real level in relation to the US dollar would have required a devaluation in 1945 (domestic/foreign currency) of more than 60%. In the post-war period, even a government with stabilization very high on its priority list would be reluctant to face the need both to redress the serious imbalance in public accounts and to correct a major exchange rate misalignment.

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