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Brazil and the Great War, 1914-1918

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The author wishes to thank Marcelo Abreu, Carlos Díaz-Alejandro, Donald Moggridge, Susan Howson and participants in the Friday Seminar held at the Department of Economics of the Catholic University of Rio de Janeiro for their helpful comments. The reader should note that in the footnotes of this article the following abbreviations are used:

BBR: Banco do Brasil S.A., *Relatório do Banco do Brasil*, Typ. do Jornal do Comércio, Rio de Janeiro, Yearly.

DOU: Brazil. Imprensa Nacional, *Diário Oficial da União*, Rio de Janeiro, daily.

FU371: *Public Record Office, Foreign Office Files, Brazil, General Correspondence*: Political, London.

FRJS: United States. Department of State, *Foreign Relations of the United States*, USGPO, Washington, Yearly.

MFR: Brazil. Ministério da Fazenda, *Relatório Apresentado ao Presidente da República dos Estados Unidos do Brasil pelo Ministro de Estado dos Negócios da Fazenda*, Imprensa Nacional, Rio de Janeiro, yearly.

RC-JC: Jornal do Commercio, *Retrospecto Commercial*, Typ. do Jornal do Comercio, Rio de Janeiro, yearly.

SAJ: *The South American Journal and Brazil and River Plate Mail*, London, weekly.

US-NA: The National Archives of the United States, *Record Group 59, Records of the Department of State relating to Internal Affairs of Brazil*, Washington.

The reader should also be aware. that during the period covered by this study, the Brazilian monetary unit was the *mil-réis* and that for large amounts tire *conto de réis* or, for short, *conto*, equal to one thousand *mil-réis* was used.

This essay discusses the economic policies and performance of Brazil following the impact of the changes in the world economic situation brought about by the outbreak of World War I.

The article is divided in three sections. The first reviews the immediate consequences of the beginning of hostilities in Europe, which was preceded in Brazil by a year-long recession caused by a sudden deterioration in the balance of payments current account, and reinforced by a sharp monetary squeeze resulting from gold losses from the Conversion Office – the Brazilian note issuing agency since the adoption of the gold standard in 1906. It is shown that the policies followed during the early months of the war were framed under a misapprehension as to the duration of the conflict and failed to bring to an end the deep and drawn out liquidity squeeze begun in 1913 which continued unabated until 1915.

However, the growing awareness of both the likelihood of a prolonged war in Europe and of the extent of the fiscal problems caused by the effects of the disruption of world trade on federal tariff revenue, as well as the discontent of the private sector with the tight credit policy after two years of markedly recessive tendencies, led to a shift towards a frankly expansionary monetary policy from mid-1915. In the second section of the article it is shown how this change of policy, together with the stimulating effects the war was beginning to have upon the demand for some non-traditional food and raw material exports and the decline of foreign competition against domestic industrial production, were the mains causes of the brisk recovery of economic activity during the war.

The recurrent threats of coffee import prohibition by the Allies after the effective naval blockade of the markets of Central Europe from 1916 remained, however, a source of constant concern to the Brazilian authorities. This is discussed in the final section where it is argued that, with the sharp deterioration of the world shipping situation, an imminent collapse of coffee prices and the consequent worsening of the already weak external position were averted by federal government direct intervention in the coffee market and by the break of neutrality in favour of the Allies. The latter decision is shown to have been motivated by the prospective gains attributed by the Brazilian government to the take-over for use and lease of a substantial amount of German ocean-going ships then interned in Brazilian ports given the growing dearth of transatlantic tonnage and the vulnerable external position.

The early response to the disruption of world trade and payments

The British declaration of war against; the Central Powers had two immediate economic consequences to Brazil. On the one hand, there was a break of the credit lines between Brazilian banks and their London correspondents: the former were unable to discount trade bills bearing German endorsements or drawn against goods shipped in non-Allied vessels in London, where the bulk of German-Brazilian trade was financed. On the other hand, there was the temporary but almost complete halt of transatlantic shipping[1]. This sudden disruption of foreign trade and payments immediately affected the foreign exchange market, the federal government's prospective tariff revenue and the coffee industry, just as the period for marketing the 1914 crop was approaching its peak financial demand.

The government's impervious attitude towards the private sector's complaints throughout the 1913-14 depression changed with the problems posed by the outbreak of generalized warfare in Europe. As in every trading nation, the Brazilian government's first reaction was to try and create a breathing space with the issue of a series of emergency regulations[2], including the abandonment of gold convertibility, in the hope that it could later devise more permanent measures to deal with the abnormal situation. A joint meeting held by the cabinet and the Joint Congress Finance Committee on August 4 decided to close the Conversion Office, restricting to the government controlled Banco do Brasil the right to convert its notes into gold, and to declare a ten-day bank holiday (later extended to August 17), while asking Congress to declare a thirty-day moratorium on all debts following the resumption of banking operations[3].

These first emergency measures, however, did nothing to relieve the impending financial

[1] Cf. Lough, W.H., *Financial developments in South American countries*, U.S. Department of Commerce, Special Agents Series, nº 103: U.S.G.P.O.; Washington, 1915, pp. 24-5, and Sommers to Secretary of State, 11.9.1914, in USNA RG-59, 832.516/1.
[2] Cf. Lough, W.H., *Op. Cit.*, pp. 24 ff.
[3] Lough, W.H., *Op. Cit.*, p. 24.

problems of the coffee sector and only postponed those of the cash-pressed government's creditors. Through their influence[4], a Bill was finally introduces in the Senate on August 11, under government instructions, for the issue of 300 thousand *contos* of inconvertible Treasury notes; two-thirds of this issue was to be earmarked to meet urgent federal obligations and one-third to be lent at low interest rates to national banks to be repaid by the end of 1915[5]. The terms of this Bill were clearly influenced by the widespread belief that the war was not to last long and was seen as a temporary expedient to overcome an abnormal situation[6]. Nevertheless, even though rushed through both Houses so as to become law on August, 24, the Bill met some doctrinaire opposition against the abandonment of the gold standard and had the limit allowed for Treasury expenditure reduced to 150 thousand *contos*[7].

The note issue fulfilled its immediate objectives and helped the Banco do Brasil to build up, through the increase in official gold reserves, a stronger line of defence to meet the Treasury's foreign obligations[8]. However, although the banks drawing on the new credit facilities were contractually bound to manage their foreign exchange operations under government instructions[9], the temporary halt in exports, the closure of the Conversion Office and the inability of the Banco do Brasil to draw abroad to protect the exchange rate, caused an immediate exchange rate fall after the resumption of trading[10]. Fears that an exchange rate collapse would adversely affect the already critical budget position on account of the debt Service obligations and pending payments to foreign suppliers and contractors led to a government agreement with Rothschilds, the government's London bankers, on September 7, to discuss the basis of a new funding loan[11] and to the decision to extend the moratorium, allegedly at the incoming President's request, for a further three months[12].

In October the funding agreement was signed. It provided for a total suspension of payments on all but one of the federal foreign loans – including French loans – until July 1917, and of amortization payments until 1927[13]; during the period of total suspension of payments the Service of

[4] Pacheco, C., *História do Banco do Brasil (História Financeira do Brasil desde 1808 até 1951)*, vol. IV, AGGS, Rio de Janeiro, p. 72.

[5] These loans could only be given on two accounts: either to expand the banks' discount operations against commercial or government paper, thus helping to finance the coffee crop and relieve some government creditors who had received bonds as payment during the pre-war slump or, alternatively, to buy Conversion Office notes or gold at par so as to enable the Banco do Brasil to get hold of the gold backed notes held in the private banking system's cash reserves. On this see *SAJ*, 3.10.1914.

[6] Witness the explicit redemption clauses allocating fiscal funds for the gradual retirement of the amounts destined to the Treasury and providing that the equivalent of the bank loans should be incinerated upon repayment. See Legislative Decree nº 2863, of 24.8.1914.

[7] Pacheco, C., *Op. Cit.*, p. 72.

[8] Roughly one-third of the bank loans went to the Banco do Brasil, one-fourth to the large Banco Commercial e Industrial de São Paulo, while the rest "was scattered among the various domestic. banks, chiefly in the coffee-growing districts". Lough, W.H., *Op. Cit.*, p. 24.

[9] *SAJ*, 3.10.1914.

[10] See Table A.6.

[11] See Bouças, V.F., *Finanças do Brasil*, vol. XIX, Dívida Externa, 1824-1945, Ministério da Fazenda, Secretaria do Conselho Técnico de Economia e Finanças, Rio de Janeiro, 1955, p. 254.

[12] See *SAJ*, 19.9.1914, and Morgan to Secretary of State, 22.9.1914, in USNA RG-59 832.51/78.

[13] The loans included in the agreement represented 84.3 percent of the outstanding foreign debt of the federal government

the loans would be met by the proceeds of a new £15 million loan to be issued in London with the same service conditions as those of the funded obligations[14].

The federal funding loan, together with similar agreements eventually made by other public authorities with their foreign creditors caused total public foreign debt payments to fall from £14.5 million in 1913 to £9.0 million in 1914, £7.5 million in 1915 and £6.8 million in 1916[15], providing a substantial relief to the balance of payments position. This was extremely important for the maintenance of the approximate exchange rate stability at between 20 to 25 percent below the pre-war parity experienced in the following years[16].

Following the emergency measures described above, taken in the closing months of the Hermes da Fonseca presidency, the framework in which international trade would operate during the war begun to take shape. Although the more permanent effects of the wartime changes upon Brazilian trade will be discussed at greater length in the following section the most important immediate consequences should be pointed out here.

The war had no adverse effect upon exports during 1915 and the wide-spread view that the Allied measures of economic warfare, notably the economic blockade of overseas supplies to Germany – which accounted for about 15 percent of Brazilian exports before the war – affected export earnings from early on in the war, is mistaken[17]. Although Britain was able to conclude a round of agreements with Germany's neutral neighbours before the end of 1914 to prevent their handling goods destined to the Central Powers classified as contraband by the blockade regulations, these initial "restricted blockade" measures were not effective except in the case of Holland[18]. As far as Brazilian exports were concerned, goods continued to a large extent to reach Germany through her neutral Scandinavian neighbours, as shown in Table 1 below, and the quantity of total exports grew by not less than 33 percent in 1915[19]. Only when the first German submarine raids against enemy merchant vessels led the Allies to retaliate by tightening the economic blockade and to introduce the black-listing of firms from neutral countries trading with the enemy and the navicert system, did Brazil lose her German export markets[20].

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by the end of 1914. Cf. Bouças, V.F., *Op. Cit.*, table facing p. 262.

14 For a full description of the terms of the loan contract, see Bouças, V.F., *Op. Cit.*, p. 256.

15 See Table A.7.

16 See Table A.6.

17 Compare, for instance, Neuhaus, P., *A Monetary History of Brazil, 1900-1945*, unpublished Ph.D. thesis, Chicago, 1974, p. 40.

18 Hardach, G., The First World War, 1914-1918, Allen Lane. London, 1977. pp. 13-19.

19 See Table A.3. Coffee exports increased form 11.2 million bags in 1914 to 17.1 million bags in 1915. Cf. *RC-JC*, 1915, p. 7.

20 For a description of the "unrestricted blockade" measures see Hardach, G., *Op. Cit.*, pp. 22-27. The blacklisting of the large German owned São Paulo coffee exporting firms was probably the most effective measure in this connection.

Table 1

Brazilian Exports to Selected Countries: 1913-1916 (in £ million)

Year	Germany	Scandinavian Neutrals			
		Sweden	Norway	Denmark	Total
1913	9.16	0.66	0.10	0.15	0.91
1914	4.64	1.07	0.31	0.29	1.67
1915	-	4.77	1.57	1.22	7.56
1916	-	1.53	0.29	0.41	2.23

Source: Brasil. IBGE, *Anuário Estatístico do Brasil*, 1939/40, pp. 1366 ff.

In fact, the sharp pre-war fall in mil-réis prices of staple exports was halted by the late 1914 exchange depreciation and for almost all export commodities 1915 was a favourable year[21].

The main economic policy problem posed by the outbreak of the war stemmed from the fiscal consequences of the stagnation in the volume of imparts after the resumption of trade, which made 'permanent' the already huge fall verified during the pre-war depression. This partially reflected the still depressed level of domestic activity but was also to a large extent a result of economic warfare measures such as the effective Allied blockade of enemy exports – which accounted for about 19 percent of Brazilian imports before the war some of which, such as dyestuffs, had no alternative supplier – and the mobilization of industries for war in most of Brazil's other traditional European trade partners[22]. The sudden shrinkage of tariff revenue in 1914, superimposed on the halt of foreign lending and the large growth in public expenditure on extensive public works started during the pre-war boom, had already produced a serious budget disequilibrium[23]. The effect of war conditions upon the volume of imports threatened to transform this into a permanent fiscal crisis.

When President Wenceslau Bras took Office on November 15, 1914, his government received a not enviable legacy of accumulated arrears and short term obligations estimated at 311 thousand contos plus some £4 million immediately due abroad. Half of this was owed by the Banco do Brasil for overdrafts on government account before the outbreak of the war[24]. Besides this, the August note issue had proved far short of the federal government's financial requirements: by then the Treasury had already issued 82 percent of the 150 thousand centos authorized for government expenditure[25].

The early measures of the new administration would be almost solely related to the weak federal

[21] Cf. *RC-JC*, 1915, p. 7.

[22] *MFR*, 1915, pp. 27-28.

[23] Cf. Tables A.8, A.9 and A.10.

[24] See Mensagem Presidencial de 1915, in *DOU*, 4.5.1915, and *BBBM*, minutes of meeting of 5.11.1914.

[25] Mensagem Presidencial de 1915, cit. As the *Jornal do Commércio* recalled it, "Mr. Wenceslau Braz took Office in very special conditions. Customs revenue was falling, the debt of the State growing and the crisis had been so great that the Treasury had stopped the settlement of its bills, the payment of public servants and the punctual Service of the domestic debt". *RC-JC*, 1917, p. 20.

financial position. They were conditioned by the political impossibility of proposing in the foreseeable future another note issue to cope with the urgent fiscal problem and were still strongly influenced by optimism as to the duration of the war[26]. Thus, although the new government made a successful effort to keep budgeted expenditure for 1915 at the low figures that followed the 1914 cuts, it approached the current budgetary imbalance by trying to roll over the mounting federal obligations.

In the budget law for 1915, then being considered by Congress, the new government was authorized to issue unspecified amounts of special one-year Treasury Bills – including gold-indexed bills – for the settlement of arrears and, on December 10, it postponed again, for three months, the expiry of the general moratorium scheduled for December 15. Although these measures finally set the conditions for the gradual liquidation of the suspended obligations[27], they provoked strong protests on behalf of the government's creditors from the Rio Commercial Association[28]. Nevertheless, from February to May successive issues of the new Treasury Bills were made at par value in partial settlement of federal debts[29].

As the first half of 1915 progressed it became increasingly clear that this stop-gap policy could not be sustained for long. Not only were the prospects of an early termination of the European conflict proving to be false, but the banking System's appraisal of the weakness of the federal government's financial position made the *Sabinas* – as the short-term bills were jokingly called after Sabino Barroso, the new Finance Minister – almost unnegotiable as a financial asset as their issue grew[30].

Moreover, discontent was growing as the domestic economic outlook showed no signs of recovery. The August 1914 increase in high-powered money had failed to bring anything but a temporary relief to the credit squeeze which had gone on since 1913 and monetary conditions positively deteriorated during the first half of 1915. For, in spite of the new government's early revocation of the redemption clause embodied in the August 1914 note issue authorization[31], from December 1914 the Banco do Brasil shipped Conversion Office gold to settle its overdrafts to relieve the pressure on the Rio foreign exchange market and avoid a further exchange rate fall[32]. As the external position improved thanks to the partial suspension of foreign debt payments and the

[26] **"**No solid prediction could be made [at the end of 1914] of the duration and the result of the war, just started ... The State of Federal revenue in 1915 was another question without answer ... In such an uncertain situation the government could not and should not follow the path of [note] emissions**"**. *MFR*, 1915, pp. 6-7.
[27] The new moratorium regulations provided that 25 percent of each debt should be settled on January 15, 35 percent on February 15 and the remainder on March 15 See Lough, W.H., *Op. Cit.*, p. 25.
[28] *SAJ*, 2.1.1915.
[29] See Decrees nº 11471 of 3.2.1915, nº 11478 of 4.3.1915 and nº 11570 of 5.5.1915.
[30] See *SAJ*, 27.3.1915. By August 1915 the bills were reported to be "unsaleable at 75 percent of their nominal value". See Peel to Grey, 9.8.1915, in FO 371/2294, A 122521/85594/6.
[31] See Law nº 2895 of 15.12.1915.
[32] See BBBM, minutes of meetings held at 5.12.1914 and 10.12.1914. See also *SAJ*, 27.3.1915.

increasingly favourable behaviour of the trade balance[33], the Bank was able to avoid large conversions of its gold backed notes from mid-1915. However, the reduction in the monetary base caused by the gold losses and the extremely bearish attitude of the private banking System – which went on increasing its cash reserves and drastically curtailing trade credit –, wiped out the temporarily expansionary effect of the emergency note issue of late 1914 and the money supply resumed its falling trend during the first half of 1915[34].

Manufacturing output had fallen by 8.7 percent in 1914 after the rapid growth of production and investment up to 1912 and the levelling out of 1913, and activity levels were still depressed. Even the large cotton textile industry whose output, as discussed below, responded faster than in other industrial branches to the impact of import restrictions did not recover rapidly from the very depressed State it had reached at the outbreak of the war[35], for the growth of production was accompanied by large accumulation of stocks and severe price competition which prevented the recovery of profits[36].

Wholesalers and large trading interests were the most vocal group against economic policy in early 1915, since the depression and credit restriction had considerably diminished the volume of their operations. Besides, they were the sector immediately affected by the government's failure to pay its commitments to suppliers and by the liquidity of the new Treasury IOUs[37].

On June 1, the aged Finance Minister was replaced, allegedly for health reasons, by J. P. Calógeras, then at the Ministry of Agriculture. This cabinet reshuffle, much influenced by party political reasons[38], did not point to any marked shift in economic policy as new and old ministers held similar orthodox views on inflationary deficit financing. However, as the war moved towards stalemate the government slowly carne to realize the necessity of making a serious effort to adjust the economy to the effects of a prolonged European war superimposed on the already extremely depressed domestic economic position. It also came to realize that the first steps were to try and break the paper shackles created by the state of disarray of federal finances and to provide some relief to the extremely tight domestic monetary conditions.

[33] See Table A.7.
[34] See Table A.11. On the behaviour of the private banks see *BBR*, 1915, pp. 19-20.
[35] At the outbreak of the war, "many factories, hit by the internal crisis, had reduced their activity to a few working days per week or to half of their looms, and dismissed workers". *BBR*, 1915, p. 6.
[36] Dividends distributed by textile corporations fell from 7,164 contos in 1913 to 4,082 contos in 1914 and 1,119 contos in 1915. Price competition was stimulated by the great productivity increase in the cotton textile industry resulting from the pre-war investment boom. Cf. *RC-JC*, 1915, p. 8.
[37] See *RC-JC*, p. 7.
[38] On this see Bello, J.M., A History of Modem Brazil, 1889-1964, Stanford U.P., Stanford, 1966, p. 231, and Peel to Grey, 13.7.1915, in PO 371/2294, A 104910/104910/6.

The readjustment to changed international economic conditions

The shift of economic policy was signalled by a special presidential address delivered to Congress on June 30, 1915. The address, hailed by the new Finance Minister as “the proposal to liquidate the legacy inherited by the present administration”[39], dealt with the State of the economy, and put forward some proposals for legislative action. It defined the two basic lines of action to be followed in fiscal and monetary policy during the next two years.

On the fiscal front, the problems ahead posed by the probably long-lasting reduction of revenue were now clearly visible[40]. They were magnified by the possibility of having to face the resumption of full debt servicing – which was to rise to almost 40 percent of total expenditure in 1916 in spite of the funding arrangement[41] – under war conditions. The strictest discipline over expenditure was to be maintained together with new attempts to raise and diversify the sources of indirect tax revenues. To deal with the pending debt accumulated since 1914 and presented as the result of the “hurry to carry out a programme of public works beyond the economic possibilities of the country”[42], the President still attempted to preserve the possibility of resorting to further Treasury Bill issues by proposing some alternative uses for them such as, for instance, in settlement of tax payments[43]. However, as the Finance Minister himself admitted, “it was evidenced by the discussions [with the government’s creditors] that part, at least, of these obligations should be compensated in cash since the [reduced] capacity of the domestic market to absorb the government IOUs would not allow ... their complete liquidation through bills or bonds”[44].

The second problem was the relief of domestic monetary stringency. The settlement of government debts in cash would, of course, go a long way in that direction. However, the determination to ease credit was not independent of the government’s willingness to provide financial help to the staple export industries, especially coffee, whose prices were still low after the 1913-14 collapse and had fallen sharply since April 1915[45]. With the European capital markets closed, the coffee interests had been canvassing for direct federal financial help for coffee valorisation since the

[39] *MFR*, 1915, p. 9.
[40] “The loss of custom revenues represents, thus, a lasting situation to the Treasury until the end of the war … and there one finds the element which now characterizes as a revenue crisis the difficult situation of the public finances … The problem to be solved consists then in keeping budget balance until the normal level of revenue from custom duties is re-established”. *MFR*, 1915, p. 28.
[41] See Table A.10.
[42] *MFR*, p. 9.
[43] *Idem*, p. 15.
[44] *Ibidem*, p. 16.
[45] See Table A.5.

end of 1914[46] and by mid-1915, with a new crop about to arrive at the ports[47], their demands coalesced with the government's fears that further wartime restrictions on world demand would adversely affect prices and, consequently, Brazil's external position[48].

It is important to note in this connection that, at this stage, government's views began to reflect the growing complaints about what contemporaries referred to as the private banking system's "inelasticity", i.e., its Limited capacity for credit creation resulting from high reserve ratios and its inadequate response to the financial needs of the real sector. Although private banks' reserve ratios were usually high indeed[49], it was the seasonal variation in their ability to lend that proved to be the greatest source of the real sector's problems. Complaints about tight credit conditions always became louder during the third quarter of the year in urban financial centres, and especially in Rio, when the cash settlement of the farmers' accounts following the harvesting season involved "a massive reshuffling of liquidity from the financial centres to the interior"[50]. Given the farmers' and agricultural workers' higher preference to holding money in the form of currency instead of banking deposits as compared with the urban population due to the under-development of the banking network in the rural areas, the harvest season provoked a substantial drain in high-powered money away from the financial centres. This drain not only immediately reduced the banks' ability to lend, but eventually forced them to seek to reduce their liabilities by a substantial amount (given the usually high reserve ratios with which they operated), thus causing a contraction in the money supply which directly affected urban trade and industry.

The *sequitur* of the resulting recurrent complaints from 1915 onwards was the notion that the Banco do Brasil could play an important part in minimizing the inadequacies of the private banking System by implementing the still unused central banking powers conferred by its 1905 statutes – especially rediscount operations[51] – and by spreading its branch network. These ideas were embodied in the June 1915 Presidential address[52]. However, the more radical step of granting issuing rights to the Bank, although forcefully advocated by its president throughout the war, did not come until the

[46] In October 1914, a Bill had been presented by a São Paulo senator on these lines but was opposed on the grounds that the August credit relief measures ware sufficient to meet the financial needs of the coffee industry. They were also strongly criticized by the London bankers of both the federal and the São Paulo governments. See *SAJ*, 24.10.1914, 13.3.1915 and 1.5.1915. Compare also Morgan to Secretary of State, 16.9.1915, in *USNA* RG-59 832.515/5.

[47] See Table A.4.

[48] Cf. *MFR*, 1915, pp. 13-14.

[49] The aggregate reserve ratio of the private banks stood at 92.0 percent at the end of the first-half of 1915, against the 32.5 percent of the Banco do Brasil. Data sources are the same as Table A. 16.

[50] Neuhaus, P., *Op. Cit.*, p. 47.

[51] For a description of and complaints about some statutory limitations on the Bank's rediscount operations, which actually hampered its ability to help the money market, see *BBR*, 1915, p. 18-19.

[52] The President expressed the opinion that "Banco do Brasil should return to the function (so incompletely exercised to date) suggested in the law which reorganized it –, as a coordinating element of the other banks' operations, acting in close connection with them. It is in the direction planned by Decree nº 1455 of December 30, 1905, which it should evolve, to prepare itself for its mission of bank of issue, substituting its paper for the fiduciary paper of the State. The shortest route to such economic and financial regeneration is rediscount policy".

'twenties. Nevertheless, from the second half of 1915 the government gave continuous financial support for the expansion of the Bank's operation and the wartime period witnessed a great leap forward in its growth as a nationwide institution.[53] The new government's appraisal of the economic position in mid-1915 broadly outlined above led to a series of readjustment measures in the following months. In August the government authorized a further issue of 350 thousand contos of Treasury notes and of an unlimited amount of federal *apólices* – as the 5% consols were known – to liquidate mil-réis-denominated obligations incurred prior to 1915 and to meet current expenditure, to support "national production", and to provide 50 thousand contos to the Banco do Brasil to develop its operations and open branches in all States of the Union[54].

By far the largest part of the note issue went to meet government obligations, as the expected export restrictions did not materialize during the marketing of the relatively small 1915 crop and the Bank's rediscount operations and the gradual liquidation of federal debts increased the private bank's capacity to finance it[55]. Since, by the third quarter of 1915, the improvement in the balance of payments position already allowed the Bank to settle its remittances without resorting to gold sales, the withdrawals of Conversion Office notes stopped and the money supply finally regained a steadily rising tendency[56]. In an attempt to adjust federal revenue to the changed economic conditions, the government decided to broaden the range of products subject to the internal consumption tax. It did this on a large scale in the budgets for 1916 and 1917, substantially increasing the share of this tax in total revenue, as Table 2 shows.

Table 2

Brazil: 1913-1917 – Revenue from Import and Consumption Duties (in thousand contos)

Ano	Import Duties		Consumption Duties	
	Revenue	Share in total tax revenue (%)	Revenue	Share in total tax revenue (%)
1913	344.3	71.2	65.1	13.5
1914	195.1	64.4	52.2	17.2
1915	152.6	51.7	67.9	23.0
1916	184.3	52.7	83.8	24.0
1917	158.4	43.3	117.7	32.3

Source: Villela, A.V. and Suzigan, W., *Política do Governo e Crescimento da Economia Brasileira*, IPEA/INPES, Rio de Janeiro, 1973, p. 123.

[53] On this see Pacheco, C., *Op. Cit.*, vol. IV, Chapter IV. The number of Banco do Brasil branches jumped from 7 in 1915 to 37 in 1918. Cf. Viana, V. *O Banco do Brasil*, Typ. do Jornal do Commércio, Rio de Janeiro, 1925. pp. 1032-1033.

[54] See Legislative Decree nº 2986 of 28.8.1915 and Executive Decrees nº 11693 and nº 11694, of 2.8.8.1915. The Executive by-laws stipulated the settlement of the Treasury Bills half in cash and half in *apólices* at a discount of 15%.

[55] Of the 350 thousand contos issued, apart from the 50 thousand handed over to the Banco do Brasil, only 11 thousand contos were spent in loans to planters through the Bank, while 153 thousand centos went to pay federal arrears and 136 thousand contos to meet expenditure relating to the 1915 budget. See *RC-JC*, 1917, p. 20.

[56] See Table A.11.

Expenditure was kept at very low nominal levels and it actually fell in real terms with the acceleration of inflation after 1915, largely as a result of cuts in consumption expenditure, and although budget estimates proved far off the mark the real deficit fell substantially[57].

The government's attempts to restore financial equilibrium and to make effective a more expansionary monetary policy in the second half of 1915 were helped by the start of a process of readjustment of the productive sector to wartime changes in world demand and to the sudden gap created between domestic demand and supply by the restrictions on imports, which boosted domestic activity in several tradable goods industries.

The overall effects of the war upon Brazilian foreign trade underlying the pressures for this readjustment of the real sector is visible in the aggregate data presented in Table A.3. The outstanding fact was the continuous fall in the barter terms of trade after their collapse during the pre-war crisis, largely as a result of the effects of world wartime inflation on import prices and the very slow recovery of export prices towards pre-war levels[58].

The evolution of the export price index resulted from unfavourable factors, discussed below, affecting coffee and, to a lesser extent, rubber prices, and, in spite of substantial changes occurring in the structure of exports during the war, was the basic cause of the sluggish recovery of the value of exports[59]. It is important to note in this connection that the volume of exports increased substantially. Although shipping tonnage restrictions were a continual threat the further growth of Brazilian exports, they were not a binding constraint until 1917 and even then, as shown in the following section, were successfully overcome. Nevertheless, the rise in the Volume of exports relatively to pre-war levels was more than offset by the deterioration in the terms of trade and Brazil's capacity to import continued to fall from the already low levels that resulted from the collapse of 1913-14.

The most important change occurring in the structure of Brazilian trade was the transformation of the commodity composition of exports. On the one hand, the explosive increase of world rubber supplies coming from the large areas planted in the Straits and Dutch East Indies, shown in Table A.13, and the war – induced adverse changes in the world demand for coffee from 1916 – such as the effective blockade of Brazil's roundabout access to the German market and the low priority given to coffee imports by Allied procurement agencies – kept the prices of both commodities very depressed throughout the war[60]. On the other hand, the curtailment of sane European sources of strategic industrial raw materials and foodstuffs, which Brazil could supply at the high prices then prevailing, allowed a rapid expansion of non-traditional exports and stimulated the growth of production in

[57] See Tables A.2, A.8 and A.10.

[58] It should be noted, however, that the data presented in Table A.3 may over-estimate the fall in the terms of trade since the export price index is based on the normal, peacetime, composition of exports, which, as shown below, changed considerably during the war. The author thanks Mr. Ralph Zerkowski for calling his attention to this point.

[59] See Tables A.3 and A.12.

[60] For data on coffee, see Table A.4.

several primary and food-processing industries.

Such was the case with sugar, where the fall in beet sugar supplies allowed a sustained increase of exports to Brazil's southern neighbours, with cereals, beef and other animal products increasingly exported to Europe, and with manganese ore, as the halt in Russian exports made Brazil the chief supplier to the United States[61]. The growth of the more dynamic of these exports is shown in Table 6 below. The importance of the growth of these non-traditional exports to the maintenance of Brazil's foreign exchange earnings can be seen by comparing the behaviour over time of the share of Brazil's traditional Staples in total exports shown in Table A.12.

Table 3

Brazil: 1913-1917 – Net Export Quantity of Selected Non-Traditional Exports (in thousand tons)

Ano	Sugar	Manganese	Refrigerated Beef	Rice	Kidney Beans	Maize
1913	5.3	122.3	-	-7.7	-8.5	-8.8
1914	31.8	183.6	-	-6.5	-5.3	-1.1
1915	59.0	288.6	8.5	-6.9	1.0	-2.0
1916	53.8	503.1	33.6	0.4	44.5	3.5
1917	131.5	532.8	66.4	44.6	93.4	23.8

Sources: Williams, J. H., *Op. Cit.*, p. 451; Villela, A. V. and W. Suzigan, *Op. Cit.*, p. 145 and *RC-JC*, 1917, p. 20.

The structure of imports did not show large changes as a result of the war, as seen in Table 3. Besides the marked fall in capital goods imports, basically stemming from the 1913-15 recession, and from foreign supply restrictions affecting the importation of transport equipment, the main changes were the growth of the share of fuels and the fall in consumer goods. These changes reflected the different domestic supply elasticities between the two classes of goods, and the federal government's efforts to maintain the level of foreign coal supplies – whose prices increased enormously during the war[62] – to avoid the disruption of essential transportation facilities.

[61] Cf. Williams, J. H., Latin American Foreign Exchange and International Balances During the War, in *The Quarterly Journal of Economics*, vol. XXXIII, May 1919, pp. 449-50.
[62] Cf. *MFR*, 1916, p. 22.

Table 4

Structure of Imports by Classes of Use (in percentage of total volume of imports)

Type	1913	1914	1915	1916	1917
Consumer goods	30.05	33.97	27.46	24.20	22.39
Non-durable	20.74	23.16	23.50	20.02	16.37
Durable	9.31	10.81	3.96	4.18	6.02
Fuels and lubricants	9.65	12.28	15.36	16.24	17.29
Raw materials	45.22	42.87	52.12	53.95	53.41
Capital goods	15.03	10.84	5.04	5.59	6.88
To industry	4.18	3.34	1.65	1.88	2.21
Transport equipment	5.92	2.88	1.33	1.43	1.89
Other	4.93	4.62	2.06	2.28	2.78
Unclassified	0.05	0.04	0.02	0.03	0.03

Source: Villela, A. V. and Suzigan, W. *Op. Cit.*, p. 436.

However, the rates of real growth of the different classes of imports shown in Table 5 helps us to assess bow strongly the wartime supply restrictions affected Brazil, inducing the growth of output and import substitution in different sectors – especially in non-durable consumer goods – as well as the small but sustained recovery of investment levels from 1916.

Table 5

Brazil: 1913-1917 – Annual Rates of Real Growth of Imports by Classes of Use (in %)

Type	1913	1914	1915	1916	1917
Consumer goods	-1.93	-37.18	-31.96	-3.75	-10.90
Non-durable	-3.25	-40.32	-12.45	-8.36	-20.44
Durable	-0.64	-30.57	-71.31	24.00	34.63
Fuels and lubricants	10.37	6.21	-11.97	-3.55	-22.21
Raw materials	1.84	-50.20	-10.51	17.60	-26.67
Capital goods	-17.87	-60.68	-62.01	29.19	8.41
To industry	-25.66	-58.45	-60.25	27.77	-0.06
Transport equipment	-18.79	-71.91	-60.93	52.77	2.34

Source: Villela, A. V. and Suzigan, W., *Op. Cit.*, p. 436.

Given the large margins of unutilized capacity prevailing at the beginning of the war, the import restrictions brought about a remarkable output recovery from 1915. However, the classical thesis of the dramatic impact of these wartime restrictions on the industrialization of Brazil[63] has been correctly qualified by several authors[64]. The behaviour of capital goods imports to industry during the war

[63] The classical statement is to be found in Simonsen, R., *A evolução industrial do Brasil*, Empresa Gráfica Revista dos Tribunais, São Paulo, 1939.

[64] See, for instance, Dean, W., *A Industrialização de São Paulo (1880-1945)*, Difel, São Paulo, 1971, Chapter VI; Villela, A.V., Surto industrial durante a guerra de 1914-1918, in *Ensaios Econômicos: homenagem a Octávio Gouvêa de Bulhões*, APEC, Rio de Janeiro, 1972; and Fishlow, A., Origins and Consequences of Import Substitution in Brazil, in Di Marco, E.L. (ed.), *International Economics and Development: Essays in honor of Raul Prebisch*, Academic Press, New York,

shown above and the still very limited technological capability of domestic suppliers of industrial equipment make it very unlikely that the war had a substantial effect on the expansion of industrial capacity[65].

The war had, however, some influence in diversifying the domestic supply of manufactured goods, particularly non-durable consumer goods, as well as in the number and size distribution of industrial establishments. As Table 6 shows, although total industrial real output showed an impressive rate of growth from 1915, the aggregate behaviour of the four industrial groups for which disaggregate data is available – which together accounted for 50 percent of industrial value added in 1919[66] – does not show a comparably stable performance in spite of the growth of shoe and clothing production[67].

Table 6

Brazil: 1913-1917 – Annual Rates of Growth of Real Output of Selected Industrial Sectors (in %)

Type	1913	1914	1915	1916	1917
Textiles	-3.4	-18.9	48.2	-6.0	16.8
Shoe and clothing	-1.0	-24.3	9.9	21.3	10.6
Beverages	14.5	-10.0	20.2	5.7	-5.4
Tobacco products	9.6	-9.4	-3.1	30.3	-22.5
Total for the above four sectors	-0.7	-18.1	32.3	-0.3	11.2
Total for manufacturing industry	0.9	-8.7	12.9	11.4	8.7

Sources: Villela, A.V., *Op. Cit.*, p. 539 and Table A.1.

This tends to show, as Villela has noted, that it was probably the food processing industries – the second single largest industrial branch, accounting for 20.5 percent of value added in manufacturing in 1919 – which received the greatest stimulus during the war, helped by the additional pull given to them by the export market[68].

The rise in the prospective profitability of several branches of small scale non-durable consumer goods industry resulting from the increased transportation cost and higher prices of competing imports seems to be mirrored in the mushrooming of new industrial establishments accompanied by

1972.

65 On the behaviour of the Brazilian capital goods industry during the war see Corrêa do Lago, L.A.C., Almeida, F.L. de e Lima, B.M.F., *A Indústria Brasileira de Bens de Capital; origens, situação recente, perspectivas*, FGV, Rio de Janeiro, 1979, pp. 36-55.

66 Villela, A.V., *Op. Cit.*, p. 542.

67 The explosive growth in textile production in 1915, when domestic demand was still depressed, hampered, as pointed out above, its continued growth in the following year.

68 Exports of refrigerated and processed beef, sugar and lard, which in 1914 accounted for less than 2 percent of Brazilian exports, increased their share in exports to 16 percent in 1918. Cf. Villela, A. V., *Op. Cit.*, p. 540. The meat packing industry actually experienced its greatest growth of capacity after 1914, helped by the increase in electric power supplies during the pre-war boom. On this see Elliot, L.E., *Brazil Today and Tomorrow*, Macmillan, New York, 1921, pp. 208 ff.

a noticeable decrease in their average size which occurred during the war[69]:

Table 7

Brazil: 1919

Age Distribution of Industrial Establishments and

Their Size Structure According to Date of Foundation

Date of Foundation	Number of Establishments	Workers per Establishment	Share in total value of production %
1889-1899	924	48	14.0
1900-1909	2438	22	19.8
1910-1914	3135	17	21.3
1915-1919	5936	11	26.3
Unknown	267	16	1.6

Source: Villela, A. V., Op. Cit., Table 1, p. 538.

Despite the fact that some important sectors like building remained depressed throughout the war[70], business in the tradable goods sectors underwent a significant overall recovery after 1916. The government's gradual settlement of its compromises and the easing of monetary conditions it brought about was widely recognized as a crucial factor in the revival of trade[71].

Of course, the basic federal budget imbalance could not easily be redressed, particularly since further expenditure cuts were regarded as an unworkable proposition by the Treasury by the end of 1916[72]. The possibility of domestic borrowing was limited, as the Minister of Finance put it, "by prudency"[73] as the long-term federal *apólices* were selling at a 20 percent discount. The natural outcome was a further increase in indirect taxation and the budget for 1917 embodied a rise in the gold tariff quota to 55 percent and a further widening of the incidence of the domestic consumption tax[74].

Although the balancing of the federal government's accounts remained a source of permanent worry, the central issue of economic policy in 1916 became increasingly the government's ability to honour its foreign obligations and, especially, the possibly damaging effects of the Treasury's foreign

[69] It should be noted that, as the data presented in Table 10 only refer to industrial establishments existing in 1919, it may underestimate the number of industrial establishments founded in the earlier periods, as well as overestimate their average size on the assumption that larger establishments nave a greater probability of survival.

[70] The apparent consumption of cement fell from 465.3 thousand tons in 1913 to 51.7 thousand tons in 1918. Cf. Villela, A.V. and Suzigan, W., *Op. Cit.*, Table XVII, p. 423.

[71] As the *Jornal do Commércio* put it, "the Government succeeded in relieving the congestion of the credit institutions' portfolios, thus allowing the re-establishment of commercial activity. The banks, which were saturated with bills and titles, re-enacted their transactions and the increase in business was noticeable throughout the country. Confidence returned". *RC-JC*, 1917, p. 11.

[72] *MFR*, 1916, p. 20-21.

[73] Idem, p. 21.

[74] See Law nº 3213, of 31.12.1916.

exchange payments on exchange rate stability. Worries on that score began to grow because the £5 million of one-year gold-indexed Treasury Bills, issued to European and American creditors as settlement of government arrears from the end of the first quarter of 1915 and renewed in 1916 in accordance with a contractual option for a one-year extension, would become due from March 1917[75] – just before the fall resumption of interest payments on the long-term foreign debt from August. Even though the Banco do Brasil had regained a reasonable control over the foreign exchange market by the end of 1915 and had kept the mil-réis exchange rate within narrow margins around 12d, the Treasury had refrained from liquidating its gold-indexed bills during 1916 in order not to "weigh on the [foreign exchange] market"[76] and avoid the budgetary consequences of a rise in the mil-réis equivalent of its current foreign payments[77].

In fact, the task of exchange rate management had been made more difficult in 1916. On one hand, there was a deterioration of the trade balance after its 1915 improvement, as a result of the rise in both import quantities and their unit values following the beginning of domestic recovery[78]. On other hand, there were the adverse psychological effects of recurrent news about the requisitioning of Allied ships employed in ocean routes between Brazil and Europe[79].

With the London capital market blocked by the firm stand taken by the British Capital Issues Committee against foreign issues[80], the Brazilian government entertained during 1916 the new possibility of borrowing in New York signalled by the American wartime drive for financial supremacy in Latin America through the expansion of branch banking and long-term lending[81].

On the occasion of the Pan-American Conference of Buenos Aires in 1916, during which United States Treasury Secretary McAdoo publicly dwelt on the dangers to the American Republics arising from their excessive economic reliance on European connections[82], the American delegation visited Brazil and started negotiations for a loan which would relieve Brazil's pressing foreign exchange needs and possibly even allow the resumption of full debt servicing before 1917[83]. The

75 See Decree nº 11741, of 5.2.1915 and Decree nº 11510, of 7.3.1915. Compare also Morgan to Secretary of State, 14.9.1916, in *USNA* RG-59 832.51/22.
76 *MFR*, 1916, p. 4.
77 As stated by the Finance Minister in retrospect, the settlement of these debts "could unfavourable affect the exchanges … and the concern with exchange rate stability had dominated the management of public finances". *MFR*, 1916, p. 4.
78 See Table A.3.
79 See *MFR*, p. 49.
80 Atkin, J., Official Regulation of British Overseas Investment, 1914-1931, in *Economic History Review*, July 1970, pp. 324-325.
81 On post 1914 American foreign financial policy see Phelps, C. W., *The Foreign Expansion of American Banks: American Branch Banking Abroad*, The Ronald Press, New York, 1927, Chapters VIII and IX, and Parrini, C. P., *Heir to Empire: United States Economic Diplomacy, 1916-1923*, University of Pittsburgh Press, Pittsburgh, 1969, Chapter V.
82 In this official address to the Conference, McAdoo pointed to "the imperative necessity for close relations between the American States … freed as far as possible from the dangers which constantly menace their economic development through European complications". See *SAJ*, 20.5.1916.
83 See the British Consul-General Memorandum, dated 13.8.1916, enclosed in Peel to Grey, 17.8.1916, *in* FO 368/1496, A 178535/14225/6.

brief Rio negotiations were followed up by a visit of the Brazilian Foreign Minister to the United States in July for talks with private banking interests, but nothing came out of these efforts[84].

The government made new attempts to raise US$ 25 million to fund the federal short-term obligations in September, when representatives of the United States International Financial Corporation visited Rio. Following the unfavourable reception of these attempts, the Minister of Finance made a strong personal plea to the American Ambassador to Brazil to use his influence to break the deadlock stating that the loan would “free Brazil from dependence upon European bankers”, enable the government to avoid the “desperate remedy” of a note issue and consolidate United States influence[85]. In view of the possible political dividends afforded by the loan the Department of State took the matter up again in Washington with the International Financial Corporation and, on October 20, the Department decided that although the bankers could not see a way to grant the loan requested by Brazil, they “would have great interest in a general reorganization of the finances of Brazil if such was desired by that Government”[86]. However, Rothschilds were bound to oppose any such radical schemes and the Brazilian government did not desire to engender their hostility. Thus, the Finance Minister’s reaction to the American counter-proposal was cool to the great chagrin of their Ambassador, who foresaw that “the main difficulty in arranging a loan in New York would come from the opposition of the Rothschilds who have so mortgaged Brazil's financial future that – they will place every obstacle in the way of her entering into banking relations with any other house than their own or with any other nation than England”[87].

The end of Brazilian neutrality

As mentioned above, the Brazilian government’s worries over the external position and its ability to start servicing its increased foreign obligations in 1917 were aggravated by the stepping up of the restrictive Allied measures affecting coffee exports to Europe during 1916. The tightening of the blockade virtually closed the Scandinavian route to the German and Austrian markets and, in March, the French government told the Comité des Transports Maritimes to prohibit coffee imports from May to September. Although the French decision was not carried through owing to strong protests from Brazil, rumours remained that other Allies would eventually do the same since the level of existing stocks in Europe was too high in relation to their war procurement necessities[88].

The prospect of a drastic reduction in coffee exports represented a far worse threat to Brazil’s

[84] *Idem*. See also Peel do Grey, 19.10.1916, *in* FO 371/2640, A 229048/125948/6.
[85] Morgan to Secretary of State, 14.9.1916, *in* USNA RG-59 832.51/122.
[86] Polk to Morgan, 21.10.1916, *in* USNA RG-59 832.51/125.
[87] Morgan to Secretary of State, 23.10.1916, *in* USNA RG-59 832.51/131.
[88] Vice-Consul (São-Paulo) to Secretary of State, 13.5.1916, *in* USNA RG-59 832.00/135.

external equilibrium than the impending increase in federal foreign debt payments since, if the worst came to the worst, she could roll over the latter but coffee still represented aver 50 percent of the country's current export earnings. Moreover, the Allied restrictions on the trade in a commodity so crucial to Brazilian economic stability would have an important bearing upon the government's success in maintaining its settled policy of neutrality, in view of the diplomatic problems the war created for German-Brazilian relations.

When the war broke out, the large superiority of British sea power led the German naval authorities to order the internment of her merchant fleet in neutral harbours and, as a result, 46 German and Austrian ocean-going ships, totalling over 330 thousand deadweight tons – that is about-1.25 percent of the world's total registered tonnage in 1914 – had taken refuge and were lying idle in Brazilian ports[89].

At the same time, there were still about 3.2 million bags of coffee belonging to the Brazilian state of São Paulo stored in European ports, serving as a guarantee for a loan issued in 1908 for coffee price support. Over 1.8 million bags of these stocks were in Hamburg, Bremen and Antwerp and, after the occupation of Belgium, the German authorities ordered the sale of this coffee without the production of the warrants held by the London Committee responsible for managing the sales from these stocks and deposited the proceeds of their sales – amounting to the Reichsmark equivalent of £6 million – at the Berlin bank of Bleichröder to the São Paulo government's account. However, as the release of these funds would benefit the British and French bondholders to whom the coffee was hypothecated, the German government forbade their remittance and the proceeds of the sales remained frozen in Berlin[90].

When the German sales ended in March 1916, the large depreciation of the Reichsmark against sterling-in which São Paulo's debt on account of coffee valorisation was denominated – led to a *Paulista* attempt to arrange with the German bankers that the payments should be made at the pre-war gold parity, but no firm commitment came from them[91]. Even though the German attitude provoked great discontent in São Paulo, the federal government strongly denied rumours that Brazil, following Portugal's example, would abandon neutrality and take over the German ships[92]. In fact, following the lead of the United States, Brazilian foreign policy since the outbreak of the war had been one of strict neutrality, and even when the pro-Ally campaign led by influential politicians like Senator Ruy Barbosa increased the opposition to the neutrality policy in mid-1916, the government

[89] See *DOU*, 13.4.1917 and 6.12.1917, and the Board of Trade Memorandum enclosed in FO 371/2690, A 193212/183580/6. World tonnage figures from Hardach, G., *Op. Cit.*, p. 14.

[90] On this, see the Secret Memorandum by the British War Trade Intelligence Department, dated 5.5.1916, *in* FO 368/1495, A 90845/90845/6.

[91] *Idem*. See also *SAJ*, 1.4.1916.

[92] *SAJ*, 25.3.1916.

took the very clear course of dissociating itself from any involvement in it[93]. The federal authorities would only go so far as to attempt to charter part of the German fleet held in Brazil against the funds blocked in Berlin. The proposal, however, was not accepted by the German government[94].

Against this background, the tightening of Allied restrictions over Brazilian trade in 1916 provoked strong ill-feelings in official circles in Brazil who saw it as a high handed interference with the country's neutral rights which could force São Paulo against the federal government's policy of neutrality[95]. There is no evidence, however, of any official communication between the Allies and Brazil relating to the use of the German ships before the end of 1916.

The approach taken by Brazil to try and minimize the effects of the loss of the German market upon the coffee industry and the balance of payments during 1916 was to attempt to obtain foreign financial support for a new coffee valorisation scheme. In such a scheme a line of credit would be opened in Europe and used for official foreign debt payments, while coffee would be bought by the government with the still unused balance of the Treasury note issuing rights given in August 1915 for the foreign creditors' account and stored in Brazil until the return of normal world trade conditions. After proposing such scheme to Rothschilds in May, apparently without success, the Brazilian government approached the British government in September protesting in very strong terms against the blockade and asking for an increase in her export quotas to Holland and Scandinavia and for financial support on the lines described above[96]. Although British Foreign Office officials saw in the possibility of helping Brazil a good opportunity to consolidate their diplomatic position *vis-à-vis* the United States after the war[97], the Board of Trade opposed the Brazilian requests on the grounds that the increase in exports to the neutral European countries was "out of the question for reasons connected with the blockade"[98]. The British Treasury also strongly objected to giving financial assistance to Brasil for expenditures considered unrelated "with the persecution of the war"[99].

93 Cf. Peel to Grey, 6.9.1916, in FO 371/2640, A 195196/148395/6.

94 *SAJ*, 18.3.1916. See also the Secret Memorandum prepared by the British Admiralty, dated 23.12.1916, enclosed in FO 371/2640, A 252290/183580/6.

95 As the Brazilian Finance Minister expressed to the American Ambassador in this connection "the Allied powers are again organizing pressure, as yet of an indirect character, to force Brazil's hand" and went on to say that "he would rather resort to another issue of paper money than to yield to pressure". Morgan to Secretary of State, 14.9.1916, *in* USNA RG-59 832.15/22.

96 See the notes delivered by the Brazilian government to the British Minister in Rio, enclosed in Peel to Grey, 15.9.1916, in PO 371/2640, A 196851 183580/6.

97 "… we should do our utmost … to consolidate our relations with Brazil. After the war the U.S. will have a great advantage over us in their dealings with South America, which they will not hesitate to push both on business and sentimental grounds and Brazil is the least developed of the larger South American Republics, i.e., has the greatest future before it". Mr. R. Sperling's minutes, dated 16.9.1916, in PO 371/2640, A 193212/183580/6.

98 See the Board of Trade Memorandum, enclosed in Fountain to Sperling, 27.9.1916, in PO 371/2640, A 193212/183580/6.

99 As the Treasury answer to the Foreign Office consultation significantly stated "we must keep our breath to cool our porridge, which is already hot enough". See Bastow to Sperling, 23.9.1916, in PO 371/2640, A 183580/183580/6.

Following the British government's refusal, Rothschilds put forward another proposal for French and British government coffee purchases for use by the troops[100], but they gave no immediate consideration to it. However, in mid-November, the British Minister in Rio reported to London suggesting that the Brazilian Foreign Minister, "hitherto the chief opponent to [the] proposal to requisitioning German ships"[101], had presidential ambitions and that "should São Paulo coffee interests accept Messrs. Rothschilds proposals as a business proposition he would be placed in difficult position as the responsibility for rejection of financial assistance would fall on Brazilian government and he would probably withdraw his opposition"[102]. This aroused the Foreign Office's interest again into "considering whether in return for the seizure of German ships we would furnish direct government assistance to Brazil"[103] and the question was forwarded for immediate consideration by the British War Committee. It was pointed out to the Committee that, besides the requisition of German ships, there was "the further contributory advantage that assistance afforded by us to Brazil at the present time could *pro-tanto* prevent Brazil from being thrown into the arms of the New York banks who are only too anxious to take from London the position of the financier of the Brazilian government"[104]. The Committee approved the proposal in principle, subject to the condition that all enemy ships in Brazilian ports should be seized and employed in trades approved by the Allies, and instructions were sent to Rio to let the offer be put forward by Rothschilds representative in Brazil as a private consultation both to the São Paulo and the federal governments[105].

The proposal, however, did not get a warm reception in Brazil. As the British Minister reported, opinion in São Paulo was "that German steamers could only be requisitioned at the risk of a declaration of war with Germany, which this country with practically no gold reserves and exchange already seriously depreciated is in no condition to face"[106]. The *Paulistas* correctly saw the possibility of tiding over the coffee problem with purchases financed by new Treasury note issues – of which about 80 thousand contos were still available from the authorization granted to the Treasury in August 1915 – and that Congress would authorize a further issue on the security of the next crop[107]. This, as the British Minister observed, would "get over the difficulty of non-shipment to the Central Powers as coffee would be stored and unloaded on enemy countries immediately after the war, which the *Paulistas* expect to terminate shortly and they are not over anxious to sell their coffee now as they

[100] Rothschild to Grey, 25.10.1916, *in* FO 371/2640, A 214537/183580/6.
[101] Peel to Foreign Office (telegram), 16.11.1916, in FO 371/2640, A 231061/ 183580/6.
[102] *Idem*.
[103] Foreign Office to Peel (telegram), 23.11.1916, *in* FO 371/2640, A 231061/ 183580/6.
[104] See Mr. R. Sperling's Memorandum dated 23.11.1916, circulated to the King and the War Committee, *in* FO 371/2640/, A 231061/183580/6.
[105] Locock (War Committee) to Foreign Office, 27.11.1916, *in* FO 371/2640, A 240849/ 183580/6 and Foreign Office to Peel (telegram), 25.11.1916, in FO 371/2640, A 231061/183580/6.
[106] Peel to Foreign Office (telegram), 31.1.1917, *in* FO 371/2900, A 25732/2385/6.
[107] *Idem*.

expect they will obtain high prices when they are able to export again to enemy countries"[108]. Moreover, at this stage, the federal government was still ill – disposed towards taking over the ships and, as the British Minister reported, the Brazilian President was "adverse to this step and will only yield to pressure"[109].

The outlook for the external position in Brazil was, however, completely transformed in the first half of 1917 by the German decision to initiate unrestricted submarine warfare from February 1, and its ordering a fleet of 110 U-boats to sink without warning all merchant ships engaged in trade with the enemy. In spite of the neutrals' strong protests, the all-out submarine offensive was launched in February with devastating effectiveness. Allied and neutral losses soared. During April 1917 alone, 866 thousand gross tons were sunk as compared with 183 thousand in April 1916. One out of every four ships that left the United Kingdom did not return[110]. Defeat was feared in Britain, failing the discover of an effective deterrent to the German submarines. If losses continued at the level of the first few months' by the end of the year the carrying capacity of the British merchant fleet would fall to 1.6 to 2.0 million tons a month, against needs of 1.4 million tons for basic food supplies alone[111].

The immediate consequence of the German submarine offensive for Brazil was the prohibition of imports of coffee into the United Kingdom in the second half of February 1917 as part of a comprehensive stepping-up of import restrictions by the British government. Although Britain was a minor importer of coffee, the Brazilian government feared the spread of the prohibition to other Allied countries such as France and Italy, both substantial consumers[112]. The possible consequences of the British decision, officially represented by Brazil as "an unfriendly act and an evincing hostility to our commerce"[113], seriously jeopardized the coffee industry and Brazil's balance of payments position. If followed by other Allies it would leave the government no alternative but to protect the former by domestic purchases[114] and to default on the foreign debt so as to maintain the level of imports, already compressed to almost the bare essentials.

On March 3, the Minister of Finance, who, at the beginning of the year was declaring that "the sole preoccupation, the sole objective of the present administration is to take up again the payment

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[108] *Ibidem*.
[109] Peel to Foreign Office (telegram), 29.1.1917, *in* FO 371/2900, A 23195/2385/6.
[110] On this see Hardach, G., *Op. Cit.*, pp. 41-43.
[111] *Idem*, p. 3. The losses from the submarine attack could only be effectively diminished from mid-1917 with the introduction of the convoy system by the Allies, but the huge difference between British vessels lost by enemy action and new construction brought on to the British registers only reached its previous levels by the end of 1917. On this see Salter, J. A., *Allied Shipping Control: an experiment in international administration*, Oxford University Press, Oxford, 1921, pp. 307-369 and 363.
[112] Peel to Balfour, 23.3.1917, *in* FO 368/1706, A 87132/43559/6.
[113] See the Brazilian Government's note presented by the Brazilian Minister in London to the Foreign Office on 27.2.1917, *in* FO 368/1706, A 43559/43559/6.
[114] As the Brazilian Government's note stated "we are determined to defend the coffee industry, so as to avoid the fall of prices in the world's markets, which this prohibition must inevitably bring about". *Idem*.

of the Funding Loan"[115], telegraphed to Rothschilds disclaiming "all responsibility for the financial consequences of the restrictions which must rest with those who have caused the said situation", and threatening that "resources intended for our European payments may even be applied here to acquire stocks of goods which, remitted opportunely when free navigation is re-established may allow us to pay our creditors", unless some form of foreign financial assistance was forthcoming[116].

Although the London bankers immediately put the matter before the British authorities[117], the latter took a long time in interdepartmental deliberations over whether financial help to Brazil might be conditional on the seizure of the German ships[118]. At the same time, however, negotiations on the lines of the Brazilian proposal to Rothschilds were proceeding in Rio between the Treasury and a Director of the French Department Nationale des Valeurs Mobiliers[119]. The French government had since mid-1916 been in official contact with Brazil trying to work out some form of financial assistance to improve the latter's balance of payments position so as to redress the heavy fall in Brazilian foreign bonds held in France, which the French wished to use as collateral for dollar loans in the United States[120]. Contrary to earlier French views that the Brazilians "would do nothing unless supported by Rothschilds"[121], by the end of March the Brazilian and French governments reached a secret agreement for a £3 million credit by the Banque de France. These funds could be used for payment of Brazil's foreign liabilities and their mil-réis equivalent would be issued by the Treasury to buy coffee to be shipped when convenient[122].

The agreement was implemented at once[123]. Although the credit provided temporary relief to the coffee sector, it was still insufficient to meet the foreign exchange demands of all the impending federal government's foreign obligations. There was strong evidence that the government could not count on further foreign financial assistance in the short run and rumours that it would not be able to meet the payment of the 1915 gold-indexed Treasury Bills on maturity[124] were confirmed in March when the Treasury announced that 50 percent of these debts would be paid in domestic *apólices* at 90 percent of par[125]. In spite of strong protests from the creditors – mostly foreign companies –

[115] *SAJ*, 13.1.1917.
[116] See Brazilian Minister of Finance to Rothschilds (telegram), 3.3.1917, enclosed *in* Rothschild to Balfour, 5.3.1917, in FO 368/1706, A 48452/43559/6.
[117] Rothschild to Balfour, 5.3.1917, in FO 368/1706, A 48452/43559/6.
[118] See the relevant papers in FO 368/1706, A 58984, A 64965, A 77618 and A 87051/ 43559/6.
[119] *SAJ*, 31.3.1917.
[120] See the British Consul-General Memorandum, dated 13.8.1916, *in* FO 368/1496, A 178535/142225/6.
[121] *Idem*.
[122] See Mr. R. Sperling's minutes of a meeting with the French Chargé d'Affaires in London, dated 8.6.1917, in FO 368/1706, A 115068/43559/6.
[123] The first Executive Decree authorizing the issue of Treasury notes for coffee purchases from the existing balance of the August 1915 law was issued in March. See *SAJ*, 24.3.1917.
[124] Consul-General to Secretary of State, 7.2.1917, *in* USNA RG-59 832.51/145.
[125] Consul-General to Secretary of State, 23.3.1917, *in* USNA RG-59 832.51/155.

holding these bills[126], the government was able to get early acceptance of its conditions for £4.1 million out of the £5 million total debt and payments were re-scheduled from May 1917 to June 1918[127]. Soon the remaining reluctant holders "started to acquiesce so as to be able to continue to enjoy the government's patronage"[128].

The unusually tough attitude taken by the government towards its creditors in the first quarter of 1917 illustrates the anxiety already existing in official circles over the threat to external and fiscal equilibrium posed by the foreseeable depressing effects of the world shipping crisis on current exports and federal revenue. The position was further complicated by the approach of a large coffee crop in 1917 – some 25 percent above the previous year's figure[129] – when domestic credit conditions were again worsening in the second quarter of 1917 as the private bankers, foreseeing the problems ahead, started again restricting credit and increasing their reserves[130], thus aggravating the effects of the erosion of real cash balances cause by the acceleration of inflation[131].

This bleak Outlook and the possibility of obtaining a substantial *quid pro quo* from the takeover of the German ships were already sufficient to push the Government slowly but irreversibly, under the pressure of São Paulo, towards accepting inflationary coffee financing and the end of neutrality as justifiable policy propositions. These steps were made immensely easier on April 4, when, following President Wilson's request to the American Congress for a declaration of war against Germany, a Brazilian steamer was sunk by a German raider off the Britany coast. The news of the United States' entry in tire war reached Rio at the same time as the, news of the German aggression and, on April 7, the Brazilian cabinet decided to break off diplomatic relations with Germany pending official reports on the sinking of the Brazilian ship[132]. Late in the evening of the same day the Minister of Foreign Affairs summoned the American Chargé d'Affaires to an emergency meeting, informed him of the cabinet decision to severe relations with Germany "within two days", handed him a confidential memorandum on the question of the São Paulo coffee stocks taken over by the German government and asked for American support in favourably influencing the British government towards a Brazilian request for the guarantee of payment, after the war, of the sum due to São Paulo deposited at Berlin[133].

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126 An amusing incident, which is revealing of the tensions then existing between the Treasury and the bill holders happened when an American asked to be ushered in the Minister of Finance's Office to present his overdue bills and "put the government to test". This unusual step led the Minister to burst out that "he did not care what the American holders of the Bonds might think … that the people of North America had no skill in finance, did not know to make a banking loan … [and] that the European nations were of much more use than the United States to Brazilian finances". See Consul-General to Secretary of State, 19.3.1917, *in* USNA RG-59 832.51/151.

127 See Consul-General to Secretary of State, 23.3.1917, *in* USNA R3-59 832.51/155.

128 Consul-General to Secretary of State, 23.7.1917, *in* USNA RG-59 832.51/163.

129 See Table A.4.

130 See Table A.11.

131 Cf. Neuhaus, P., *Op. Cit.*, p. 46.

132 *SAJ*, 14.4.1917.

133 See Benson to Secretary of State (telegram), 8.4.1917, *in* USNA PG-59 832.51/150 and Benson to Secretary of State,

On April 10, Brazil broke off relations with Germany. No action was taken on the German ships – except placing then under the guard of the Brazilian Navy as it was feared they could be sabotaged by their crews – since no immediate consequence had resulted from the request for guarantees to the São Paulo debts and the Foreign Minister opposed a declaration of war[134]. However, the increasing pro-Ally campaign following Brazil's formal statement of neutrality in the Germany-United States conflict[135] and, apparently, the growing anxiety of the São Paulo government over having some trump with which to negotiate with Germany after the war, led to a serious political crisis after the reassembly of Congress in early May. The crisis provoked the Foreign Minister's resignation on May 2, opening the way to the revision of Brazil's foreign policy towards the war.

Some days later the new Foreign Minister, on assuming Office, declared his intentions "to adopt a frankly American policy"[136], clearly detaching Brazil from supporting the current Argentinian efforts for a collective policy of neutrality in South America[137]. On May 15, the Brazilian Ambassador in Washington delivered official proposals to the American government, stating that "Brazil was prepared to abandon its position of neutrality towards Germany" in exchange for United States "guarantees". The latter related to the "necessary supplies, particularly wheat and coal, and that shipping used in trade with Brazil would not be withdrawn for use in transatlantic trade to a degree which would seriously embarrass Brazil" and also to military aid in case of an attack by Germany[138].

On May 18, the Americans informed Brazil of the acceptance of its proposals "*en principe*"[139] and the sinking of another Brazilian merchant ship on May 20[140] washed away all opposition and completely freed the hands of the government to take a tougher stance against Germany. On May 22 the President asked Congress to reconsider Brazil's neutrality in the war between Germany and the United States and, in a meeting at the presidential palace on May 28, in which the leading parliamentary leaders of the pro-Ally campaign took part, a final decision was taken on the issue and on the takeover of the German ships[141]. A decree was signed along these lines on June 1[142] and through laws enacted shortly afterwards the ships were incorporated into the fleet of the state-owned Lloyd Brasileiro shipping company and the government was authorized to "enter into agreement with

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9.9.1917, *in* USNA RG-59 832.51/157. The Anglo-Brazilian negotiations referred to are filed in FO 368/1706. The British Foreign Office position on the Brazilian request was that "it is, of course, out of the question to guarantee payment of a German debt to Brazil". Sir Maurice de Bunsen's minutes, date 28.2.1917, in FO 368/1706, A 43982/ 43559/6.

134 See Peel to Balfour, 4.5.1917, *in* FO 371/2901, A 136400/136400/6.

135 Executive Decree nº 12458, of 25.4.1917.

136 Peel to Balfour, 10.5.1017, *in* FO 371/2901, A 112643/112643/6.

137 On this, see *FRUS*, 1917, Supplement 1, The World War, pp. 236 ff.

138 See the Memorandum of the Counsellor for the Department of State, dated 17.5.1917, *in FRUS*, 1917, Supplement 1, The World War, pp. 283-284.

139 Morgan to Secretary of State (telegram), 18.5.1-17, *in FRUS*, 1917, Supplement 1, The World War, pp. 284-285.

140 *SAJ*, 26.5.1917.

141 *SAJ*, 12.6.1917.

142 Legislative Decree nº 3266, of 1.6.1917.

friendly nations" to protect Brazil's overseas trade[143]. However, although the takeover of the German ships could be instrumental in avoiding an almost certain bottleneck in carrying capacity for Brazilian exports, it did nothing to relieve – except through the decrease in foreign exchange payments of freight charges – the foreign exchange constraint which might be binding some months after the resumption of debt payments in August[144]. Moreover, the larger 1917 coffee crop was coming to the ports and, as the world shipping crisis menaced exports with import prohibitions with could cut off important European markets at short notice, international prices had been falling[145]. Both problems were debated at a cabinet meeting on June 30, which decided to extend the breaking of Brazil's neutrality in favour of a 11 the Allies so as to increase her bargaining power ±n negotiating foreign financial assistance, and to draft a proposal for Congress authorization of another large Treasury note issue to help financing the retention of the coffee surplus if necessary[146].

When Santos stocks rose to the alarming figures of 6 million bags in July 1917 as compared to 1 million in July 1916[147] against an increasingly bearish attitude of the banking system towards financing its retention in the difficult credit conditions then prevailing, Congress approved the new issue of 300 thousand contos of Treasury notes[148]. The Treasury lent over a third of it to the São Paulo government for coffee purchases and destined 50 thousand contos to the Banco do Brasil for rediscount operations[149].

The decision to end Brazilian neutrality on all fronts of the war opened up the opportunity of individual negotiations with the Allies for the chartering of the ships. Although an Inter-Allied Shipping Committee was set up at the beginning of the war, the experience failed and shipping control was still conduced on a national basis[150]; thus, given the dearth of shipping space and their strategic necessities, the Allies indulged in a true *sauve qui peut* to get the vessels held by Brazil.

The British negotiating position was definitely weakened by the strained state of their relations with Brazil ever since the tough stance adopted by the former in the negotiations for the lifting of coffee import prohibition[151]. Accordingly, the British Ministry of Shipping preferred to let Belgium

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143 *RC-JC*, 1917, p. 63.

144 Against official reserves valued at £4.7 million by mid-1917 from authoritative sources like ex-Finance Minister Leopoldo de Bulhões, federal debt obligations in London in the second half of 1917 alone were stated by Rothschilds as amounting to £2.25 million. See SAJ, 18.8.1917 and Rothschild to Balfour, 7.3.1917, *in* FO 368/1706, A 50018/43559/6.

145 See Table A.5. Cf. also Rowe, J.W.F., *Brazilian Coffee*, London and Cambridge Economic Service, Special Memorandum nº 35. Studies in the Artificial Control of Raw Materials nº 3, London, 1932, p. 9.

146 Peel to Balfour (telegram), 30.6.1917, *in* FO 368/1706, A 130255/43559/6.

147 Delfim Netto, A., *O Problema do Café no Brasil*, FGV/SUPLAN, Rio de Janeiro, 1979, p. 91.

148 See Law nº 3316, of 16.8.1917.

149 See *MFR*, 1918, p. VIII.

150 It was not until the end of 1917 that the Allied Maritime Transport Council was created to pool national Allied merchant fleets for coordinating the use of the available tonnage according to common rules. Cf. Bardach, G., *Op. Cit.*, p. 102.

151 The British Foreign Office had made the remarkable mistake of asking that, for the extremely poor concession of allowing a quota of 25 percent of the 1915 United Kingdom coffee imports during 1917, the coffee should be brought in the German ships which should be handed over to the British government on arrival. See Sir M. de Bunsen's minutes on

of Italy get the ships since this would indirectly free tonnage for British use[152]. The Italian and Belgian governments failed to make acceptable proposals[153] but, in July, the Brazilian government sounded the United States on the grounds that it preferred to employ the ships in the New York-Rio-Buenos Aires route, outside the submarine zone, as she had no military means to convey them[154]. The American Navy Department counter proposed that these ships be turned over to the United States for repairs and use in the North Atlantic against financial compensation and the assurance that the same number of equal ships would be returned to Brazil after the war[155]. However, this offer was not found acceptable by the Brazilian President on the grounds that the legislation relating to the takeover of the ships provided that they should fly the Brazilian flag and be put at the service of Brazilian commerce[156]. Even though the American Ambassador correctly noted that "the foundation of Brazil's German ships policy is her financial and economic difficulties and only to a small extent her international political position"[157], he still expected the acceptance of the American proposal and wishfully reported that with "the assistance from [our] powerful friends, however, every effort will be made to overcome [the President's] scruples"[158].

However, since August the French government had been trying to charter the ships[159] against a cash compensation, and embodied in its proposal a commitment to purchase two million bags of coffee and the pledge to protect Sao Paulo's interests after the war on the question of the coffee seized by Germany[160]. The French scheme definitely drew to her side the support of the São Paulo political establishment whose strength had just been shown by the appointment of Senator and former President Rodrigues Alves as the presidential candidate at the state Republican Parties' convention in June[161]. The Brazilian authorities still put the French proposal before the United States government and asked for an agreement between them to relieve it "from the embarrassment of choosing between friends"[162]. Diplomatic disputes however, continued between the two Allies[163].

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a meeting with the Brazilian Minister in London, dated 26.6.1917, in FO 368/1706, A 126850/43559/6 and Foreign Office to Spring Rice (telegram), 29.6.1917, *in* FO 368/1706, A 123551/43559/6. These conditions, as the Brazilian Foreign Minister told the British Minister in Rio, were considered by the Brazilian government to be "derogatory to national dignity". Peel to Balfour (telegram), 14.4.1917, in FO 368/1706, A 139713/ 43559/6.

152 Ministry of Shipping to Foreign Office, 2.8.1917, in FO 368/1706, A 152246/ 43559/6. This decision was later altered in the direction of supporting the United States' efforts to get the ships. See the Memorandum on an Inter- departmental meeting held at the Foreign Office on this issue on 9.8.1917, *in* FO 368/1706, A 155051/43559/6.

153 Morgan to Secretary of State, (telegram), 14.8.1917, *in* USNA RG-59 832.85/11.

154 Morgan to Secretary of State (telegram), 21.7.1917, *in* USNA RG-59 832.85/7.

155 Daniels (Navy Department) to Secretary of State, 23.8.1917, *in* USNA RG-59 832.85/13 and Secretary of State to Morgan (telegram), 29.8.1917, in USNA RG-59 832.85/16.

156 Morgan to Secretary of State (telegram), 4.9.1917, *in* USNA PG-59 832.85/59.

157 Morgan to Secretary of State (telegram), 21.10.1917, *in* USNA RG-59 832.85/44.

158 Morgan to Secretary of State (telegram), 4.9.1917, *in* USNA RG-59 832.85/59.

159 Morgan to Secretary of State (telegram), 14.8.1917, in USNA RG-59 832.85/11.

160 Morgan to Secretary of State (telegram), 20.9.1917, *in* USNA RG-59 832.85/28.

161 Carone, E., *A República Velha (Evolução Política)*. Difel, São Paulo, 1971, pp. 314-15.

162 Morgan to Secretary of State (telegram), 20.9.1917, *in* USNA RG-59 832.85/28. The Brazilian request was for the establishment of a triangular line between Brazil and the two Allies. *Idem*.

163 See the relevant papers filed *in* USNA RG-59 832.85.

On October 26, the Brazilian Congress declared war on Germany after the torpedoing of an ex-German ship flying the Brazilian flag. The Brazilian Foreign Minister urged the United States to accept the chartering of the ships with a clause on coffee similar to that embodied in the French proposal as "is demanded by the state of São Paulo which will have controlling interest in such matters in the federal administration for the coming five years"[164]. The American government, however, independent of the Brazilian request, had already instructed its Ambassador in Rio to "let the French government to pursue its program either to success or failure"[165], in the understanding that France could get better terms and at the same time would try to-get the Austrian ships interned in Spain to the United States[166]. As a result, by the end of November Brazil concluded the agreement with France.

The main points of the agreement provided for the chartering under the Brazilian flag, until March 1919, of 30 out of 46 German ships for a sum of 110 million francs – that is, over £4 million at the ruling exchange rate. During this period, the ships would make a fixed minimum number of voyages between Brazil and Europe, which together with Brazilian available tonnage and the French pledge to keep her vessels then running on the Brazilian route, would guarantee sufficient shipping space to maintain the normal level of Brazilian exports. Last but not least, the agreement provided for the opening of a credit line in France to the account of the Brazilian government for the purchase by the Banco do Brasil of two million bags of coffee from the 1917 crop, valued at 110 million francs, plus an equal sum of other Brazilian produce as required by France[167]. The agreement did not come immediately into force for its ratification was still dependent on the French Parliament's approval, but the over £12 million involved promised a definite relief to the Brazilian government's preoccupation with the effects of its foreign exchange transfers upon the external value of the mil-réis.

However, when the tension of the 1917 decisions subsided, it could be seen that the 1918 outlook differed little from the past few years' and that, failing an early termination of the war, the government would still have to face a struggle against the fiscal and balance of payments problems, while keeping a watchful eye at every new development in the coffee front.

The only new worries stemmed from the renewed acceleration of inflation after 1917. The sharp depredation, which followed the abandonment of the gold standard in late 1914, had reversed the failing trend of domestic prices generated by the pre-war depression, and prices risen markedly in 1915. However, the government's ability to maintain a reasonable measure of exchange rate stability

[164] Morgan to Secretary of State (telegram), 28.10.1917, *in* USNA RG-59 832.85/49.
[165] Lansing to Morgan (telegram), 26.10.1917, *in FRUS*, 1917, Supplement 1, The World War, p. 352. The decision to withdraw was taken on the advice of the U.S. Shipping Board. See Colby to Polk, 23.10.1917, *in* USNA RG-59 832.85/48.
[166] See the Memorandum from the Office of the Counsellor (Department of State), dated 25.10.1917, on a meeting with the French Ambassador to the United States *in* USNA RG-59 832.85/48.
[167] On this, see *MFR*, 1918, p. XVII, *RC-JC*, 1917, pp. 26-27, and Morgan to Secretary of State, 8.1.1918, *in* USNA RG-59 832.85/70 and enclosures therein.

at around 20 percent of the pre-war par from 1915 on prevented domestic prices from getting far out of line with those of other neutrals or Brazil's main suppliers, as can be seen in Table 8.

Table 8

Annual Rates of Growth of Selected Countries' Cost of Living Indices, 1914-1918

Region	1914	1915	1916	1917	1918	1913-1918
Brazil	-5.6	42.5	5.4	21.3	18.3	104.3
United Kingdom	-2.9	15.2	20.5	20.2	15.8	96.8
United States	1.4	-2.1	9.5	20.0	21.7	59.5
France	2.0	23.5	15.0	17.4	29.6	94.4
Argentina	n.a.	9.5	8.7	16.6	24.1	n.a.
Norway	0.0	15.0	20.3	24.0	40.8	141.6
Sweden	2.0	22.9	18.6	19.5	35.7	129.3
Netherlands	0.0	16.9	9.6	7.7	20.6	64.8

Sources: Brazil, same as for Table A.2.

European countries: Mitchell, B. R., *European Historical Statistics*, *1750-1970*, Macmillan, London, 1975, pp. 743-744.

Argentina: cost of living in Buenos Aires, *in* Díaz-Alejandro, C. F., *Essays on the Economic History of the Argentine Republic*, Yale Univ. Press, New Heaven and London, 1970, Table 50, p. 460.

United States: U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1957*, USGPO, Washington D.C., 1960, Series E-169, p. 127.

Nevertheless, by the end of 1917 the acceleration in the growth of the cost of living pushed by food price rises[168] was becoming a central issue in economic policy. The erosion of real wages with the rise in the cost of living provoked a wave of labour unrest in the main urban centres during 1917[169] leading to the creation of a federal food prices control authority in June 1918. This, in spite of the complaints of urban traders[170], proved to be an effective counter measure, while police clampdown on the "alien anarchist" labour leaders prevented the development of its more serious political consequences[171].

The conduct of fiscal policy gave rise to a clash between the government and the increasingly powerful industrial and commercial Associations during the discussion of the 1918 budget in Congress. The proposal presented by the Finance Minister in the second half of 1917 vas in keeping with the previous year's directives, according to which, as mentioned above, further nominal expenditure cuts were found impracticable and general increases in indirect taxation coupled with a spread of the incidence of the excise tax were made to compensate for the loss in tariff revenue[172]. However, the government's proposal for a further rise in taxes met strong opposition and was

[168] Cf. *RC-JC,* 1918, p. 3.

[169] On this, see Fausto, B., *Trabalho Urbano e Conflito Social (1890-1920)*, Difel, São Paulo, 1977, especially Chapters VI and VII.

[170] *RC-JC*, 1918, p. 3.

[171] See Fausto, B., *Op. Cit.*, pp. 233 ff.

[172] *RC-JC*, 1917, p. 6.

radically altered in the Chamber Finance Committee under the influence of its Chairman, Deputy Antonio Carlos[173]. The clash led to Calógeras' resignation in September 1917 and the nomination of Antonio Carlos to the Finance portfolio and no radical alterations in taxation were made for 1918[174].

The change in the Finance Ministry also foreshadowed changes affecting monetary policy, given Antonio Carlos' strongly orthodox feelings against fresh paper money issues[175]. The government, in spite of its fiscal problems, started buying gold in 1918, and in the Budget Law a special issue of 60 thousand contos of Treasury notes was authorized to purchase and destroy the remaining balance of Conversion Office notes, keeping the gold backing the latter as a free gold reserve. Finally, in January 1918, following the prohibition of gold exports, the Treasury signed a contract with the British owned Brazilian gold mining companies for the purchase of their entire production[176]. There is no evidence from official statements that these measures were taken on the expectation of a depreciation in the value of the currencies of Brazil's main creditors in terms of gold. In spite of the federal fiscal problems and the fact that the gold purchases meant an increase of about half million pounds a year in official foreign exchange remittances to the mining companies' head-quarters, the decision to accumulate gold was justified by the necessity "to repair the undesirable consequences ... [of the] great rise in the circulating medium caused by the issues of paper money" and to prepare the way to post-war readjustments, when note withdrawals and the building up of gold reserves were predicted "as the most imperious necessities"[177].

However, in early 1918, the most pressing problems still remained the balance of payments weakness and the risk of a crisis in the coffee industry, failing an early termination of the war. Anxiety over the coffee and external position reappeared at the beginning of 1918 on account of delays in getting the French Parliament's approval of the expenditures relating to the German ships chartering agreement, due to the opposition of a lobby led by deputies from Le Havre linked with the coffee business[178]. Moreover, the São Paulo government had bought six million bags of coffee at the beginning of 1918[179], with funds provided by the federal Treasury, on the understanding that a third of them would be released with the French purchases. With the approach of the 1918 crop, estimated

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173 "Mr. Antonio Carlos … did not take into consideration the proposal to aggravate the tax burden put forward by the Ministry of Finance … and tried to cut expenditures …". *RC-JC*, 1917, p. 16.

174 For a justification of this new approach based on the arguments that the tax burden was already excessive and that the government was about to derive a substantial additional revenue from the German ship deal with France, see *MFR*, 1918, pp. VI-VII.

175 Antonio Carlos' conservatism on monetary policy is best illustrated by a report he prepared for the Joint Congress Finance Committee in August 1914, against the Bill providing for the emergency Treasury note issue after the outbreak of the war. The report was labelled "terrorist" by a contemporary non-orthodox authority. See Vieira Souto, L. R., *O Papel-Moeda e o Cambio*, Imprimerie de Vaugirard, Paris, 1925, p. 90.

176 *RJ-JC*, 1917, p. 34.

177 *MFR*, 1918, p. XII.

178 See Sharp (Paris) to Secretary of State, 11.1.1918, *in* USNA RG-59 832.85/53 and the report from the Manager of the São Paulo branch of the London and River Plate Bank, dated 22.1.1918, enclosed in FO 371/3167, A 65282/64280.

179 Taunay, A. d'E., *Op. Cit.*, p. 325.

at between 10.5 and 12.0 million bags – while total exports from the 1917 crop had just amounted to slightly over 7.3 million bags by April 1918[180] – and prices that were not firm, both the State government and the Santos coffee trade became increasingly apprehensive. Following the yearly meeting of the influential Santos Commercial Association in March, delegates pressed the state government for a further purchase of two million bags from the 1917 crop as being necessary to avoid a serious effect on prices[181].

However, the position was further complicated since the pre-war practice in the world coffee market was that stocks were held at the consuming centres and Santos' warehousing capacity was insufficient to hold the surplus stocks[182].

On January 21, the Brazilian government had telegraphed to Paris stating that if the agreement vas not accepted it would open negotiations with the United States[183] and in February the Finance Minister sent a special envoy to start negotiations with the American government[184]. Although the French Parliament finally approved the credits agreed with Brazil by a very small majority at the end of February[185], the Brazilian government continued negotiations in Washington for a loan, and a scheme was drafted in April at the Department of State providing for a US$ 42 million credit to Brazil[186]. However, the Brazilian government's statements that the money was needed for "military preparations"[187] and its inability to answer the United States Treasury requests for a detailed statement of the proposed expenditures[188] led the American officials to correctly conclude that "Brazil desired funds more than she needs a credit" and the dealings were eventually discontinued[189].

In spite of the formal settlement of the German ship deal with France, it failed to bring about the expected relief to the foreign exchange market. As late as October, the Brazilian Finance Minister

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180 Williams, J. H., *Op. Cit.*, p. 457.
181 Taunay, A. d'E., *Op. Cit.*, p. 366.
182 At that time, "There was not a single empty warehouse in Santos. It was not unusual to see old buildings, long since condemned by the sanitary authorities, to be hurriedly adapted to receive the shipments arriving from the interior". *Idem*, pp. 355-366.
183 Morgan to Secretary of State (telegram), 22.1.1918, *in* USNA PG-59 832.85/65.
184 See the Memorandum of the State Department Division of Latin American Affairs on conferences held with Mr. J.C. Rodrigues, dated 18.2.1918, *in* USNA RG-59 832.635/59.
185 See *SAJ*, 2.3.1918, and Morgan to Secretary of State (telegram), 28.2.1918, *in* USNA RG-59 832.85/73.
186 See the Memorandum prepared by the Chief of the Division of Latin American Affairs of the Department of State on negotiations held with Mr. J.C. Rodrigues, on 18.2.1918, *in* USNA RG-59 832.635/59. An interesting episode during these negotiations was the American request that Brazil exchange its gold reserves into United States gold certificates, which Treasury Secretary McAdoo thought would "have an important sentimental effect in leading other South American governments to consider deposits in the United States as the equivalent of gold for the purpose of their currency arrangements". McAdoo to the Secretary of State, 19.19.1918, *in* USNA RG-59 832.51/185.
187 See the Memorandum prepared by the Chief of the Division of Latin American Affairs of the Department of State on an interview with the Brazilian Ambassador in Washington on 1.5.1918, *in* USNA RG-59 832.51/177.
188 As the Brazilian Ambassador explained the motives for the absence of an answer from Rio to the American request "his Government was too sensitive they had felt chagrined at an inquiry which they may have considered too personal". See the Memorandum prepared by the Chief of the Division of Latin American Affairs of the Department of State on an interview with the Brazilian Ambassador on 23.5.1318, *in* USNA RG-59 832.51/179.
189 *Idem*.

was complaining, "there is much discontent with the French ship convention as the French government has only purchased half of the coffee agreed and is very backward with its payments?"[190] Furthermore, the trade surplus continued to shrink because of the continued rise in import prices, the balance of payments position became critically weak and, in July, the exchange rate fell suddenly by almost 6 percent. The somewhat loose exchange control measures enforced for the first time in Brazil after the declaration of war[191] were tightened by making foreign exchange remittances – restricted to import and foreign debt payments and the maintenance of non-enemy aliens abroad – subject to previous approval by the Banco do Brasil[192].

The chronic wartime dilemma of maintaining external equilibrium with a substantially reduced market for coffee would, however, be suddenly solved by a dramatic change in the coffee supply outlook when two days of unprecedentedly severe frosts in late June 1918 hit several coffee producing districts of São Paulo. In a matter of hours hundreds of millions of coffee trees were either entirely destroyed or had their productivity severely impaired, when the harvesting of the 1918 crop had just began[193]. The market' s prospects of a coffee glut in Brazil from August at the latest were suddenly reversed and, as expectations of an early end to the war grew and were confirmed, the importers' scramble to rebuild their stocks sent New York spot prices for the Santos 4 grade – which averaged 10.8 cents per pound in June – rocketing to over 22 cents per pound in December[194].

The long-term consequences of the great frost of 1918 to the world coffee market will be analysed in detail in the following chapter. It is worth pointing out, however, that, even though it put an end to the continued balance of payments weakness the Brazilian authorities had to live with throughout the war – as the value of exports more than doubled in the first half of 1919 as compared with the same period in 1918 – the frost had not unimportant immediate adverse consequences on the level of economic activity in Brazil. The harsh weather affected not only the coffee trees but also other crops in which São Paulo supplied a substantial share such as sugar cane and cotton[195] and, as it happened at the start of the harvesting season, its effects on current income levels in the agricultural sector of São Paulo were bound to be substantial. Given the importance of the level of São Paulo's agricultural incomes for the effective demand for industrial production and the supply shock caused by the failure of several industrial raw material crops, the frost would, by itself, be enough to cause a serious blow to domestic activity levels. Its depressive effects were perhaps aggravated by the

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[190] Morgan to Secretary of State, 2.10.1918, *in* USNA RG-59 832.85/93.
[191] See legislative Decree nº 3361, 26.10.1917. Cf. also MER, 1918, pp. XII-XV.
[192] Executive Decree nº 13110, of 19.7.1918. Professor Pelaez mistakenly dates this measure as having been taken in July 1917. Cf. Pelaez, C.M., *Op. Cit.*, p. 51.
[193] Taunay, A. d'E., *Op. Cit.*, p. 365.
[194] See Table A. 5.
[195] See the statement of the effects of the frost made by the Governor of São Paulo on 14.7.1918, cited in Taunay, A. d'E., *Op. Cit.*, p. 365.

recessive tendencies already present as a result of the sharp erosion of the trade surplus during the year[196] and industrial output stagnated in 1918 after two years of remarkable recovery[197]. Nevertheless, on November 11, four days before the end of President Braz's term of Office, the Armistice was signed ushering in a period in which the debate over financial reconstruction and monetary reform and the need for a stronger Brazilian control over world coffee markets would almost completely over-shadow all other economic policy issues.

[196] See Table A.7.
[197] See Table A.1.

APPENDIX TABLES

Table A.1

Brazil: 1913-1918 – Real Output Indices (1939 = 100)

Year	Haddad's Estimates		
	Agriculture	Industry	Total
1913	41.1	22.9	31.0
1914	41.5	20.9	31.5
1915	43.2	23.6	31.6
1916	42.0	26.3	31.9
1917	47.0	28.6	34.9
1918	43.5	28.3	34.2

Sources: Haddad, C. L. S., *Op. Cit.*, pp.10-11 and Haddad, C. L. S., Crescimento Econômico do Brasil, 1900-76, in Neuhaus, P. (ed.) *Economia Brasileira: uma visão histórica*, Campus, Rio de Janeiro, 1980, p. 24.

Table A.2

Brazil: 1913-1918 – Price Indices

Year	Cost of Living in Rio (1919 = 100)	Implicit GDP Deflator (1939 = 100)
1913	37.2	40.0
1914	35.1	34.7
1915	50.0	39.3
1916	52.7	47.5
1917	63.9	51.7
1918	95.9	56.0

Sources: Cost of Living in Rio from Villela, A. V. and W. Suzigan; *Op. Cit.*, Table VII; p. 424. Implicit GDP Deflator from Haddad, C. L. S., *Op. Cit.*, Table 76, p. 191.

Table A.3

Brazil: 1913-1918 – Foreign Trade Indices (1928 = 100)

	Quantity Indices		Price Indices			
Year	Imports	Exports	Imports	Exports	Terms of Trade	Capacity to Import
1913	69.2	76.6	39.4	32.5	82.5	63.2
1914	37.7	68.1	39.4	32.5	69.1	47.1
1915	28.8	90.7	54.8	28.0	52.7	47.8
1916	31.4	80.1	69.9	35.8	51.2	41.0
1917	25.0	85.2	90.9	35.3	38.8	33.1
1918	25.2	71.0	10.61	40.3	38.0	27.0

Source: Villela, A. V. and W. Suzigan, *Op. Cit.*, Table XX, p. 441.

Table A.4

World Coffee Production, Stocks and Prices: 1913-1918

Year	Production (in million bags)				World Stocks on June 30th (in million bags)	Prices	
	São Paulo	Brazil	Mild Countries	World Total	World Total	Brazil (mil-réis per 10 kg)	New York (cents per pound)
1913	11.07	14.47	5.80	20.26	11.32	5.00	13.17
1914	9.21	13.47	4.39	17.86	7.52	4.30	11.46
1915	11.71	15.96	4.81	20.26	7.08	4.85	9.57
1916	9.94	12.74	3.95	17.86	7.76	5.50	10.55
1917	12.21	15.84	3.01	18.85	11.77	4.15	10.16
1918	7.25	9.71	4.50	14.21	10.02	10.75	12.71

Sources: Production: Departamento Nacional do Café, *Anuário Estatístico*, 1938, cit., p. 14 and table facing, p. 264.

World Stocks: Include port stocks in Europe, the United States and Brazil plus coffee afloat from Brazil to the United States and Europe. Data from Brazil. Departamento Nacional do Café, *Op. Cit.*, table facing p. 264.

Prices: Brazilian prices are average Santos spot prices for Santos 7 grade during the crop year starting on July 1st of the year shown. New York prices represent average spot prices for the Santos 4 grade in New York during the calendar year. Figures from Brazil. Departamento Nacional do Café, *Op. Cit.*, p. 173 and table facing p. 264.

Table A.5

Monthly World Coffee Prices*: 1913-1918 (in US$ cents per pound)

Year	1913	1914	1915	1916	1917	1918
January	15.73	12.05	9.98	9.31	10.89	10.61
February	14.95	12.06	9.89	9.84	10.58	10.53
March	13.98	11.63	9.86	10.19	9.95	10.91
April	13.44	11.66	10.22	10.44	10.44	11.15
May	13.31	11.69	9.98	10.74	10.64	10.88
June	12.19	12.29	9.53	10.70	10.50	10.88
July	11.79	11.94	9.50	10.67	10.15	11.43
August	12.00	12.61	9.39	10.89	10.17	11.47
September	12.17	11.50	8.84	11.53	9.95	12.70
October	13.44	10.11	9.03	11.03	9.66	14.40
November	12.89	10.00	9.35	10.75	9.47	15.25
December	12.13	10.03	9.31	10.48	9.47	22.25

* Monthly averages of New York spot prices of the Santos-4 grade.

Source: Rowe, J. W. P., *Op. Cit.*, Table IV, p. 86.

Table A.6

Brazil: 1913-1918 Monthly Exchange Rates

(90-day sight exchange rate on London, in pence per mil-réis)

Year	1913	1914	1915	1916	1917	1918
January	16.26	16.06	13.87	11.56	12.00	13.75
February	16.22	16.05	12.75	11.67	11.89	13.42
March	16.14	15.89	13.01	11.73	11.84	13.34
April	16.08	15.83	12.20	11.64	12.05	13.11
May	16.09	15.86	12.28	12.05	13.31	13.05
June	16.05	16.05	12.42	12.30	13.66	12.98
July	16.06	15.81	12.83	12.59	13.36	12.22
August	16.08	13.53	12.31	12.56	13.05	12.28
September	16.08	11.95	12.09	12.36	12.86	12.14
October	16.08	12.56	12.25	12.19	13.05	12.51
November	16.08	13.59	12.25	12.00	13.12	13.51
December	16.08	14.05	12.09	11.97	13.69	13.70

Source: Brazil. Câmara Sindical dos Corretores de Fundos Públicos da Capital Federal, *Relatório*, Imprensa Nacional, Rio de Janeiro, Several issues.

Table A.7

Brazil: 1913-1918 – Main Identifiable Balance of Payments Items (in £ millions)

Year	Exports	Imports	Trade Balance (a)	Interest on Public Debt (b)	Balance of Current Account Items	New Long-Term Public Loans (c)	Amortization of Public Debt	Balance of Capital Account Items	Total Balance
1913	65451	67166	-1715	7596	-9311	19133	6913	12212	2901
1914	46803	35473	11060	7505	3555	4200	1498	2252	5807
1915	53951	30088	23863	4977	18886	-	2616	-2616	16270
1916	56462	40269	16093	5417	10676	270	1435	-1165	9511
1917	63031	44510	18521	6540	11891	-	3078	-3078	8903
1918	61168	52817	8351	8264	87	-	5212	-5212	-5125

Notes:

(a) The trade balance actually approximates the value of the balance of merchandise trade plus out payments for Insurance and freights since in Brazilian trade statistics exports were valued FOB while imports were valued CIF, and the share of total foreign trade carried by Brazilian merchant ships was quite small.

(b) Includes annual commissions and fees paid to the issuing banks.

(c) Nominal value of all Federal, State, Municipal and coffee long-term foreign loans issued during the year net of the usual discount and commissions charged by the underwriting banks. It excludes all funding loans issued for payment of current interest and amortization on past loans.

Sources: Brazil. IBGE, *Anuário Estatístico do Brasil*, 1939-40, pp. 1358-59, and Bouças, V. F., *Op. Cit.*, passim.

Table A. 8

Brazil: 1913-1918

Yearly Revenue and Expenditure of the Federal Government (in thousand contos)

Year	Budgeted			Effective			Index of Real Effective Deficit at 1939 Prices (1908 = 100)
	Revenue	Expenditure	Surplus (+) or Déficit(-)	Revenue	Expenditure	Surplus (+) or Déficit (-)	
1913	579.9	628.3	-48.4	654.4	762.9	-108.5	155
1914	587.2	596.9	-9.7	432.2	766.7	-343.4	567
1915	523.8	509.7	14.1	404.3	688.5	-294.2	414
1916	589.1	592.7	-3.6	477.9	686.5	-208.6	252
1917	630.0	630.0	-	537.4	801.4	-264.0	293
1918	716.1	642.0	74.1	618.8	867.1	-248.3	254

Sources: DOU, several issues, and Brazil. IBGE, *Anuário Estatístico do Brasil*, 1939/40, cit., p. 1410. Last column was calculated using the GDP deflator shown in Table A.2, above.

Table A.9

Brazil: 1913-1918

Federal Government Revenue Structure

(in thousand contos)

Year	Tax Revenue						Revenue from Public Services	Sundry Items	Total Federal Revenue
	Import Duties	Indirect Taxes Consumption Tax	Stamp Duty	Other	Direct Taxes	Total			
1913	367.7	65.1	25.5	21.0	4.6	483.9	73.5	97.0	654.4
1914	209.1	52.2	20.1	17.8	3.7	302.9	66.5	53.8	432.2
1915	165.0	67.9	24.7	21.2	16.4	295.2	68.9	40.2	404.3
1916	198.9	83.8	28.2	20.3	18.7	349.9	77.7	50.3	477.9
1917	169.4	117.7	31.1	23.4	23.7	365.3	96.3	75.8	537.4
1918	183.2	119.7	34.1	22.9	12.7	372.6	182.1	64.1	618.8

Sources: Brazil. IBGE, *Anuário Estatístico do Brasil*, 1939-40, *cit.*, pp. 1410-1411, Villela, A. V. and W. Suzigan, *Op. Cit.*, Table IV, pp. 418-419 and Table V, pp. 420-421 and Brazil. Ministério da Fazenda, *Balanço Geral da União*, 1927, pp. 251-303.

Table A.10

Brazil: 1913-1918

Federal Government Expenditure Structure (in thousand contos)

Year	Consumption	Debt Service	Gross Fixed Capital Formation	Subsidies and Transfers	Total
1913	392.9	164.8	166.3	38.9	762.9
1914	414.0	138.0	164.8	49.9	766.7
1915	322.2	170.0	148.7	47.6	688. 5
1916	232.7	261.5	149.0	43.3	686.5
1917	242.8	299.7	189.9	69.1	801.4
1918	288.7	256.7	252.3	69.4	867.1

Note: Figures from 1915 to 1918 represent budgeted expenditures. The effective figures for these years are not available.

Sources: Table A.6, above, and Villela, A. V. and W. Suzigan, *Op. Cit.*, Table II, pp. 414-415.

Table A.11

Brazil: 1913-1918 – The Money Stock and its Components (in thousand contos)

End of Period	Outstanding Note Issue	Cash Held by the Banco do Brasil	Cash Held by Other Banks	Cash Held by the Public	Sight Deposits			Money Stock (M_1)	Rate of Growth Money Stock (%)
					Banco do Brasil	Other Banks	Total		
1913-I	981.6	35.8	164.7	781.0	137.0	338.7	475.8	1256.8	-1.2
1913-II	964.4	37.1	166.8	760.5	141.5	332.6	474.1	1234.6	-1.8
1913-III	941.9	37.8	171.4	732.6	138.0	325.7	463.7	1156.4	-3.1
1913-IV	922.7	38.3	179.2	705.2	133.6	311.8	445.4	1150.6	-3.8
1914-I	915.4	38.5	188.7	688.2	131.5	289.3	420.7	1103.9	-3.6
1914-II	927.4	36.5	211.8	679.1	126.1	278.1	404.2	1003.3	-2.3
1914-III	947.5	35.3	239.6	672.6	125.1	2 76.7	401.8	1074.4	-0.8
1914-IV	969.6	32.6	260.2	676.8	113.6	2 80.8	394.4	1071.2	-0.3
1915-I	993.8	31.0	279.8	683.0	103.8	294.8	398.6	1081.6	1.0
1915-II	1020.6	29.8	299.8	691.0	91.8	325.8	417.6	1103.6	2.5
1915-III	1047.0	30.6	305.4	711.0	85.0	345.6	430.6	1141.6	3.0
1913-IV	1077.0	30.0	312.8	734.2	72.4	360.2	432.6	1166.8	2.2
1916-I	1111.2	32.6	321.2	757.4	74.8	376.2	451.0	1203.4	3.6
1916-II	1146.8	34.8	320.8	791.2	80.2	405.0	485.2	1276.4	5.6
1916-III	1169.4	36.0	316.8	816.6	84.4	427.0	511.4	1328.0	4.0
1916-IV	1198.2	35.0	313.6	849.6	85.6	460.6	546.2	1395.8	5.1
1917-I	1233.4	34.0	311.8	887.6	9170	49 7.2	588.2	1478.8	5.7
1917-II	1274.8	32.4	316.4	926.0	92.0	541.4	633.4	1555.4	5.7
1917-III	1323.9	29.8	337.0	957.0	93.4	587.0	680.4	1637.4	7.3
1917-IV	1392.8	28.2	371.4	993.2	80.6	676.0	756.6	1749.8	6.9
1918-I	1463.0	28.0	397.2	1037.8	72.4	741.4	813.8	1851.6	5.8
1918-II	1534.2	28.2	422.0	1084.0	63.6	825.4	889.0	1973.0	6.5
1918-III	1594.6	37.6	450.0	1107.0	78.4	889.4	967.8	2074.8	5.1
1918- IV	1643.0	49.0	463.4	1130.6	90.2	956.4	1046.6	2177.2	4.9

Source: Pelacz, C. M. and Suzigan, *Op. Cit.*, Tables A.1, A.2 and A.3, pp. 395 ff.

Table A.12

Brazil: 1913-1918 Commodity Composition of Exports (in percentages over total value of exports)

Year	Traditional Primary Exports				Other Exports
	Coffee	Rubber	Other*	Total	
1913	62.3	15.9	17.3	95.5	4.5
1914	57.7	15.1	20.9	93.7	6.3
1915	59.7	13.0	20.4	93.1	6.9
1916	51.9	13.3	21.9	87.1	12.9
1917	36.6	11.9	24.5	73.0	27.0
1918	31.1	6.6	28.0	65.7	34.3

* Includes sugar, raw cotton, cocoa, tobacco, *matté*, leather and furs.

Source: Brazil. IBGE, Anuário Estatístico do Brasil, 1939-40, *cit.*, Table III.7, pp. 1377-78.

Table A.13

World Rubber Output and Prices: 1910-1918

Year	Output (metric tons)			Prices (pence per lb)*
	Plantation	Wild Prices		
		Brazil	Rest	
1910	8200	42800	21500	102.5
1911	14419	37730	23000	60
1912	28578	42410	28000	58
1913	47618	39370	21452	44
1914	71380	37000	12000	34.5
1915	107867	37220	13615	31
1916	152650	36500	12448	37.5
1917	213070	39370	13258	37.75
1918	255950	30700	9929	35.5

* Average London spot price of fine Brazilian (Pará) rubber.

Source: Output: Macedo Soares, J. C. de; *A Borracha: Estudo Econômico e Estatístico*, L. Chauny et L. Quinsac, Paris, 1927, p. 28. Prices: *Idem*, p. 62 and *The India-Rubber Journal*, several issues.