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BRAZILIAN ECONOMIC POLICY DURING THE WORLD
POST-WAR BOOM AND SLUMP: 1919-1922

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The following abbreviations are used in the footnotes of this work:
USIA PG-59 - U.S. National Archives, Records of the Department of State relating to internal affairs of Brazil.

FO 371 - Public Record Office (United Kingdom), Foreign Office files: Political.

R.A. - Archives of N.M. Rothschild and sons, London.

S.A.J. - South American Journal, London, weekly.

RC-JC - Retrospecto Commercial do Jornal do Commercio - Rio de Janeiro, yearly.

I. The post-war boom and the agitation for banking reform

Brazil's macroeconomic instability in the three years following the return to peace as well as the difficult economic policy problems she faced until the mid-twenties have their roots in the violent world-wide post-war economic fluctuations.

The boom experienced from early 1919 by the industrialized Allied economies - especially the United States and the United Kingdom - while Central and Eastern Europe still suffered from famine and stagnation, was shared by most primary producing export economies and is one of the sharpest on record ^{1/}. Although output recovered fast in the leading industrial countries after the mild and short-lived recession following the Armistice, this "boom of astonishing dimensions" ^{2/} was more impressive for its effects on prices ^{3/}.

As far as the behaviour of the Brazilian economy is concerned, the most important feature of the world boom is the uncontroversial fact that it was accompanied by a frantic speculative drive towards accumulation of commodity stocks in the central countries ^{4/}. Especially in the United States - which absorbed over 40% of Brazilian exports in 1919 and 1920 - , where the abolition of economic controls proceeded faster, but also in the United Kingdom and in France, the anticipation of higher commodity prices with the unleashing of wartime pent-up demand was backed by

^{1/} Aldcroft, D.; From Versailles to Wall Street, 1919-1929; Allen Lane, London, 1977, pp 64ff.

^{2/} Lewis, W.A.; Economic Survey, 1919-1939; Allen and Urwin, London, 1949, p 18.

^{3/} Pollard, S.; The Development of the British Economy, 1914-1967; 2nd. edition, Edward Arnold, London, 1969, p 215.

^{4/} Cf. League of Nations; Economic Fluctuations in the United States and the United Kingdom, 1918-1922; Geneva, 1942, passim; Aldcroft, D.H., op. cit., pp 62-67. and Lewis, W.A., op. cit., p.17.

the easy money policy followed from early 1919 to help demobilization as well as for debt management reasons, and by the huge amounts of financial assets accumulated during the war ^{1/}. During 1919 controls were dismantled, income recovered, and demand was redirected to peace-time needs against short-term inelastic supplies and a worn-out world transport system. The resulting commodity price increases led to windfall profits from stock-holding which justified the speculative positions then being taken and maintained a bullish atmosphere in world commodity markets lasting until the second quarter of 1920 ^{2/}.

The positive effects of the sudden recovery of international trade upon primary producers' exports and income caused by the boom were amplified in the case of Brazil by the severe supply restrictions affecting the world coffee market since the great frost of 1918. Coffee prices had already shot up during the second half of 1918, well before the acceleration in the growth of world commodity prices, but the damaging effect of the frost was even felt more strongly in 1919, when a great reduction in the yield of the affected areas of São Paulo resulted in a 50 percent drop in Brazilian output relative to the wartime average crop. ^{3/} In spite of the partial compensation afforded by the very large crop of 1919 in the mild countries ^{4/}, the booming world demand carried international coffee prices to new record levels in the second half of the year ^{5/}.

Favourable demand conditions also prevailed for other Brazilian primary export producers and the boom caused an

^{1/} Cf. League of Nations; *op. cit.*, pp 13-19, Aldcroft, D.H. *op. cit.*, p 66 and Howson, S.; *The Origins of Dear Money 1919-1920*, in *Economic History Review*, XXXII, Feb. 1974, pp 88ff.

^{2/} See League of Nations, *op. cit.*, pp 18-19.

^{3/} See Tables 1 and 2.

^{4/} See Table 2: This was due almost exclusively to the growth of plantains in Colombia helped to a large extent by American capital.

^{5/} See Table 1.

explosive increase in the value of exports in 1919. The release of repressed demand for all classes of industrial goods after the long import starvation since 1914 in Brazil, also led to a sharp recovery in the value of imports. However, the growth of imports - even gathering an increasing momentum as the domestic boom progressed ^{1/} - did not prevent there being a large trade surplus in 1919^{2/}.

The sudden improvement in the external position created great difficulties for exchange rate management. As early as the third quarter of 1918 the Bank of Brazil was fighting against a sharp appreciation tendency in the milreis-sterling rate ^{3/}. These efforts were abandoned after the "unpegging" of the European exchanges in March 1919 and the target became the dollar rate, which was kept roughly stable while the milreis substantially appreciated against all European currencies ^{4/}, giving an additional push to imports in spite of the still abnormal supply conditions in European industrial countries ^{5/}. However, as exports prices were booming and domestic import-competing industries were more concerned about their investment plans and were protected by the sharp rise in world prices this rapid exchange-rate appreciation was not much felt by the private sector.

In 1919, reflecting the extremely tight monetary policy then being followed ^{6/}, the economic policy debate would be

^{1/} Total output rose by 5.9% and industrial output by 14.8% in 1919. See Tables 6 and 7.

^{2/} See Table 1.

^{3/} Relatório do Banco do Brasil, 1919, pp 14ff.

^{4/} Between March, 1919, and March, 1920 there was a 40% appreciation against sterling and of 160% against the French Franc. Cf. Federal Reserve Bulletin, August, 1920, p. 817.

^{5/} Relatório do Banco do Brasil, 1921, p 6. During the post-war import boom, the United States - which supplied between 12% to 15% of Brazilian imports before the war - still maintained the leading position attained during the European conflict supplying over 47% of total Brazilian imports in 1919. After 1919, the American share fell to 30% in 1920, to 20% in the mid-20s, and to a minor extent, Germany's share rose. See I.B.G.E., Anuário Estatístico do Brasil, 1939-1940 pp 1366-1369

^{6/} See Table 3.

dominated by the revival of complaints raised during the war about the inadequacies of the national banking system and the "inelasticity" of the money supply. After the abandonment of the gold standard, the operation of the seasonal credit tightening caused periodic demands from banking and business circles for an increase in high powered money to compensate for the harvest drain - particularly when the additional problem of financing a larger coffee crop was in sight - which, given the chronic financial needs of the Treasury, resulted in the large note issues of August 1915 and August 1917. Although inflationary deficit financing provided some relief to recurrent credit squeezes during the war, this was not considered an acceptable expedient except under the abnormal condition then prevailing, for unbalanced budgets were not regarded with approval by any sector of Brazilian opinion and were not expected to continue after the end of the war. Thus, since the return to peacetime trading conditions, there appeared a growing consensus among bankers and businessmen that the fundamental point of reform should be to abolish Treasury issuing rights and to endow the Bank of Brazil with instruments - particularly with powers to pursue an active rediscount policy - which would enable it to vary the stock of high powered money at its own discretion so as to smooth out the seasonal credit problems as well as to act as a lender of last resort in times of crisis. This idea had, in fact, been forcefully defended throughout the war by Homero Batista the President of the Bank of Brazil ^{1/}, when it "merited the applause of many commercial institutions and of notable personalities in trade, industry and finance" ^{2/}. This agitation, as noted by Neuhaus, also reflected the worldwide growing influence of the real-bills doctrine among Brazilian banking and business circles, which saw in granting certain central banking powers to the Bank of Brazil the solution to the problem of adjusting the supply

^{1/} See, for instance, Relatorio do Banco do Brasil, 1917, pp 19-24 and Relatorio do Banco do Brasil, 1918, pp 96ff.

^{2/} Jornal do Comercio, 29.5.1917.

of money to the seasonally variable "needs of trade"^{1/}

Reforming the Bank of Brazil on these lines, endowing it with powers to issue inconvertible notes on a fractional gold reserve basis as proposed by its President had, however, encountered strong opposition during the war from a group of influential politicians, who held orthodox views on monetary policy, as ex-Ministers of Finance Antonio Carlos and Leopoldo de Bulhões and was opposed by the President himself. As Antonio Carlos recalled, all wartime finance Ministers "have never hidden their radically opposed views to new experiments of Banks issuing inconvertible notes, living only from the cours forcée (and) all attempts and efforts to create institutions of this kind foundered against (the President's) notorious unwillingness"^{2/}. However, this orthodox opposition to the proposed banking reform did not oppose in principle the transformation of the Bank of Brazil into a central bank, but was utterly against taking any step in that direction before full convertibility was achieved at a revalued exchange-rate. Most of all, they wanted to divest the monetary authority of all discretionary power to vary the monetary base, preferring a 1:1 gold backing on the lines of the pre-war Conversion Office^{3/}. For that reason, the debate at the end of the war was fought not only on the issue of whether to grant some central banking powers to the Bank of Brazil before convertibility was again

^{1/} Neuhaus, P.; A Monetary History of Brazil, 1900-1945, Ph.D. Dissertation, Chicago, 1974, pp 54ff.

^{2/} Ribeiro de Andrade, A.C.; Bancos de Emissão no Brasil; Liv. Leite Ribeiro, Rio de Janeiro, 1923, p 363. This version is confirmed by Homero Batista himself. In the last Bank of Brazil board meeting he presided he made a farewell address almost exclusively centered on his attempts to transform the Bank into an "issue and rediscount Bank" and on the lack of support he found in the Executive which, however, never presented a "formal refusal" of his project. See Banco do Brasil, Atas das Reuniões de Diretoria; meeting of 3.1.1919.

^{3/} For an exposition of their views see Antonio Carlos' book quoted in the previous footnote or the article by Leopoldo de Bulhões published in the Jornal do Commercio, 1.4.1916.

achieved but also on whether to allow the Bank to operate with a fractional reserve backing ^{1/}.

The change in government in November 1918, and the appointment of Amaro Cavalcanti - a notorious defender of immediate banking reform ^{2/} - to the Ministry of Finance foreshadowed that the pendulum was beginning to swing in the direction of reform. However, the serious illness of President elect Rodrigues Alves just before taking office resulted in his replacement by Delfim Moreira, the Vice-President and former Governor of Minas Gerais, a State from which came most of the supporters of the "bullionist" view. Following the death of Rodrigues Alves in January 1919, Amaro Cavalcanti resigned the finance portfolio, being replaced by João Ribeiro, a Mineiro banker who shared the views of the orthodox opposition to immediate banking reform ^{3/}.

However, according to the Constitution of 1891, new presidential elections were called and the provisional government was dissolved in July 1919, when Epitacio Pessoa, a prestigious lawyer and the political leader of one of the small Northeastern states, assumed the presidency as a compromise candidate chosen by an alliance between São Paulo, Minas Gerais and Rio Grande do Sul oligarchies ^{4/}. President Pessoa's nomination of Homero Batista, the ex-President of the Bank and the champion of the wartime banking reform campaign, to the Ministry of Finance was a clear indication that the orthodox party was again losing ground.

^{1/} Cf. Relatório do Banco do Brasil, 1918, pp 104ff.

^{2/} In his A Reforma Monetaria, he had stated: "Among fiduciary issues I prefer the banking type; but I do not consider it to be indispensable for its good quality that it should correspond always to an equal metallic backing in the vaults of the issuing Banks as sustained by the bullionists... The essential condition of the good fiduciary currency is the limitation of its quantity to the real needs of circulation". Cf. Cavalcanti, A.; A Reforma Monetaria; Imprensa Nacional, Rio de Janeiro, 1931, p 37.

^{3/} Cf. Relatório do Ministro da Fazenda, 1919, pp V and XXIII.

^{4/} Bello, J.M.; Historia da Republica, 1889-1934; Cia Editora Nacional, São Paulo, 6a. edição, 1964, pp 242ff.

In the following August, the usual seasonal strain on the banking system's liquid resources was made worse by the slow growth of the money stock against a background of accelerating inflation and domestic boom ^{1/}, leading several business associations to press the government for an early implementation of the Bank's rediscount operations ^{2/}. Although opinion as to details of the reform still diverged widely and a fully fledged government plan which could command broad political support - if there was any such plan at that stage - was certainly still in its infancy, the government reassured business interests of its intentions to reform the Bank of Brazil ^{3/}. Finally, in May, 1920, definite steps were taken when the Bank's yearly shareholders meeting approved a resolution - obviously reflecting a government decision as majority shareholder - to amend its statutes ^{4/}. A committee of eminent Brazilian bankers and academic economists chaired by the President of the Bank was set up to report on the reform and a final draft to be submitted to Congress was published in August ^{5/}. The basic lines of the report reproduced the proposals put forward by Homero Batista during the war, suggesting an increase in the Bank's capital to build up a gold or foreign exchange reserve against which inconvertible bank notes could be issued up to three times its value through rediscount of short-term bills.

1/ "At the beginning of the second half (of 1919) we started to note that the great business boom was leading the (Rio) money market to a position of scarcity of numeraire, which afterwards began to be noted in all markets with the rise of discount rates and a general fall in deposits... its prime cause being the cash withdrawals to the interior of the country where almost all harvests are carried out during the second half of the year". *Relatorio do Banco do Brasil, 1920*, p 3. See also Tables 3 and 8.

2/ *Relatorio do Banco do Brasil, 1920*, p 8. See also Viana, V.; *O Banco do Brasil: sua formagão, seu engrandecimento, sua missão nacional*; *Typ. do Jornal do Comercio, Rio de Janeiro*, pp 805-806.

3/ *Relatorio do Banco do Brasil, 1920*, p 8.

4/ *Relatorio do Ministro da Fazenda, 1920*, pp 289-290.

5/ Pacheco, C.; *Historia do Banco do Brasil (Historia Financeira do Brasil desde 1908 até 1931)*, Vol. IV, Banco Central do Brasil, Brasília, 1978, p 129. The works of the Committee are printed in *Relatorio do Ministro da Fazenda, 1920*, pp 291ff.

However, in the second quarter of 1920, activity levels and consumer demand were already falling in the United States and the United Kingdom ^{1/}. From the middle of the year recession spread slowly in the United States and restrictive monetary policies adopted in both the world's financial centres triggered a deep worldwide depression and a precipitous fall in world prices from the second half of the year ^{2/}.

The world price slump had a shattering effect on the value of Brazilian exports ^{3/}. After the explosive post-war increase, world coffee prices had already fallen from their abnormally high levels during the last quarter of 1919 when the flowering of the 1920 crop showed a remarkable recovery in the vitality of São Paulo coffee trees ^{4/}. Although this fall was halted in the first months of 1920, when the world price boom broke in the second quarter and credit was tightened in the United States, American coffee imports almost ground to a halt ^{5/}: New York coffee prices collapsed in July - just when the new crop was arriving at the ports - and a headlong fall continued through to the early months of 1921 for, in the prevailing bullish expectations in consuming centres "nobody was prepared to make even the smallest speculative purchases of the

^{1/} Aldcroft, D.H., op. cit., pp 67-68.

^{2/} League of Nations, op. cit., pp 8 and 19-20. See also, Friedman, M. and A.J.Schwartz; A Monetary History of the United States, 1807-1960; N.B.E.R. Studies in Business Cycles n^o 12; Princeton University Press, Princeton, 1963, pp 231-235 and Howson, S.; Domestic Monetary Management in Britain 1919-1938; University of Cambridge, Department of Applied Economics Occasional Paper n^o 48, Cambridge University Press, Cambridge, 1975, pp 23-26.

^{3/} See Table 1.

^{4/} Rowe, J.W.F., London and Cambridge Economic Service, Special Memorandum n^o 35, Studies in the Artificial Control of Raw Material Supplies n^o 3, Brazilian Coffee, Londres, 1932, p. 22.

^{5/} As noted by a contemporary authority "the depressing action exerted by the great Federal Reserve banks, restricting the customary credit granted to the large coffee importing firms, forced the latter to abandon and disorganise the market even at the cost of enormous losses". Ramos, A.; A Intervenção do Estado na Lavoura Cafeteira, D.N.C., Rio de Janeiro, 1924, p 511, quoted in Delfin Netto, A.; op. cit., pp 100-101.

momentarily unwanted supplies and so the price fell and continued to fall in a way which suggested that no one would be tempted to buy even if it reached zero" ^{1/}.

On the other hand, the great rise in Brazilian import orders since the end of the war, induced by the extremely good profit expectations afforded by the domestic boom and the large post-war exchange-rate appreciation ^{2/}, was beginning to be felt in a steep rise in the value of imports and "during the second half of 1920 (exporters shipped) all the accumulated orders sent indiscriminately by Brazilian houses during the times when goods were difficult to secure" ^{3/}.

The growth of imports had already caused a trade deficit in May 1920 but after that, the perverse scissor movement of exports and imports opened a yawning deficit in the second half of the year and the exchange rate suffered a heavy and drawn out depreciation ^{4/}. The problems created by the exchange rate collapse of 1920-1921 for the management of the already unbalanced Federal budget position plus the severe blow delivered by the world price slump to the coffee industry - as international coffee prices fell considerably faster than the external value of the milreis in 1920 - would profoundly alter the conduct of economic policy in Brazil.

^{1/} Rowe, J.W.F., op. cit., p 22.

^{2/} Relatório do Banco do Brasil, 1921 p 6. Another inducement to the growth of imports may have been the erosion of the protective effect of the Brazilian tariff during the war, when the adjustments made in the specific milreis rates through increases in the gold tariff quota did not offset the joint effects of world inflation and post-war exchange-rate appreciation. The relation between tariff revenue and the value of imports fell from an average of 39% in 1910-1912 to 16% in 1919. Data from Villela, A.V. and W. Sanigon; Política do Governo e Crescimento da Economia Brasileira, 1889-1945; IPEA/INPES, Rio de Janeiro, 1973. Tables IV and VII.

^{3/} Lousen (São Paulo Consul) to Secretary of State, 6.6.1921, in US NARS-30, 832.51/434.

^{4/} See Table 1.

II - World slump and the support of coffee prices in 1921-1922

When coffee prices collapsed in 1920, the government of São Paulo immediately came to the rescue of the industry for, after the undeniable success of the 1917 valorization ^{1/}, there was not a single voice in the State to doubt the wisdom of price support schemes, particularly as the crisis was correctly seen as the result of temporarily abnormal demand conditions. Credit for spot purchases were granted in August ^{2/} but the State's disposable resources soon proved insufficient to produce a substantial effect on prices given the magnitude of the disequilibrium ^{3/}.

Meantime, as described above, the new government was earnestly moving towards the reform of the Bank of Brazil. However, in the panic developing during the third quarter of 1920 the Paulistas could not afford tying the urgent question of financial help to coffee to the successful completion of the necessarily drawn out deliberations still needed before the reform could take place. Thus, in early September, Carlos de Campos, the Paulista leader of the government majority in the Federal Chamber proposed a Bill to allow the issue of Treasury notes on the lines of the October, 1918 issue, clearly with the intention of helping the coffee sector ^{4/}.

^{1/} Cf. Tannay, A. d'E., Pequena Historia do Café no Brasil (1727-1937), D.N.C., Rio de Janeiro, 1945, p 268.

^{2/} S.A.J., 28.8.1920.

^{3/} Total State government purchases to the end of 1920 totalled just 300 thousand bags. Schurz, W.L., Valorization of Brazilian Coffee; Supplement to Commerce Reports, Trade Information Bulletin nº 73. October 16, 1922; United States Bureau of Foreign and Domestic Commerce, U.S.G.P.O., Washington, 1922, p 2.

^{4/} S.A.J., 25.9.1920 and 9.10.1920. See also Relatório do Ministro da Fazenda, 1920, 113-135.

Even though this proposal was put forward as an emergency measure, its debate in the Chamber brought about intense pressures from coffee interests to obtain Federal government financial help to organise coffee price support on a more permanent basis than hitherto. The arguments advanced in that respect by Sampaio Vidal and Cincinato Braga, two leading Deputies from São Paulo, is probably the best summary of the Paulistas position on the issue ^{1/}. They denounced the heavy losses that short-term demand fluctuations recurrently inflicted on the industry and the large speculative profits made by importers given the much greater stability of roast coffee prices in consuming centres, criticised the behaviour of the foreign-controlled leading export houses, and urged the creation of a permanent scheme to regulate world supplies "so that we can assume the role... of distributors of the produce throughout the months of the year, exporting it according to our conveniences, combined with the needs of world demand" ^{2/}.

The course taken by the debates in the Chamber was bound to cause considerable uneasiness in the government. Firstly, there is evidence that, at this stage, the government was not yet convinced of the necessity of sponsoring a price support scheme at all ^{3/}. Furthermore, the institutionalization of coffee valorization under a Federal umbrella was not the only issue at stake. There was also the fundamental

^{1/} Documentos Parlamentares - Meio Circulante, 129 Volume: Emissão de 1920, Typ. do Jornal do Commercio, Rio de Janeiro, 1922, pp 3-11 and 61-92.

^{2/} Idem.

^{3/} As late as December, 1920 the Minister of Finance answered a written request for Federal support to coffee markets from the Rio Commercial Association, stating that although the government "sees with deep feelings the fall in prices of several Brazilian products, it would be senseless to throw itself in the task of supporting them in world markets through commercial operations". Letter of H. Batista to the President of the Rio Commercial Association, 7.12.1920, in Relatório do Ministro da Fazenda, 1920, pp 183-195.

question of the monetary consequences of Federal government help to the coffee industry. At this moment to finance coffee price support through a new ad-hoc issue of Treasury notes would probably have a demoralising effect on the government's carefully conducted banking reform plan. So, through direct interference of the President, who preferred to go ahead with the reform of the Bank of Brazil ^{1/}, the Bill was withdrawn before being voted on in the Senate.

However, in a protest against the President's interference Carlos de Campos resigned his position as leader of the majority in the Chamber, pushing the government to the brink of a political crisis. The prospect of an open clash with São Paulo and the growing realization that the recessive tendencies following the break of the boom, coming on top of a prolonged liquidity squeeze since 1919 ^{2/} - which was aggravated by delays in payments to government suppliers ^{3/} - could lead to a crisis of serious consequences unless immediate relief was provided for the banking sector ^{4/}, induced the President to retreat towards a more conciliatory position. In October, he went to São Paulo ^{5/} and after brief negotiations, Carlos de Campos resumed his functions at the Chamber and a compromise solution was drafted in the Senate, proposing an "emergency" issue of 50 thousand contos of Treasury notes and creating a provisional rediscount Department at the Bank of Brazil with powers to issue fiat bank notes against short-term trade bills held by the banks up to a limit of 100 thousand contos - which could exceptionally be lifted by the President of the Republic -

^{1/} Morgan to Secretary of State, 20.9.1920, in USNA RG-59, 832.00/198.

^{2/} See Table 3.

^{3/} KC-JC, 1920, p 3.

^{4/} Private sector complaints for an easing of credit conditions had been mounting for some time and even pressures for a moratorium had already begun. See Morgan to Secretary of State, 13.5.1921, in USNA RG-59, 832.51/217 and S.A.J., 25.12.1920.

^{5/} S.A.J., 10-10-1920.

"until the creation of a special bank for this purpose" ^{1/}.

This solution was a fine example of political compromise. On the one hand it avoided a confrontation between the government and the coffee interests while still preserving the former's position against direct involvement in a price support scheme, since the creation of a lender of last resort was a solution dear to the coffee industry and this temporarily defused their pressures for direct Federal support. In fact, during the September debates in the Chamber, the weakest point in the organization of the coffee sector was singled out by Sampaio Vidal as the lack of a "proper banking organization" to finance the retention of large excess supplies ^{2/}. This view reflects a relation seen for many years past by national coffee interests between banking reform - i.e., the creation of rediscount facilities - and the stability of the industry which can be easily understood by looking into some basic features of the financing mechanisms prevailing in the coffee industry.

Since the first half of the 19th century, when coffee plantations moved from the outskirts of the city of Rio de Janeiro to the uplands of the States of Rio de Janeiro and São Paulo along the banks of the Paraíba river, the coffee industry developed a system of commercial and financial intermediation based on commission agents known as *comissarios*. These men formed the basic link between the planters and exporting houses and were responsible for providing the planters with the funds needed to finance production until the marketing of the

^{1/} See Law 4.182, of 13.11.1920. For the rationale of the proposed amendment see *Relatorio do Ministro da Fazenda*, 1920, pp 135ff.

^{2/} *Idem*, and S.A.J., 9.10.1920.

crop ^{1/}. As soon as the farmer had picked, dried, cleaned and sacked his coffee, he would send it to his comissario who usually would grant him cash advances to the extent of 60% of the expected value of the crop. This cash would meet the planter's requirements during the period his coffee had not been sold to an exporter in the Brazilian coffee exchanges, which, in a normal year, usually did not exceed six months, the bulk of one year's crop being sold by the end of December ^{2/}. To grant these loans, the comissario would simply overdraw his current account or borrow against a simple promissory note from his banker in Rio or Santos and even with the growth of a reasonably well developed system of branch banking in the southern coffee-producing region during the 'twenties, the position of the comissarios as immediate suppliers of the bulk of the working capital needed by the planters would remain basically unchanged ^{3/}.

The system of private and predominantly national banking engaged in financing the marketing of the coffee crop did not have, however, enough financial muscle to effectively help protecting prices in case of adverse world market conditions. In order to do that these banks would have to assume the risk of taking illiquid positions by carrying large amounts of coffee bills during an unpredictably long period, a policy they were in no position to afford, particularly since the competing demands for short-term

^{1/} The relation between farmers and comissarios changed over time as the development of transportation and credit facilities continuously drew country and city together. However, in the 'twenties, the comissario, besides being the farmer's sales and financial city agent, still usually forwarded supplies to the farms and often "housed, fed, entertained and even diapered both the farmer and many of his numerous relatives when they were in the city". McCreery, W. G. and M. L. Bynum; *The Coffee Industry in Brazil*; U. S. Department of Commerce, Trade Promotion Series no 92, U.S. G. P. O., Washington, 1930, p 37.

^{2/} Rowe, J. W. F., *op. cit.*, p. 40.

^{3/} McCreery, W. G. and M. L. Bynum; *op. cit.*, p 39.

credit from other agricultural sectors also grew in the second half of the year. The notion that the existence of a lender of last resort would allow an increase in the credit creation capacity of domestic banks, strengthening the ability of national commercial intermediaries to carry larger stocks at times of unfavourable market conditions was, indeed, what led the politically influential large farmers and comissarios to lend their strong support to the campaign for banking reform.

On the other hand, the creation of the Rediscount Department could provide the necessary relief to the credit squeeze while still allowing the government to avoid proclaiming the abandonment of its banking reform plan. The essential feature of the government's plan was - as the debates on monetary reform since the war illustrate - to grant powers to the Bank of Brazil so that it could control the monetary base through rediscount operations, an instrument of monetary policy which was considered fundamental to a more "elastic" and "self-liquidating" currency. The new proposal drafted after the political crisis of September, 1920, only diverged from the government's "ideal" reform as expressed in the August expert committee's recommendations in that, in the latter, the Bank notes issued through rediscount operations would have a fractional gold or foreign exchange backing while now Rediscount Department notes would be totally fiduciary. However, as the President himself admitted, the old plan had, anyway, to be abandoned because of the effects of the acute balance of payments disequilibrium on the level of official reserves ^{1/}.

The impending crisis accelerated parliamentary deliberations over the new government proposal and deep divergencies remained over important details relating to the operation

^{1/} See Mensagem Presidencial de 1921, in Diario Official, 4.5.1921, and Jornal do Commercio, 13.12.1920.

of the new Rediscount Department ^{1/}. Some of its features were criticised by banking circles and it was not implemented at once, leading to strains between President Pessoa - who endorsed some of the criticisms voiced against the law - and the President of the Bank of Brazil ^{2/}. As a result. J. M. Whitaker, a São Paulo banker was appointed in December to the presidency of the Bank and authorized to draft new operational regulations for the Rediscount Department ^{3/}. On December 30, he presented his draft project of new regulations which, in spite of an unfavourable report by the Senate Finance Committee, became law in the following day ^{4/}. They provided that the Rediscount Department would finance its operations through Treasury notes supplied at the request of the Bank's President and fixed the eligibility

^{1/} As Augusto Ramos, the President of the Rio Commercial Association sharply observed during the debates on the Bill, "the creation of the Rediscount Department is a result of the pull of two diverging forces: the first comes from commerce, industry and agriculture, which demand cash to be able to move, to save themselves; the second stems from the casual alliance of two groups: those who, by a matter of principle, attack all and every note issue and those who, even while recognising and accepting the need to help those who complain, saw in the (Rediscount) Department a strange creature... a mock Bank of Issue with all its inconveniences and not a single of its great advantages". *Jornal do Comercio*, 4.11.1920.

^{2/} See *Magem Presidencial de 1921*, in *Diario Official*, 4.5.1921, and *Chilton to Cruzon*, 27.12.1920, in FO371/5535, A582/263/6.

^{3/} In spite of his reservations in relation to the political character of most of Bank of Brazil's operations and to its strong links with the Treasury, Whitaker was a strong supporter of the creation of a lender of last resort. His main criticisms against the law creating the Rediscount Department were that it subordinated its operations to the decision of an administrative committee "becoming dependent on collective deliberation operations of a reserved character demanding urgent solution", and that a clause obliging the redemption of the bills rediscounted to be effected in the new Bank notes to be issued by the Department, would limit the effectiveness of the instrument and cause a "duplication of circulation (which) could not fail to lead to suspicion by the public". Whitaker, J.M.; *O Milagre de Minha Vida*, Editora Lucitec, São Paulo, 1970, pp 33ff.

^{4/} *Idem*, p 39. See Law n^o 4.230, of 31.12.1920, for details.

to the Department's portfolio to "legitimate" trade bills with less than 120 days to maturity at the time of rediscount. Some by-laws were still issued in January and on February 1st. the Rediscount Department began its normal operations 1/.

In the early months of 1921 the depression which had started in mid-1920 was reaching a critical stage. The greatest worries came from the persistence of the trade deficit in spite of a large exchange-rate depreciation, and from the expected damaging effects of the exchange-rate collapse on Federal Government financial equilibrium and domestic price stability. The depreciation of the milreis also prompted strong protests from Commercial Associations on behalf of importers as goods continued to accumulate at the customs warehouses in spite of exemption from import duties granted in the 1921 budget for goods collected before the end of March 2/, and throughout the first quarter of 1921 Bank of Brazil board meetings had their time almost entirely taken up by discussions on the exchange position 3/. In January, the government announced a decision to establish "official supervision" over foreign exchange operations on a permanent basis to curb speculative transactions which, although considerably modified after a flurry of protests from foreign bankers 4/ were eventually implemented in March, while negotiations for a large Federal loan in New York were progressing towards a successful completion 5/.

1/ Decree nº 14.635, of 21.1.1921 and Pacheco, C; op. cit., p 174.

2/ S.A.J.; 22.1.1921.

3/ Pacheco, C.; op. cit., p 152.

4/ See the relevant files in FO 371/5536 and S.A.J., 29.1.1921.

5/ The loan negotiations started in October, 1920 for a 90-day, US\$ 10 million credit for stabilization purposes. However, as the Brazilian need for heavier ammunition became apparent and New York interest rates were considered high, the government turned to Rothschilds. As the latter could not see their way to giving better terms than the Americans negotiations were reopened in the United States. On this see Dillon, Read and Co. to Secretary of State (telegram), 21.10.1920, in 24.5.1921 in USNA RG-59, 832.51/224.

The government's increasing anxiety over the balance of payments position did not, however, affect its uncompromising stance against coffee price support during the first two months of 1921, in spite of renewed pressures from the coffee trade ^{1/}. In fact, the relief provided to the banks by the emergency issue of Treasury notes at the end of 1920, plus further purchases made by the São Paulo government in early 1921 had a slight beneficial effect on prices and, in February, after the end of the marketing of the mild crops, New York prices stopped falling ^{2/}. However, when the effect of a "heavy bear raid" ^{3/} in March sent coffee prices to new record lows ^{4/} the Federal authorities finally came to realize that direct intervention in coffee markets was an essential complement to its chief objective of redressing external balance.

There can be no doubt that the Federal government's decision to support coffee prices in late March, 1921, was taken on exchange-rate policy grounds. Since the reestablishment of peacetime world trade conditions, non-traditional products were progressively vanishing from the list of Brazilian exports while coffee regained its prominent place - accounting, in 1920, for about 50% of value of exports in spite of the heavy fall in prices. As President Pessoa later publicly justified this step, "coffee represent the biggest share in the global value of our exports and is, therefore, the product which provides more gold to the settlement of our foreign obligations... the defense of coffee thus constitutes a national problem the solution to which is vital for a sound economic and financial policy in Brazil" ^{5/}. Furthermore, the decision

^{1/} See, for instance, S.A.J., 15.1.1921.

^{2/} See Table 1.

^{3/} Rowe, J.W.F., op. cit., p 22.

^{4/} See Table 1.

^{5/} Mensagem Especial do Sr. Presidente da Republica ao Congresso Nacional, em 17.10.1921, in Documentos Parlamentares - 1910 Circulante, 119 volume: Defesa da Produção Nacional (1921-1922). Typ do Jornal do Comercio, Rio de Janeiro, 1921, p. 3.

solved a fundamental conflict in government policy objectives for, without supporting prices, the efforts to halt the headlong fall in the external value of the milreis would submit the coffee industry to an unbearable strain ^{1/}. It should be stressed, however, that the March, 1921 valorization decision still implied no permanent commitment to the protection of coffee prices as canvassed by São Paulo. Federal Government action was limited to authorizing the Treasury to endorse coffee bills drawn by a large private São Paulo coffee broking firm - which would act as government agents for spot purchases in Brazil - and to instructing the Bank of Brazil to discount them, with the help of the newly created Rediscount Department, if necessary.

Direct Federal intervention helped preventing a further fall in prices from April but failed to bring about any recovery until the second half of the year and balance of payments difficulties continued in the second quarter. In early May a panic almost developed in the Rio foreign exchange market when the Bank abandoned its attempts to hold the rate at 8 d ^{2/} - i.e., 50% below the wartime rate - and a proposal appeared in the Senate pressed by importers, for the declaration of a moratorium ^{3/}. However, the New York loan negotiations, which started in late 1920, were nearing completion and the proposal was withdrawn on government instructions on the grounds that the relief provided by the loan plus the eventual sale, at a higher price, of the coffee stocks then being bought would improve the exchanges ^{4/}.

^{1/} At the end of March, 1921 milreis prices of Santos 4 type had fallen to 45 milreis per bag as compared with 106 milreis in December, 1920. See Taunay, A. d'E.; op. cit., pp 373 and 378.

^{2/} Banco do Brasil - Atas das Reuniões de Diretoria, meeting of 4.5.1921.

^{3/} RC-JC, 1921, p 19.

^{4/} Morgan to Secretary of State, 24.5.1921, in USNA RG-59, 832.51/224.

In fact, later in May, the first of two US\$ 25 million tranches was issued in New York and, with the issue of the second tranche in August and the reappearance of a trade surplus in the third quarter, the Bank could temporarily regain control over the exchanges ^{1/}.

In the first half of 1921, however, the great Federal budget disequilibrium was becoming almost unmanageable ^{2/}.

Although summary data available on Federal government credit operations ^{3/} do not allow an adequate assessment of the ways in which the large post-war budget disequilibrium was financed, there is evidence that since early in 1921 it was becoming increasingly difficult to finance the Federal cash deficits and, in spite of having recourse to the issue of domestic bonds on an unprecedented scale ^{4/}, the Treasury had to rely on short-term advances from the Bank of Brazil ^{5/}.

The immediate consequence of the growth of government short-term indebtedness to the Bank of Brazil was to reduce the latter's ability to finance the coffee price support scheme by causing a quicker exhaustion of the Rediscount Department's issuing capacity. In fact, formally, Treasury drafts, issued against the Bank ^{6/} as guarantee when the

^{1/} See Table 1.

^{2/} See Table 4. The reasons for the severe Federal financial disequilibrium from 1919 are discussed below, in Section III.

^{3/} As presented in the Ministry of Finance Reports, since the fuller consolidated Balanços Gerais da União were not published between 1915 and 1923.

^{4/} The outstanding value of Federal long-term domestic debt rose by 20.7% in 1921 alone. See Ferreira, E.F.; *A Administração da Dívida Pública e a Política Monetária no Brasil*; IBNEC, Rio de Janeiro, 1974, p 12.

^{5/} See H. Batista to J. M. Whitaker, 11.3.1921, in Whitaker, J.M.; *op. cit.*, pp 107-108.

^{6/} The discussion which follows concerns only ordinary government debt to the Bank on account of excess budget expenditures. It does not apply to debt arising out of the Bank's acceptance of Treasury endorsed coffee bills since these, as "commercial" paper could be rediscounted by the Department.

former went beyond the legal borrowing limit on ways and means advances, could not statutorily be accepted by the Rediscount Department. However, the Department, although controlled by the Bank of Brazil, was created as a legally independent institution and the Bank had access to its rediscount window. Thus, provided that the Bank of Brazil had enough eligible bills in its discount portfolio, it could, if necessary, take them to rediscount, thus making room to accommodate the Treasury's financial demands. The use of this expedient to finance the current budget deficit had, however, important constraints. One was the amount of eligible bills in the Bank's portfolio relative to Treasury needs. Another was the loss to the Bank's income caused by having to pay a penalty rate for money it was lending to the government at a lower interest ^{1/}. The third and more important, was the need for maintaining the relation between the value of the Rediscount Department outstanding note issues and its legal upper limit below a safe figure so as not to affect the confidence of the banks now having large deposits with the Bank of Brazil ^{2/}; even though the Department's legal issuing limit could be raised by Executive action, it was a politically difficult decision and the Bank fought to avoid a dangerous reduction in the slack of unused Rediscount Department's issuing rights.

In March, a dangerous rise of Treasury drafts on the Bank was halted by Whitaker's protests, who went as far as to send his resignation to President Pessoa but was convinced to stay on by assurances from Homero Batista that the Treasury would use the proceeds of the 1921 New York loan,

^{1/} The President of the Bank was very sensitive to that and on one occasion in 1922 refused to follow the Minister of Finance's instructions to raise the rediscount rate on those grounds. See J.M. Whitaker to H. Batista, undated, in Whitaker J.M.; op. cit.; pp 106-107.

^{2/} Voluntary deposits by large national banks at the Bank of Brazil began to be made after the creation of the Rediscount Department and the policy of attracting them was actively pursued by Whitaker. In this see below, p 36.

then in the final stages of negotiation, to make good its debt to the Bank ^{1/}. However, in spite of the use of part of the proceeds of the New York loan to settle Treasury obligations to the Bank and of a Cabinet decision taken in June to drastically reduce expenditure on ongoing government works ^{2/}, Federal government financial demands remained high. By mid-1921 the growth of Treasury short-term indebtedness to the Bank was again creating difficulties to the financing of the additional coffee purchases still needed to support prices without resort to inflationary note issues from the Rediscount Department. On June 20, the latter's legal issuing limit had to be doubled to 200 thousand contos ^{3/} and, in the first half of July only, the amount of outstanding Rediscount Department issues rocketed from 82 to over 150 thousand contos ^{4/}. These difficulties were the more dramatic since the government had already bought the remainder of the 1920 crop without yet clearly reversing the falling price trend, while the 1921 crop, estimated as being larger than the previous year's, was beginning to be marketed.

In mid July, when the total value of coffee bills endorsed by the Treasury and accepted by the Bank reached 270 thousand contos ^{5/}, the President of the Bank of Brazil - who had never been a wholehearted supporter of the valorization decision ^{6/} and had insistently warned the

^{1/} Whitaker, J.M.; op. cit., pp 36-37.

^{2/} S.A.J., 2.7.1921.

^{3/} Decree nº 14896, of 20.6.1921.

^{4/} See Banco do Brasil S.A. - Balancetes da Carteira de Redescontos, in Diario Oficial, several issues.

^{5/} Testimony of Dr. Honoro Batista, ex-Minister of Finance, on coffee valorization operations undertaken during the government of Dr. Epitacio Pessoa, made before the Senate Finance Committee on 24.11.1922, in Documentos Parlamentares: Meio Circulante 169 volume, Typ. do Jornal de Commercio, Rio de Janeiro, 1924, p 1031.

^{6/} As he put it in his memoirs: "Decidedly against official intervention, I was also opposed to this decision at the beginning, and for a reason, knowing the weakness of the Bank of Brazil, I could have no illusions as to the resources upon which I could draw on to finance an operation of such a vast scale". Whitaker, J.M.:

Minister of Finance of the dangers of the situation - informed President Pessoa that "the Treasury drafts continue to be very large and, for that reason, I (can) not see the way to fulfilling the insistent requests for cash that (the official coffee brokers) make to me" ^{1/}. President Pessoa immediately summoned him to a meeting with the Minister of Finance and the government broker to discuss the issue and eventually the Bank's views prevailed: rediscount of coffee bills and, consequently, the growth of Rediscount Department note issues, was suspended in July ^{2/} and Homero Batista was instructed by the President to scrape all possible sources of revenue to allow the Bank to go on with the purchases ^{3/}.

Although this measure could only be proposed as a stop-gap solution, since the Treasury was in no position to finance the prolonged holding of stocks out of current revenue without conflicting with its other pressing objective of reducing the Federal budget deficit, it is illustrative of the government's determination not to abandon market intervention at this stage, as it would not only be politically damaging but cause a large capital loss on the operations already undertaken ^{4/}.

When financing coffee valorization through the Bank of Brazil ran into trouble, Brazil's external position was still very vulnerable. The authorities had not yet halted the continuous exchange depreciation begun in early 1920

^{1/} J.M. Whitaker to E. Pessoa, 15.7.1921; in Whitaker, J.M. op. cit. p. 111.

^{2/} See Relatório do Banco do Brasil, 1922, p 10, and Table

^{3/} Whitaker, J.M.; op. cit., p. 36.

^{4/} As the Minister of Finance later justified the decision to go on buying coffee after the Bank of Brazil temporarily discontinued the discount of coffee bills, the government "could not stop the operations without losses to all concerned". Testimony of Dr. Homero Batista etc.; cit., p 1031. Emphasis added.

which, by July 1921, left the exchange rate at 60 percent of its February 1920 peak. The government feared that a fall in the volume of exports caused by official coffee purchases could have an adverse short-term effect on the balance of trade and this would lead it into attempting to get financial accommodation abroad to go on with the purchases. Foreign credits, as the Minister of Finance saw it, would allow the government "to support purchases and to liquidate the advances made by the Bank and, at the same time, relieve the pressure on the exchanges which was aggravated by the retention of bills of exchange as a counterpart of the great coffee stocks accumulated" ^{1/}.

In fact, negotiations for a foreign loan seem to have started at once for, in early August, the international financial press was already mentioning rumours of a large London coffee loan to Brazil ^{2/} and an emergency bill was rushed through Congress, authorising the Treasury to warrant its coffee stocks in foreign currency operations, as would be necessary to guarantee an eventual coffee loan ^{3/}. However, the first reliable estimates of the size of the 1922 crop would only become available in late September and it was unlikely that potential lenders would give any firm commitment until later in the year.

In the meantime, market intervention by the Brazilian government finally began to bear fruit. World coffee prices started a sustained recovery from August and the trade balance went again into surplus in the third quarter of 1921 ^{4/}. If these early signs of a brighter outlook for

^{1/} Idem.

^{2/} The Commercial and Financial Chronicle, 6.8.1921.

^{3/} Decree nº 4315, of 28.8.1921.

^{4/} See Table 1. The authorization given by the Brazilian government for the purchase of 700 thousand bags in July under a bilateral payment agreement may have given an additional fillip to prices. This agreement was part of a larger package signed in 1920, which included granting preferential treatment to certain Belgian exports to Brazil, a privilege until then only granted to the United States. On this see The Times, 2.8.1921 and the relevant files in FO 371,4432 and 5534.

coffee prices could not be counted upon as a clear indication of the eventual success of the valorization scheme by those aware of its financial difficulties, for the sake of propaganda they came as a blessing to the government as, indeed, did the simultaneous improvement in exchange markets ^{1/}, since redressing external balance was, after all, the leitmotif of the March, 1921 decision to support coffee prices.

President Pessoa used these first positive results with great political skill. In the second half of August he went on a tour through São Paulo, campaigning to boost confidence in the maintenance of the existing valorization programme ^{2/} and to revive the old Paulista idea of a "permanent", Brazilian controlled, institution to tame the vagaries of world coffee markets ^{3/}. As far as coffee policy was concerned, the aims of this move were twofold ^{4/}. First, there was an obvious intention to affect price expectations by reaffirming the Federal government's determination not to abandon market intervention. Secondly, it was a reinsurance policy, since indicating the possibility of government

1/ See Table 1.

2/ As he stated before the Santos Commercial Association, "the government has the necessary resources and will proceed firmly and resolutely in the policy begun in April, which will end only with final success". See Diario Official, 25.8.1921.

3/ As he spoke at the São Paulo Municipal Theatre before representatives of the coffee trade: "We produce 75 per cent of the coffee consumed in the world and a country which holds 75 per-cent of an unperishable product... only through lack of will or courage can fail to dictate its laws to consumers and upon it build the basis of its prosperity and wealth.... If the Federal Government can have any merits it is that of continuing to affirm that the coffee question must be solved by permanent devices and not through measures of a temporary and passing character". Diario Official, 25.8.1921.

4/ Pessoa's tour also aimed at obtaining São Paulo support to go on with the heavy expenditures required by the government's extensive anti-drought works then being carried out in the Brazilian Northwest.

sponsorship to a scheme placing the control of coffee markets on a permanent basis could be vital to get political support if arranging foreign credits proved difficult and the government had to finance additional purchases through inflationary means.

Thus, in October, as no foreign financial aid was forthcoming, the President sent a special message to Congress proposing the creation of a permanent council to manage coffee valorization operations, suggesting that it should be presided over by the Minister of Finance - with the Minister of Agriculture as Vice-President plus three other members chosen among persons linked with the coffee trade - and provided with a capital of 300 thousand contos made up of an ad-hoc issue of Treasury notes plus eventual profits from its operations ^{1/}. The Paulista deputy Sampaio Vidal, a leading defendant of official intervention in coffee markets since the 1920 debates was put in charge of preparing the draft Bill in the Chamber Finance Committee.

The government was not, of course, unaware that its proposal to finance the holding of coffee excess supplies through fiat note issues would not be taken lightly by orthodox opinion in the Chamber. When the draft Bill came out of the Finance Committee on October 29, it already had ex-Finance Minister Antonio Carlos' minority vote against it ^{2/} and during the debates it encountered fierce opposition led by Mario Brant, also a deputy from Minas Gerais ^{3/}.

These debates, mostly between São Paulo and Minas Gerais representatives, are probably the best summary available of the diverging views then existing on the monetary and

^{1/} For the full terms of the presidential message, see Documentos Parlamentares: Meio Circulante, 14^o Volume, cit., pp 4ff.

^{2/} *Idem*, pp 39-44.

^{3/} *Ibidem*, pp 61ff.

balance of payments effects of alternative ways of financing coffee price support schemes, a division which would last until the mid-'twenties. At this stage, the Paulistas feared that to raise a foreign loan backed by the existing government stocks could lead to the loss of control over coffee price policy to foreign creditors as happened in 1908 and thus preferred to finance the scheme with domestic means, which could only be done in Brazil through increases in high-powered money. Accordingly, they tried to minimise the effects of the proposed note issue on internal and external equilibrium by pointing to its "self-liquidating" nature, since the Bill provided that the Treasury notes issued should be withdrawn from circulation when the coffee stocks were sold. On the other hand, the orthodox opposition to the Bill favoured financing the scheme through foreign loans and argued that even a "transitory" increase in the monetary base could be destabilizing, given the large note issues which might be needed to make price support effective and the long period possibly required to liquidate the stocks bought ^{1/}.

Although the proponents of the Bill made important concessions to get the support of the lesser non-coffee producing States, discussions dragged on throughout November ^{2/}. By this time, however, estimates of a short crop for 1922 and the sustained recovery of coffee prices had immensely increased the chances of raising abroad the funds needed to relieve the Bank of Brazil from its glut of coffee bills. A renewed weakening of the exchanges after the brief recovery in August and September made it even more

^{1/} Ibidem, passim.

^{2/} The final draft of the Bill eventually put to the Chamber's vote proposed the creation of an Institute for the Permanent Defence of National Production, with 50 thousand of the proposed 300 thousand contos note issue being earmarked for expenditure in "other national products". Ibidem, pp. 220-221 and Taunay, A. d'E.; op.cit., pp. 373-374.

attractive from the Federal government's point of view and, in late November, through the agency of the Brazilian Warrant Co., a British-owned Brazilian coffee exporting firm ^{1/}, and Schroeders, the São Paulo London bankers, the Brazilian Treasury obtained short-term credit lines in a pool made up predominantly of London discount banks, against which it could issue three-months finance bills warranted by its coffee stocks ^{2/}. These short-term drafts were issued to the tune of £5.5 million - the equivalent of 170 thousand contos at the ruling exchange rate - and the proceeds were credited by the Treasury to the Bank of Brazil, partly to buy almost the whole of the still existing excess supplies ^{3/}, partly to redeem a fraction of the coffee bills arising from previous purchases, thus enabling the Bank to bring down to very small figures the outstanding Rediscunt Department note issue during the first quarter of 1922 ^{4/} and providing it with enough foreign exchange reserves so as to temporarily regain control over the exchange market.

When the last purchases ended in December 1921, valorization stocks amounted to 4.5 million bags, while estimates for the 1922 crop were at least 11 million bags ^{5/}. Since Brazilian coffee exports in 1921 totalled 12.4 million bags the government could not - barring an unlikely sharp recovery in world demand - dispose of its stocks early in 1922 so as to repay the short-term sterling advances without an adverse effect on prices. So, although the London credits came as manna from heaven to the government, they could not be counted upon as a final solution to the coffee problem unless they could be funded.

^{1/} See Brazilian Warrant Co., Report to Annual Shareholders Meeting, in S.A.J., 13.5.1922.

^{2/} The Times, 6.12.1921 and Tilley to Foreign Office (Telegram), 1.12.1921, in FO 371/5543, A5914/8914/6.

^{3/} Rowe, J.W.F., op. cit., p 22.

^{4/} See Table 3.

^{5/} The 1922 crop amounted to 10.2 million bags but it was "somewhat overestimated until later on when picking was well advanced". Rowe, J.W.F., op. cit., p 23.

The Brazilian authorities were, of course, well aware of that and negotiations for a longer coffee loan started with Schroeders, Rothschilds and Barings as soon as possible ^{1/}. The first draft proposal of the loan contract was sent by the bankers on January 12, 1922 and after protracted negotiations, an agreement on its final terms was reached by the end of April ^{2/}. In early May, a £9 million loan, secured by the whole 4.5 million bags of coffee held by the Brazilian government was floated in London and New York ^{3/}. The money thus raised in excess of the Treasury's short-term foreign liabilities would be used to liquidate the remainder of coffee bills still held by the Bank of Brazil, giving a definitive solution to the problem of an orderly disposal of the huge valorization stocks accumulated during 1921.

However, as feared by important sectors of the Brazilian coffee trade, the strings attached by the bankers involved a substantial loss of national control over the future of world coffee markets. As had happened in 1908, the loan was made conditional to entrusting the management of the sales of valorization stocks - the receipts from which would be used to serve the loan - to a five-members Committee based in London, in which the Brazilian government would have only one representative, the other four being appointed by each of the three houses involved in the operation and by the Brazilian Warrant Company which was placed in charge of

^{1/} As the Brazilian Minister of Finance put it: "Aware of the short maturities as well as of the risk of our several creditors happening to liquidate their credits at the same time, through the sale of the coffee warranted, with damaging consequences to valorization, the government was forced to unify all these partial operations through (a long-term) loan...". Testimony of Dr. Homero Batista etc.; cit. p 1032.

^{2/} The relevant correspondence relating to the loan negotiations is reproduced in Pessoa, E., *Pela Verdade*, Francisco Alves, Rio de Janeiro, 1925, pp 197ff.

^{3/} S.A.J., 6.5.1922.

effecting all the sales on behalf of the Committee ^{1/}. Furthermore, the Brazilian government agreed "to employ its good offices to avoid the creation of a new coffee valorization plan" during the term of the loan ^{2/}. This clause was the more restrictive since British Treasury regulations then in force forbade the issue of foreign loans shorter than ten years and the Brazilian loan could not officially be redeemed before 1932 ^{3/}. Even if this technicality could be circumvented, the speeding up of sales to shorten the redemption period could have an adverse effect on prices and authority for doing that was, anyway, in the hands of the London Committee.

The Federal government's decision to place again the future of the coffee industry in the hands of foreign bankers and to give the monopoly of sales from the large valorization stocks to a British firm aroused the anger of commissarios and exporters in Brazil ^{4/}. Moreover the government's pledge to the bankers of denying its approval to further price support schemes made a mockery of the Permanent Coffee

^{1/} Testimony of Dr. Homero Batista etc.; cit. p 1032. As the lessons from the pre-war valorization recommended, stocks were left in Brazil.

^{2/} In the first draft proposal of the loan contract prepared by the bankers this restrictive clause required the Brazilian government "not to authorize any plan relating to the valorization or defence of coffee" during the term of the loan. The Brazilians argued that to give such a pledge was beyond the competence of the Executive, since Congress could legislate otherwise on the matter and the compromise wording quoted above in the text was eventually accepted. On this see Pessoa, E., *Pela Verdade*; op. cit., pp 186-188.

^{3/} Pessoa, E.; op. cit. p 194. On British Treasury regulations see Norman to Niemeyer, 30.12.1921 and Norman to Blackett, 31.1.1922, in T160 F4319/1.

^{4/} As Rowe saw it: "The doings of the Federal Government... were viewed with considerable indignation in São Paulo, and to a lesser extent by Brazilians generally". Rowe, J.W.F.; op. cit., p 23.

Defence Bill, which had produced so much heat at the Chamber in 1921 and had been shelved in the Senate at the end of December awaiting the beginning of the 1922 congressional session ^{1/}. Nevertheless, as the full terms of the loan contract were not made public, President Pessoa could still indulge in reminding Congress of the wisdom of legislative action in that direction - ironically, on the eve of the floating of the loan ^{2/}. In fact, Congress took the matter up again in 1922 and a slightly modified version of the 1921 Bill became law on June 19, creating the Institute for the Permanent Defence of Coffee as an independent Federal Government agency ^{3/}.

The Institute, however, would not be formally founded. Besides being against the express dispositions of the 1922 contract with the London bankers, it was also quite unnecessary for President Pessoa to do anything in the last five months of his term of office. Coffee prices were now rising firmly, helped by the recovery in world demand and by the effect of the successful consolidation of the 1921 valorization stocks on importers' expectations ^{4/}. Furthermore, by mid-1922 the Brazilian economy was clearly coming out of the severe shock caused by the post-war slump and the private interests in the coffee trade could well manage to finance the marketing of the small 1922 crop with their own resources.

^{1/} Documentos Parlamentares: Meio Circulante; 149 Volume, cit., p 361.

^{2/} "It is time now to give coffee valorization a permanent character either in the terms of the special message I sent you last year on the matter or in any other way which you deem more convenient". Mensagem Presidencial de 1922, in Diario Official, 4.5.1922.

^{3/} Decree nº 4.548, of 19.6.1922.

^{4/} Rwe, J.W.F., op. cit., p 25. On the behaviour of prices, see Table 1.

III. Domestic recovery and the fiscal crisis of 1922

The recovery of domestic activity levels in 1922 after the brief but severe recession of 1921 marks the beginning of a second short period of rapid economic growth after the war, lasting up to 1924.

According to Haddad's estimates, total output growth, which had fallen to just 1.9% in 1921 after reaching 10.1% in 1920, rose again to 7.8% in 1922. The available real output estimates although showing wide divergences in some years, indicate that the manufacturing sector experienced wider fluctuations than the rest of the economy in the post-war cycle, rising much faster in 1922 ^{1/}. The behaviour of the volume of imports of fuels, raw materials and capital goods to industry, shown in Table 7, illustrate the pattern of the 1920-1922 fluctuations in industrial activity and investment, if the usual lagged response of the capital goods imports series to changes in current output levels is taken into account. Although the 1922 expansion in industrial production basically stemmed from utilization of idle margins and industrial investment did not fully recover until 1923 ^{2/}, construction activity did not fall as sharply as industrial production in 1921 and boomed in 1922, when it grew by almost 45 percent ^{3/}, almost certainly reflecting the large public works projects then being carried out.

It is interesting to note, however, that the basic causes of the impressive upturn of 1922 resulted both from the

^{1/} See Table 6.

^{2/} See Table 7.

^{3/} As measured by the apparent consumption of cement. See Villela, A.V. and W. Suzigan; op. cit.; Table XVII.

unconscious effect of the 1921 coffee valorization in stimulating effective demand by helping maintaining real income levels in the coffee industry, and from the huge exchange rate depreciation from early 1920 and the persistence of high levels of public expenditure and budget deficits up to 1922, which were both clearly undesired by policy makers ^{1/}.

The success of government intervention to support coffee prices had an undeniable influence in attenuating the effects of the world slump in Brazil. Not only did the value of exports recover and the terms of trade improve earlier than would otherwise be the case, but it also had the extremely important effect of maintaining real incomes in the coffee sector which had been rapidly eroded since mid-1920 when coffee prices were falling more rapidly than the rate of exchange.

However, it should be stressed that the decision to support coffee prices was motivated to a large extent by balance of payments considerations and taken on exchange-rate policy grounds. Even so, the long period of indecision by the Federal government before taking this course of action allowed a very large exchange-rate depreciation until mid-1921 which, in fact, continued at a reduced speed throughout 1922 after a slight recovery in the third quarter of 1921 ^{2/}. The importance of the collapse of the milreis - which by the end of 1922 reached a third of its early 1920 value against sterling - in isolating the economy from the deflationary impact of the world price slump and thus protecting it from the devastating effects it would

^{1/} Brazil's rapid recovery from the post-war slump, helped by the unforeseen results of economic policy measures has, indeed, a striking similarity with that after the Great Depression whose causes have been pointed out by Furtado. For a recent restatement of his classic interpretation see Fishlow, A., *Origens e Consequências da Substituição de Importações no Brasil*; in *Estudos Econômicos*; 2(6), December, 1972.

^{2/} See Table 1.

otherwise have had on exporters' incomes and on domestic import competing activities cannot be underestimated, and was the fundamental cause why Brazil experienced a far milder fall in domestic prices than the central countries during the recession ^{1/}. The index of Brazilian import prices shown in Table 5, actually rose during 1921 and only fell in 1922 when the speed of exchange rate depreciation slowed down while prices were still falling heavily in Brazil's main suppliers. The volume of imports, which was recovering fast during the short-lived post-war boom fell in 1921 to about half its pre-war level and, in spite of the strong recovery in domestic activity from 1922, pre-war import levels were not attained again until 1924. Moreover, the exchange rate collapse was an important contributory factor to the fall in the value of imports in 1921 which explains the bulk of the trade balance readjustment in the period 1920-1922 ^{2/}.

The stimulus given to domestic producers by the exchange rate collapse as well as its inflationary effects were, as in the experience of the early 1890's, reinforced by high budget deficits maintained throughout the post-war cycle and by the shift to much higher rates of monetary expansion in 1921-1922.

The return to easy money dates from the "emergency" Treasury note issue eventually made in late 1920, but the large growth rate of the money stock sustained throughout 1921 and 1922 was the result of Rediscount Department operations ^{3/}.

^{1/} For the years 1921 and 1922 taken together Haddad's GDP deflator falls by 7.5% and the Rio cost of living index by 18.7%, while wholesale prices fall by 37.3% in the United States and by 48.3% in the United Kingdom. Data from Table 8; United States Department of Commerce, Bureau of the Census, Historical Statistics of the United States, 1789-1945, U.S.G.P.O. Washington, 1959, p. 233; and Piggou, A.C., Aspects of British Economic History: 1913-1925, MacMillan, London, 1947, pp 234-235.

^{2/} See Table 1.

^{3/} See Table 3.

The influence of the creation of the Department on the growth of the money stock was not simply due to the increase in high powered money it brought about but also relates to the structural changes it provoked in Brazilian banking: the powers it gave to the Bank of Brazil to effectively act as a lender of last resort, commanding the confidence of the domestic banking system, allowed a sharp decrease in the banks' usually high reserve ratios - which prior to 1921 fluctuated around 0.5 in normal money market conditions. As shown in the table below, the fall in the reserve ratio coupled with the secular falling trend of the currency ratio stemming from the continuous spread of banking services and the widening use of bank deposits by the public ^{1/} caused a 50% rise in the marginal coefficient of deposits expansion between the end of the first quarter of 1921 - when rediscount operation started - and the end of 1922 ^{2/} .:

BRAZIL: 1919-1922

MONETARY RATIOS

End of Period	Currency Ratio (C)	Reserve Ratio (R)	Coefficient of Expansion $(\frac{1}{C+R})$
1919 IV	0.98	0.50	0.67
1920 IV	0.72	0.58	0.76
1921 I	0.77	0.61	0.72
II	0.70	0.55	0.80
III	0.67	0.50	0.85
IV	0.62	0.46	0.92
1922 I	0.55	0.44	1.01
II	0.51	0.40	1.09
III	0.50	0.38	1.13
IV	0.55	0.37	1.08

Source: Table 3.

^{1/} Falling from very high levels from the middle of the 19th century, the currency ratio reached 2.62 in 1900, 2.32 in 1905, 1.91 in 1910, 1.69 in 1915 and 0.73 in 1920. Data from Feldey, C.M. and W. Suzigan; *Historia Monetária do Brasil: análise da política, comportamento e instituições monetárias*; IPEM/INPES, Rio de Janeiro, 1976, Tables A.1 and A.3.

^{2/} Another important innovation introduced in Brazilian banking during 1921 was the installation of a check clearing house at the Bank of Brazil in June. See *Relatório do Banco do Brasil, 1922*, pp. 8-9. This was a long standing demand of banking and business circles but earlier attempts at implementing it had failed. On this see Neuhaus, P; *op. cit.*, p. 60.

With this remarkable increase in the banking multiplier, the 19.7% increase in the value of Treasury notes outstanding coming from Rediscount Department issues during 1921 and 1922 - of which just a small fraction went into the vaults of the Bank of Brazil - caused an increase of 67.1% in sight deposits and a 51.7% growth in the money stock ^{1/}.

It is worth mentioning in passing that the creation of the Rediscount Department enabled Whitaker to pursue with great success a policy of attracting voluntary deposits from other national banks ^{2/} and immensely expand the bank's operations ^{3/}. The expansion of the Bank of Brazil coupled with the preferential treatment afforded to national banks in rediscount operations, placed foreign banks at a competitive disadvantage, ending what the President of the Bank of Brazil saw as "the lack of confidence by the public, shown by the humiliating preference towards the foreign banks "in times of crisis and substantially reducing their share in Brazilian banking business: ^{4/}

BRAZIL, 1919-1922

SHARE OF NATIONAL AND FOREIGN BANKS IN TOTAL SIGHT DEPOSITS

	1919	1920	1921	1922
National Banks	49.13	45.20	60.04	72.72
Foreign Banks	50.87	54.80	39.95	27.28

Source: Ministerio da Fazenda, Diretoria de Estatística Commercial, Movimento Bancario, in Comercio Exterior do Brasil, Oficinas da Estatística Commercial, Rio, several issues.

^{1/} See Table 3.

^{2/} Pacheco, C.; op. cit., p 169.

^{3/} Total Bank of Brazil deposits rose from 288 thousand contos at end-1920 to 1.089 thousand by mid-1922 while the value of bills discounted rose from 139 to 802 thousand in the same period. See Relatório do Banco do Brasil, 1923, p 7.

^{4/} Relatório do Banco do Brasil, 1921, p 8. Foreign banks' reserve ratios remained markedly higher than those of Brazilian-owned banks: at end-1921 reserve ratios were 60.6 for the former and 27.8 for the latter. Data from Relatório do Ministro da Fazenda, 1923, pp 76-77.

The growth of the money stock during 1921-1922 to the extent verified was not, however, the result of a conscious monetary policy objective. The growth of Rediscount Department issues, which was the ultimate cause of the return to high rates of monetary expansion in 1921-1922, resulted from large random financial needs of the Treasury during the period coming from two different sources: the first, effective up to the third quarter of 1921, were the financial needs of coffee valorization as described in Section II; the second, effective to a minor extent in 1921 but the sole cause of the large expansion from the second quarter of 1922, was the spill over to the Rediscount Department of the burden placed on the Bank of Brazil to finance a substantial part of unplanned Federal deficits which then rose to unprecedented levels, as will be presently seen.

As Table 4 shows, after the return to peace the tendency towards regaining budget equilibrium witnessed during the later years of the war was suddenly upset resulting in a large stepwise growth of the Federal deficit from 1919, in spite of wide yearly fluctuations verified both in revenue and in expenditure.

The basic underlying reason for the post-war fiscal disequilibrium was the lax conduct of taxation and expenditure policy, despite the Executive's frequent public pledges to fiscal discipline. Since 1919 the Federal authorities emphasized the need for tariff reform on purely fiscal grounds ^{1/} for, with the maintenance of the specific milreis rates and the gold-tariff quota, post-war exchange-rate appreciation and world inflation had drastically reduced its ad-valorem incidence ^{2/}, but nothing was achieved on

^{1/} See Relatório do Ministro da Fazenda, 1919, p VII.

^{2/} Cf. footnote 2 p. 9.

that score. On the other hand, the end of the war brought, naturally, renewed demands for the replacement of worn-out equipment - especially in the government-run railways -, for the start of long postponed public works, the ordering of military equipment and the recomposition of the real losses inflicted by wartime inflation on salaries paid by the public sector ^{1/}. The government not only did not effectively curb these demands, allowing an enormous increase in non-budgeted or improperly assessed expenditures ^{2/}, but permitted a 25% increase in Federal civilian personnel between 1920 and 1922 ^{3/}.

It cannot be overlooked, however, that the unstable behaviour of Brazil's external position during the post war world economic fluctuations had also very important budgetary consequences. In 1919 revenue remained stagnant owing to the effects of the sudden exchange-rate appreciation upon gold tariff revenue while the volume of imports was still slowly recovering. In 1920, on the other hand, in spite of the large growth of revenue due to the lagged boom in imports and exchange depreciation, expenditure rose sharply on account of the increase in the milreis equivalent of foreign debt service as well as the large payments in foreign currency demanded by several investments planned prior to the crisis ^{4/}. In 1921, domestic recession and the fall in the volume of imports cut indirect tax revenue again, while expenditure remained at a high level not only

^{1/} As the Minister of Finance observed in 1920, "as if the financial conditions were satisfactory, all rush to consider it as an unpostponable necessity to help all classes hit by the present difficulties of living... to go on with the public works started, to carry out projects of any sort". Relatorio do Ministro da Fazenda, 1920, p 7.

^{2/} See Table 4. On this see also Pessoa, E.; op. cit., pp 172-177.

^{3/} Data on Federal personnel from Documentos Parlamentares: Meio Circulante, 159 Volume, Typ. do Jornal do Commercio, Rio de Janeiro, 1924, p 200.

^{4/} As for instance, the importation of railway equipment, the extensive irrigation works in the Northeast undertaken by foreign corporations, the purchase of the large foreign-owned railways etc. On this see Pessoa, E.; op. cit.; passim.

for the same reasons as in 1920 but also because of a readjustment in public servants salaries which required additional expenditure to the tune of 120 thousand contos ^{1/}. In 1922 domestic recovery increased revenue but a renewed rise in expenditure sent the deficit to even higher figures than in the previous year in spite of the unprecedented step taken by President Pessoa, vetoing the first expenditure proposals approved by Congress ^{2/}. The expansionary effect of the large Federal budget deficits was not restricted to its direct impact on effective demand. As mentioned above, government fiscal imbalances had an important influence in allowing the high rates of monetary expansion obtained in 1921 and 1922 when even the large long-term credit operations then undertaken both in domestic and foreign capital markets proved insufficient to cover the excess expenditures and the Treasury had to rely heavily on advances from the Bank of Brazil.

The Bank, as described in Section II, was instrumental in financing Treasury needs in 1921 on occasion. However, in 1922, the government's budget problems became acute on account of the authorities' failure to reduce the level of current expenditure and the need to settle a large volume of arrears accumulated in 1921. During the first half of 1922 the Treasury financed its payments imbalance through the usual issues of one-year bills but, in July, the amount of Treasury bill outstanding already reached not less than 428 thousand contos, 82% of which was accepted by the Bank of Brazil ^{3/}.

^{1/} Ribeiro de Andrada, A.C.; op. cit., p 449.

^{2/} Pessoa, E.; op. cit., pp 421ff.

^{3/} Report of the British Financial Mission to Brazil to N.M. Rothschilds & Sons, Messrs. Baring Brothers & Co. Ltd., J. Henry Schuller & Co. Appendix C: Republic of Brazil - Balance Sheet as at 31.12.1923 with relative Schedules of Liabilities and Assets, by Sir William Montagu, in R. A. 111/120.

Under the pressure of the growth of government debt on the Bank's portfolio on such a large scale, Rediscount Department note issues - which had been greatly reduced in the first quarter of 1922 with the redemption of the Bank's holdings of Treasury coffee bills - began to rise sharply towards the middle of the year and it became increasingly dangerous for the Bank to go on financing the government's cash flow imbalance ^{1/}. However, there was no indication that Federal excess expenditures would fall in the short-run and to raise finance through the issue of long dated apolices was out of the question since these Treasury bonds, issued in very large amounts after the war, were accepted only at a heavy discount if sold to the extent required. The only alternative left was to resort to Treasury note issues but, after the creation of the Rediscount Department this would only be possible if its statutory prohibition to rediscount government paper could be altered.

The government certainly knew that it could not count on getting parliamentary support to definitely change the law creating the Rediscount Department in that direction. If Treasury access to rediscount facilities was to be proposed, some upper limit had to be placed upon it to make the proposal more palatable. Thus, on July 31, the Treasury arranged a credit with the Bank of Brazil for the issue of up to 500 thousand contos of special promissory notes and in August the government asked Congress for authorization to rediscount these notes ^{2/}. In October, after ill-informed debates in the Senate amidst claims of impending disaster

^{1/} The total value of bills discounted by the Bank of Brazil amounted to 437 thousand contos in 31.12.1921. See Relatorio do Banco do Brasil, 1922, p. 7.

^{2/} This plan originated at the Bank in or before June and was considered by Whitaker as being "indispensable to have the support from other banks and even to preserve the financial position of the Bank of Brazil". See J.M. Whitaker to H. Batista, 20.6.1922, in Whitaker, J.M., op. cit., pp 108-109.

given the dangerous position of the Bank of Brazil, permission was granted ^{1/}.

Since Federal government financial demands remained high and the Treasury had to draw heavily on the new credit line ^{2/}, the decision to authorize the Bank to rediscount the promissory notes had an immediate impact on monetary equilibrium. Rediscount Department issues soared - its legal limit being raised to 300 thousand contos in October and to 400 thousand in November - causing a large increase in the money stock in the last quarter of 1922^{3/}.

The way in which the very large budget disequilibrium of 1922 was financed had, moreover, lasting consequences which would decisively influence shaping the priorities and the conduct of monetary and fiscal policy of the incoming Bernardes' administration, which took office on November 15. On the one hand, the sharp monetary expansion caused by inflationary deficit financing in the second half of 1922 increased the strong inflationary pressures already present in the 1922 upturn and would contribute to aggravate the

^{1/} It is patently clear from the records of the Senate debates on the government proposal that very few of its members knew the terms of the Bank - Treasury contract and could gauge the consequences of what they were going to vote. In the Chamber the Bill had been approved without debate as, to avoid having its approval delayed there, the government went as far as to use the tactics of concealing the proposal as an amendment to an otherwise irrelevant finance bill already in the second round of voting were it passed unnoticed. See Documentos Parlamentares: Meio Circulante, 16^a Volume, cit., pp 65-162.

^{2/} A first draft of 100 thousand contos was made in August while the proposal to allow rediscount of these notes was still before Congress. Following Congress approval, 200 thousand contos were issued in October and an equal amount in November. See Report of the British Financial Mission etc., cit.

^{3/} See Table 3.

still vulnerable external position ^{1/}. On the other hand, it gave rise to a huge Federal floating debt to the Bank of Brazil, in the shape of Treasury bills held by the Bank and promissory notes of the 1922 special loan accepted by the Rediscount Department, officially estimated at the beginning of 1923 as being over 800 thousand contos ^{2/}. The settlement of this debt, which had a paralysing effect on the Bank's operations, would be a source of concern to the Federal government for the next five years ^{3/}.

1/ In August, the Bank of Brazil had spent about £4 million of its foreign exchange balances to support the milreis and in November it again had to intervene, becoming overdrawn to the tune of £2 million payable at short term to Rothschilds. On this see Pessoa, R., op. cit., pp 201ff. and the letter of C. Coelho, former Director of the Bank of Brazil Foreign Exchange Department, in O Jornal, 24.2.1923.

2/ Pires do Rio, J.; A Moeda Brasileira e seu Ferezo Curator Fiduciário; José Olímpio, Rio de Janeiro, n.d., p 204. To gauge what these obligations represented, note that total Federal government revenue amounted to 972 thousand contos in 1922.

3/ The general analysis of the evolution of economic policy in the early years of the Republic's administration see Prillan, W.; 1924; in *Resumo e Planejamento Econômico*, Tecniver, 1968.

T A B L E S

TABLE I

Brazil 1918-1922

Quarterly trade balance, average exchange rates and world
coffee prices
(in million pounds)

Quarter	Exports	Imports	Trade Balance	Exchange rate	Coffee prices
1918 I	13.2	11.1	2.1	13.50	10.68
II	14.4	12.0	2.4	13.04	10.97
III	14.7	14.9	- 0.2	12.21	11.86
IV	18.8	14.8	4.0	13.24	17.40
1919 I	30.6	19.3	11.3	13.15	21.45
II	30.7	18.4	12.1	14.16	23.66
III	32.9	19.6	13.3	14.47	28.19
IV	36.0	20.7	15.3	16.27	25.82
1920 I	37.0	22.8	14.2	17.82	24.93
II	29.6	28.8	0.8	15.91	23.95
III	21.8	36.2	- 14.4	13.44	16.52
IV	18.4	37.1	- 18.2	11.38	10.97
1921 I	14.6	24.2	- 9.6	9.61	9.64
II	12.0	14.2	- 2.2	8.21	9.38
III	15.7	11.7	4.0	7.78	10.43
IV	16.1	10.4	5.7	7.88	12.06
1922 I	16.7	10.2	6.5	7.61	12.72
II	15.0	12.1	2.9	7.65	14.56
III	16.1	11.6	4.5	7.27	14.70
IV	20.7	14.7	6.0	6.38	15.20

Sources: Trade Balance figures from Ministerio da Fazenda/
Diretoria de Estatística Commercial; Comércio
Exterior do Brasil; Oficinas da Estatística
Commercial, Rio de Janeiro, several issues. Exchange
rates (average Rio 90-day sight rate on London)
from Relatório do Syndico da Junta de Corretores de
Fundos Publicos, Imp. Nacional, Rio de Janeiro,
several issues. Coffee prices (cents, pound)
New York, cents, pound) from Rose, J.W.P.; op.cit; p. 50.

TABLE 2

World coffee output, 1918-1922 (in million bags)

Crop year	São Paulo	Brazil	Mild Countries	World
1918-19	7.3	9.7	4.5	14.2
1919-20	4.1	7.5	7.7	15.1
1920-21	10.2	14.5	5.8	20.3
1921-22	8.2	12.9	6.9	19.8
1922-23	7.0	10.2	5.7	15.9

Sources: Fowe, J.W.F.; op. cit.; pp 85 and 87.

TABLE 3

Brazil, 1912-1922

Money stock and its components (in thousand contos)

Year	Treasury issue	Monetary discount repayment	Monetary base Total	Cash held by Bank of Brazil	Money outside bank	Cash held by banks	Cash held by public	Sight deposits	M ₁	$\frac{\Delta M_1}{M_1}$
1916	IV 1700	-	1750	49	1651	465	1188	1047	2235	-
1919	I 1729	-	1729	58	1671	457	1214	1085	2299	2.8
	II 1748	-	1748	65	1685	474	1209	1142	2351	2.3
	III 1748	-	1748	80	1688	483	1185	1158	2343	- 0.3
	IV 1748	-	1748	82	1666	505	1161	1184	2345	0.0
1920	I 1748	-	1748	84	1664	543	1121	1193	2314	- 1.3
	II 1748	-	1748	90	1658	603	1055	1233	2288	- 1.1
	III 1798	-	1798	103	1695	668	1027	1281	2308	- 0.8
	IV 1848	-	1848	103	1745	724	1021	1414	2435	5.5
1921	I 1899	41	1940	114	1826	738	1088	1405	2493	2.3
	II 1899	182	1981	121	1860	752	1108	1575	2683	7.6
	III 1897	141	2098	120	1918	761	1157	1722	2879	7.3
	IV 1893	151	2044	123	1921	750	1171	1884	3055	6.1
1922	I 1888	33	1921	125	1796	722	1074	1932	3066	- 1.6
	II 1885	115	2000	126	1874	744	1133	2180	3313	10.2
	III 1880	160	2040	127	1913	746	1167	2291	3458	4.3
	IV 1877	336	2213	130	2083	757	1326	2370	3696	6.8

Sources: Balanetes da Carteira de Redescontos e demonstrativos da Caixa de Amortização, in Diário Oficial, several

index, and Pelaez, C.M. and W. Suzigan; op. cit.; Tables A.1, A.2 and A.3.

TABLE 4

Brazil, 1918-1922

Federal revenue and expenditure (in thousand contos)

	Budgeted			Effective		
	Revenue	Expenditure	Balance	Revenue	Expenditure	Balance
1918	712	644	68	619	738	- 119
1919	716	673	43	626	932	- 306
1920	737	787	- 50	922	1226	- 304
1921	1025	1041	- 15	891	1286	- 395
1922	1076	-	-	972	1428	- 456

Source: Villela, A.V. and W. Suzigan; op. cit.; Tables IV.2 and V.1.

TABLE 5

Brazil, 1918-1922

Foreign trade indices (1928=100)

	Quantity		Price		Terms of Trade
	Imports	Exports	Imports	Exports	
1918	25.2	71.0	106.1	40.3	38.0
1919	36.7	95.6	98.3	57.4	58.4
1920	48.0	86.6	117.8	51.0	43.3
1921	33.2	86.7	137.9	49.7	36.0
1922	40.8	93.1	109.5	63.1	57.6

Source: Villela, A.V. and W. Suzigan; op. cit., Table Xx.

TABLE 6

Brazil 1918-1922

Real output indices (1939 = 100)

	Haddad's Estimates			Villela and Suzigan's Estimates		
	Agriculture	Industry	Total	Agriculture	Industry	GNP
1918	43.5	28.3	34.2	-	-	-
1919	44.8	32.5	36.9	-	-	-
1920	53.3	34.2	41.5	57.8	34.7	47.36
1921	55.5	33.6	42.3	60.5	34.3	48.90
1922	55.8	39.9	45.6	60.3	39.7	50.44

Sources: Haddad, C.L.S.; op. cit.; Table (Haddad's "total" output includes also Transport and Communications, Commerce and Government), and Villela, A.V. and W. Suzigan; op. cit.; Tables XII and XVI.

TABLE 7

Brazil, 1918-1922

Current activity and investment indicators

Import indices (quantity, 1939 = 100)

	Fuels	Raw materials	Capital goods to industry
1918	20.8	44.9	42.4
1919	39.9	61.0	93.1
1920	41.0	72.8	148.5
1921	38.5	52.6	115.9
1922	43.2	72.0	97.4
1923	51.6	80.9	127.8

Source: Villela, A.V. and W. Suzigan; op. cit.; Table XXI.

TABLE 8

Brazil, 1918-1922
Price indices

	Rio cost of living (1919 = 100)	GDP implicit deflator (1938 = 100)
1918	75.9	56.0
1919	100.0	60.9
1920	109.8	72.5
1921	92.6	61.4
1922	89.2	67.0

Sources: Rio Cost of living from Villela, A.V. and W. Saizigan; op. cit.; Table VII. GDP Deflator from Medial, C.L.S.; op. cit.; p.

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