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International Bank for Reconstruction and Development
Loan Department
Eastern Latin American Division

BRAZIL

COUNTRY STUDY

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February, 1948

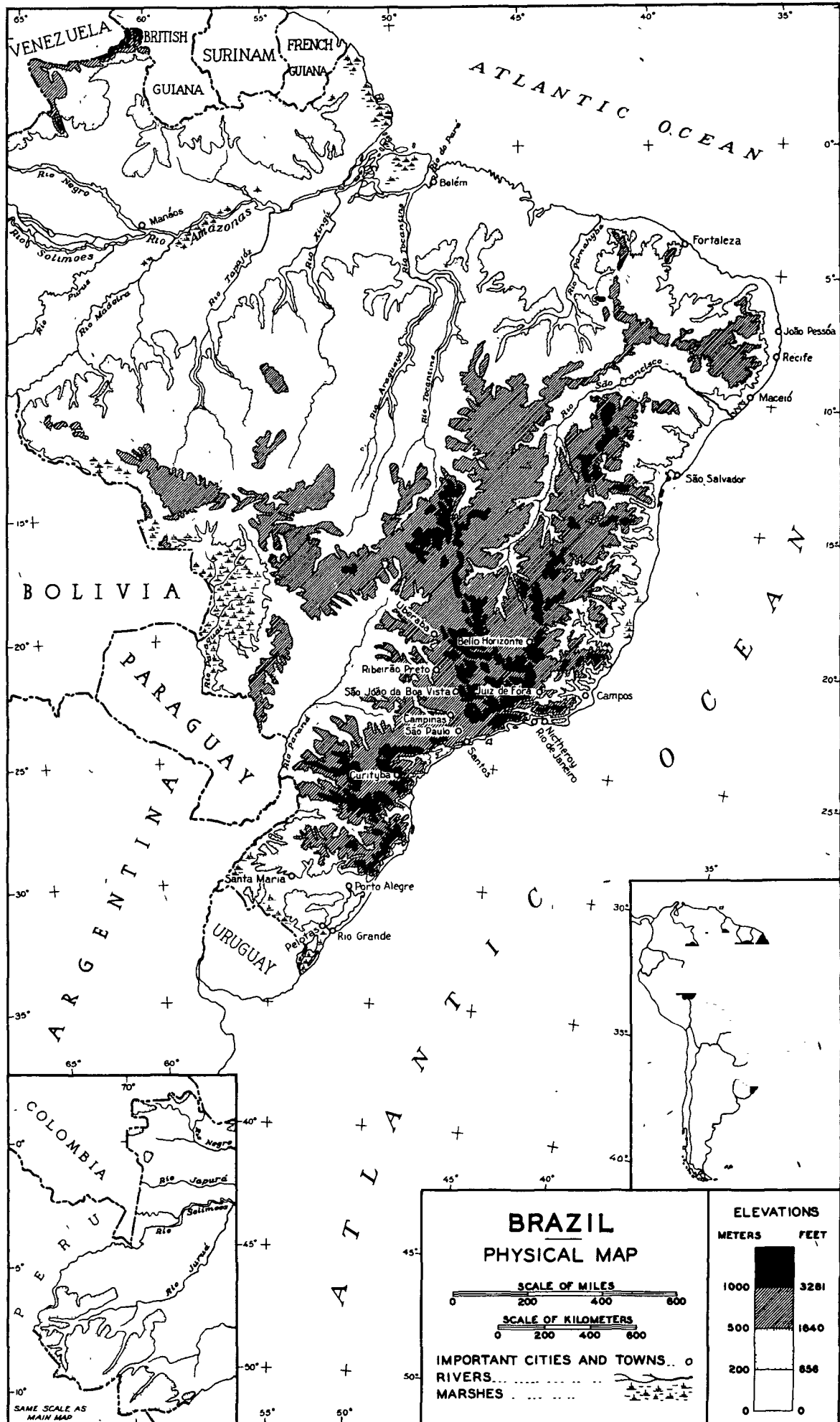
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I. General Introduction

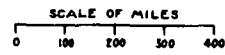


STATES AND TERRITORIES OF BRAZIL

- | | | |
|------------------------|------------------|-----------------------|
| 1. Amazonas | 8. Parahyba | 16. Espirito Santo |
| 2. Acre | 9. Pernambuco | 17. Rio Paulo |
| 3. Para | 10. Alagoas | 18. Rio de Janeiro |
| 4. Maranhão | 11. Sergipe | 19. Federal District |
| 5. Piauí | 12. Mato Grosso | 20. Paraná |
| 6. Ceará | 13. Goiás | 21. Santa Catharina |
| 7. Rio Grande do Norte | 14. Bahia | 22. Rio Grande do Sul |
| | 15. Minas Geraes | |



BRAZIL



I. General Introduction

A. Geography, Topography, Climate and Population

I. Geography

The United States of Brazil occupies nearly half of the South American Continent. In area it is the fourth largest country in the world. Its total area, 3,286,170 square miles, is 250,000 square miles greater than that of the United States. It is bordered by Venezuela and the Guianas on the north, by Colombia, Peru, Bolivia, Paraguay and Argentina on the west, by Uruguay on the south, and on the east by the Atlantic Ocean. It has a coast line of nearly 5000 miles.

II. Topography and Climate

Five topographical regions may be distinguished (1) The Amazon Basin in western and northern Brazil comprises over one-third of the country's land area. The elevation of this area rarely exceeds 800 feet. The region is tropical rain forest, hot and humid. (2) The La Plata Basin in the southern part of Brazil has a higher elevation, a cooler climate, and is more varied physically. (3) The Guiana Highlands in northern Brazil are partially forested and partially desert. (4) The Brazilian Highlands lie between the Amazon and La Plata Basins. The area is a tableland ranging from 1000 to 3000 feet in elevation, traversed by several mountain ranges up to 10,000 ft. The climate ranges from subtropical to temperate. (5) The Brazilian coastal plain varies greatly in width. In the northern portion it is hot and humid and in the southern section cool and dry.

III. Population

Brazil's population is between 45 and 50 million or about 14 per square mile. It is growing at the rate of about 1.7% annually. Although Brazil is the fourth largest country in the world, large stretches of it are uninhabited and can be made habitable only at great expense for sanitation and general economic development. Less than 7% of the population are in Para, Mato Grosso, Amazonas and Acre with more than two-thirds of the Country's land area. The

population is preponderantly rural, less than one-fifth living in cities of 10,000 or more. Only about 2 in 5 are literate.

Thirty percent of the population are under ten years of age and 50% under 20, a striking indication of the heavy mortality among adults. About one-third are gainfully employed. Of the gainfully employed, 70% are in the Federal District and in the States of Rio de Janeiro, Sao Paulo, Santa Catarina, Rio Grande do Sul and Minas Gerais, with 56% of the population and 17% of the land area of Brazil. Sixty-seven percent are in agriculture and forestry and 10% in manufacturing. The breakdown by occupational classification follows (%):

Total	Agriculture, forestry	Manufacturing	Mining	Transport & Communication	Commerce	Finance	Public Administration & Education	National Defense	Professions	Services
100.0	67.5	10.0	2.8	3.4	5.4	0.4	2.2	1.2	0.7	6.4

Less than 4% of the population are foreigners. Portuguese predominate among the latter and with Italians constitute about half of the total. Racial mixture is common. Of the total population, 63% are listed as white, 15% black and the rest mulatto. Indians are apparently included with the white.

B. History, Government and Politics

The United States of Brazil is a constitutional federal bicameral republic of 20 states, a Federal Territory and a Federal District. Suffrage is universal. Sometimes called the Third Republic of Brazil, the present government dates from the resignation of Getulio Vargas, who was dictator from 1932 until October, 1945.

When Brazil broke away from Portuguese domination in 1822, it retained a constitutional monarch from 1822-1889. In the latter year the monarchical regime was overthrown by a military coup d'etat, and in 1891 a republican regime established which lasted until 1932. Despite transitory periods of authoritarianism this regime was by and large democratic. Social fluidity has served to check domination by any

particular economic or political group. There has been a steady economic development coupled with changing emphasis on different sources of wealth.

Brazilwood in the early days, sugar, gold, diamonds, coffee, rubber and cotton, successively in the next four centuries and, in the last generation, manufacturing. Today one of the rising political forces is that connected with industrial and commercial development.

From 1932 to October, 1945, Brazil was under a dictatorship headed by Getulio Vargas which, largely based on the Army, attempted a high degree of centralized government. It was strongly nationalistic and, in the economic field, it represented a definite trend towards institutional organization and planning. In 1945 regionalism and the underlying democratic forces helped to bring about a reversion in the direction of genuine representative government, without abandonment of the trend toward constructive organization and planning.

Upon the forced resignation of President Vargas in 1945, no less than 15 parties have made their appearance. Both the Social Democrat Party, now in power, and the National Democrat Party, partially represented in the cabinet, stand for moderately conservative interests with a certain amount of Army influence. They hold the majority of seats in Congress. Their differences are largely personal rather than on matters of policy. The former dictator heads a Labor Party, and there is a Communist Party that polled a surprisingly large number of votes at the Assembly elections in January of last year, but subsequently was declared illegal. Recently the mandates of Communist senators of Congressmen were annulled by Congress and they were deprived of their representation. There is a strong likelihood of a coalition of the Social Democrats and the National Democrats. Latest developments point to an increasingly stable political situation, which should help to accelerate Congressional action on a number of economic matters, among them the adoption of long-term economic aims and of programs for dealing with Brazil's basic problems.

In 1942, when the war issue was authorized, it was stated that it would have priority of redemptions over all other bonds, but currently it appears that redemption of these bonds, as of other parts of the funded internal debt, is unlikely.

3. The Floating Internal Debt

The floating debt includes (a) the Revenue and Expense account of the Treasury at the Banco do Brasil, (b) Treasury Promissory Notes, (c) Treasury Bills, and (d) Government Unpaid Bills (Restos a Pagar).

(a) Revenue and Expense Account is an open account carried by the Government at the Banco do Brasil to handle current Government budgetary revenues and expenditures. It has been the primary immediate means of financing budgetary deficits. At the end of the fiscal year any negative balance in this account was until 1942 converted into Treasury Promissory Notes. The account has been negative at the end of all the years under discussion except 1943, 1944 and 1945. At the end of December 1946 the negative balance was 1957 million cruzeiros.

(b) Promissory Notes have a six-month maturity period, an interest rate of 6% and seem to have been used almost exclusively for the financing of budgetary deficits as discussed above.

The manner of their redemption has apparently varied considerably. The general practice, however, appears to have been to redeem them out of current revenues, but when it has not been practicable to redeem them within the statutory six-month period, they have presumably been renewed and carried over for payment in following periods. In 1939 and 1940 a large part of the outstanding notes were funded into Apolices and Obrigacoes, respectively. Most of the obrigacoes were in turn redeemed by the issue of paper money.

At the end of 1942 all Promissory Notes had been redeemed. The Government deficit for that year, however, represented by the Revenue and Expense Account, amounted to 1791 million cruzeiros and was converted into new Notes delivered to the Banco do Brasil and redeemable over three years. Just how these were redeemed is not clear, though it would appear that they were paid off directly out of current revenues, and indirectly out of monies made available by the sale of Treasury Bills for war expenditures. Apparently the deficits for 1943, 1944 and 1945 were met from similarly available funds, thus sidestepping the use of Promissory Notes. Data on how the budgetary deficit of 1946 was financed are not yet available.

Subsequent to 1942, the wording of the relevant statute seems to preclude the Promissory Notes from being used for borrowing purposes at the Rediscount Department of the Banco do Brasil. Nonetheless, there seems little doubt that directly or indirectly the Promissory Notes, representing a large part of the budgetary deficits, were financed by issues of paper money. At the end of 1946, 100 million cruzeiros of the notes issued at the end of fiscal 1942 were still outstanding.

(c) Treasury Bills traditionally had a shorter maturity than the Promissory Notes and a lower rate of interest - generally 3%. But in 1942 they were made eligible for loans at the Rediscount Department and their maturity extended to six months. From 3 million cruzeiros in 1939 the amount of Treasury Bills outstanding increased to 4602 million in 1945 and then fell to 792 million in 1946. Of the increase between 1939 and 1945, 4531 million represented short term credits at the Banco do Brasil to finance war expenditures. It was intended eventually to finance these expenditures through the sale of the war bonds of 1942, but because of public reluctance to take up the bonds, it was found necessary to anticipate the sale of them with short term credits. A further reason for the issues of Treasury Bills was the need of currency to meet requirements growing out of the economic activity resulting from the war. Presumably pari passu with

the issue of these bills, they were used as a basis for loans from the Rediscount Department, (as described in the section on Money and Banking). In 1946, the Government by decree transferred responsibility for 4531 million cruzeiros of currency issued in connection with the Treasury bills from the Rediscount Department to the Treasury and by the same act liquidated the debts on this account of the Treasury to the Bank, of the Bank to the Rediscount Department and of the latter to the Treasury. As indicated above, it would appear that these Treasury Bills were the chief source of funds wherewith the Government financed the Promissory Notes of 1942 as well as the annual deficits of the next three years.

The 792 million cruzeiros of Treasury Bills outstanding at the end of 1946 belong to another category. They were issued in 1946 for compulsory purchase by exporters, in amounts equal to 20% of cruzeiros receipts from exports. They were intended as an anti-inflationary instrument, and are not eligible for loans from the Rediscount Department for rediscount.

(d) Restos a Pagar, or Unpaid Bills of the Government, represent the acknowledgment of the Government of indebtedness incurred but not liquidated during the year. At times this account has contained elements dating several years back. It is interesting to note that the considerable increase in the use of Restos a Pagar is coincident with decreasing use of Promissory Notes, to finance budgetary deficits.

Gold Purchase Account

Not included in the floating debt is the Gold Purchase account which is maintained by the Government at the Banco do Brasil for the purpose of purchasing gold and which grew from 386 million cruzeiros in 1939 to 4526 million at the end of 1944. These purchases are not included in the current expenses of the Government but have been met pari passu by the issue of paper money by the

Treasury or the Rediscount Department of the Banco do Brasil. (Cf the treatment of the subject in the section on Money and Banking). In 1945 obligations of the Rediscount Department on this account were assumed by the Treasury to the extent of 4500 million cruzeiros. Previously, 1800 million cruzeiros of paper money were issued, 1940-1942, for the direct purchase of foreign gold. The Gold Purchase Account at the end of 1946 stood at 496 million cruzeiros. ^{1/} In February 1947, it was liquidated. (Cf chapter on Money and Banking).

^{1/} The balance outstanding on account of gold purchases at year-ends 1937-1946, were as follows, in millionsof cruzeiros:

1937	37
1938	175
1939	386
1940	617
1941	114
1942	140
1943	3000
1944	4526
1945	515
1946	496

4. Service on the Internal Debt

Official figures on the servicing of the internal debt are only broken down to show service on the funded debt. In the accompanying table, service on the funded debt is shown for the years 1937-1946.

Service on the Funded Internal Debt, 1937-1946 1/
(Equivalents of Millions of Cruzeiros)

1937	2/	189	1942	319	5/
1938	2/	243	1943	321	5/
1939	2/	259	1944	385	5/
1940	3/	303	1945	434	5/
1941	4/	452	1946	599	

Sources:

- 1/ (a) 1939-1945, Instituto Brasileiro de Geografia e Estatística: Anuario Estatístico do Brasil, Anos V, VI, VII (Section: Public Debt)
(b) 1946, Contadoria Geral da República: Balancos Gerais da União, 1946, Vol. II.
- 2/ Interest and amortization
- 3/ 1940-1946, interest only.
- 4/ The seemingly abnormal magnitude of interest charges in 1941 results chiefly from obligations issued in 1941 to fund Promissory Notes. These obligations were redeemed in late 1941 and early 1942.
- 5/ Interest on the war bonds of 1942 is estimated, and probably over-stated, since the basis of the estimate was the amount of bonds outstanding at the end of the year, which was probably greater than the outstanding amounts on which interest was paid.

In general it may be said that the servicing of the internal debt is fairly regular. In the above table, the abnormally large figure for 1941 appears to be accounted for by (a) interest on Obrigacoes which were issued for the funding of Promissory Notes at the end of 1940 and redeemed in 1942, and (b) liquidation of accumulated interest on other Treasury bonds. In the carrying costs for 1942, 1943, 1944, and 1945, the component representing interest on the war bonds of 1942 has had to be estimated. These estimates are probably somewhat overstated, since the basis of the estimates was the total of bonds outstanding at yearends, which undoubtedly was greater than the amounts on which interest was actually paid during the respective periods.

5. Analysis of the Internal Debt

From a review of the above discussion, it becomes apparent that (a) while the internal debt increased by about 110% between 1939 and 1946, inclusive, (b) the proportion of floating debt to total debt increased from about 30% in 1939 to 40% in 1946, (c) the composition of the floating debt changed, during the period, from a heavy dependence upon Promissory Notes to an almost equally heavy dependence on Restos a Pagar and overdraft credit at the Banco do Brasil, and (d) the increase in the floating debt, with the exception of 772 million cruzeiros of Treasury Bills issued in 1946, was entirely the result of budgetary deficits. The proceeds even of the Treasury Bills of 1946 were used to meet the budgetary deficit of that year.

The relationship between increases in the internal debt, budgetary deficits and redemptions of the debt between 1939 and 1946 can be presented in the following manner in billions of cruzeiros^{1/}

Change in the Internal Debt	=	Accumulated Deficits	-	Redemption for Cash
7.4		13.7		6.3

^{1/} The right hand side of the equation might be expected to contain a term "Change in Government Cash Balances". This term is here omitted, inasmuch as the Government had no cash balance either in 1939 or 1946.

In the above, "Change in the Internal Debt" represents the net increase in the floating and funded debt; but it should be noted that of this increase approximately 4.3 billion cruzeiros of war bonds of 1942, resembled taxes in the nature of their collection and were treated as revenues in the special budget of war expenditures to which they were applied. "Budgetary Deficits" include the public works budgets, the ordinary budgets, and also the expenditures on account of war activities, inclusive of the so-called war bond "revenues" referred to above. "Redemptions of the Internal Debt for Cash" include (a) 4.5 billion cruzeiros of Treasury Bills issued (1942-1945) on account of war expenditures and rediscounted at the Rediscount Department; and (b) 1.8 billion of Obrigacoes, issued for the most part in 1940 to fund Promissory Notes resulting from earlier deficits and redeemed by direct issues of currency by the Treasury.

The net increase in the funded debt of approximately 4.9 billion cruzeiros over the period was non-inflationary. This was so (a) because of the compulsory purchase aspect of the war bonds of 1942, which acted as an equivalent to an increase in the income tax; and (b) because the funded debt is not eligible for loans from the Rediscount Department of the Banco do Brasil. (Cf "Money and Banking")

The floating debt, as distributed at the end of 1946, was also not directly inflationary, since the increase in the means of payment embodied in the Government overdraft at the Banco do Brasil was offset almost exactly by the sum of outstanding Restos a Pagar and non-rediscountable Letras do Tesouro, both representing withholdings of means of payment from circulation by the Government. On the other hand, the 6.3 billion cruzeiros of floating debt incurred and redeemed for cash during the period were wholly inflationary. That part of it which represented Promissory Notes redeemed for cash was in fact doubly inflationary. The Promissory Notes represented conversions of Government overdrafts at the Banco do Brasil for deficit expenditures. They thus symbolized a net addition to the money supply. Insofar as they were redeemed directly by currency issues, they brought about a second and more considerable increase in

From 1939 to 1942 the greater part of the increase in the floating debt was financed by overdrafts at the Banco do Brasil converted at the fiscal yearend into Promissory Notes which were redeemed by the issue of currency by the Treasury. In October, 1942, the right of currency issue was transferred from the Treasury to the Rediscount Department of the Banco do Brasil, and at the same time the prohibition on rediscounting of internal debt instruments was relaxed to the extent of allowing Treasury Bills as the basis of one year loans in currency by the Rediscount Department.

From 1943 to 1945 Treasury Bills became the chief vehicle of the floating debt, supplemented by Restos a Pagar. These Treasury Bills, issued on account of war expenditures, were sufficient to meet Government monetary needs during the war, on account of both normal and war expenditures. When, with the end of the war, Treasury Bills for war expenditures ceased to be available, the Government in 1946 again had an overdraft at the Banco do Brasil. The manner of settlement of this overdraft, as noted above, has apparently not^{yet} been determined.

The intensive utilization of Treasury Bills after 1942 raises the question whether such Bills were used because they provided a more satisfactory means of financing the debt, or whether they were used primarily because they afforded the least objectionable means of supplying currency to an economy which was expanding largely on the basis of speculative operations. On the one hand, as a result of military payments and sharp increases in wage outlays, largely payable in currency, as well as because of speculative operations, the demand for currency was increasing. On the other hand, the Rediscount Department, however, was forbidden to rediscount, or loan on, instruments of a speculative nature, and was perhaps unable to find other suitable instruments in sufficient quantity to provide the needed currency. Since the early part of 1947 the use of Treasury Bills for loan purposes is forbidden, as a part of the effort to restrain the inflationary forces generated during the war and the following year.

6. The Internal Debt Compared with Other Economic Magnitudes

If the changes in the internal debt are taken in conjunction with changes in total population (46,000,000 in 1946) and national income (estimated at 37 billion cruzeiros in 1939 and 100 billion in 1946), it appears (a) that at the end of 1939 the per capita gross internal debt was about 167 cruzeiros, and at the end of 1946 about 311 cruzeiros; (b) that in 1939 the gross internal debt was equal to approximately 18%, and in 1946 to approximately 14% of the estimated national income.

Analysis of the carrying cost of the funded internal debt, moreover, which, represents the major part of the internal debt, indicates that this cost increased about 130% between 1939 and 1946. This compares with approximate increases in the following variables over the same period:

National income	170%
Budgetary revenues	205%
Currency in circulation	334%
Adjusted sight deposits	404%
Total loans and discounts	427%
Volume of exports	11%
Value of exports	258%
Volume of imports	6%
Value of imports	162%

The conclusion to be drawn from these comparisons would seem to be that the carrying cost of the funded debt, which in 1946 represented about 4% of federal expenditures, increased rather less than national income between 1939 and 1946; and noticeably less than the increase in the money supply or the increases in the value of exports and imports. That is to say that the real burden of carrying the public debt has fallen over the period under discussion.

7. Contingent Liabilities of the Government and Offsetting Assets

In addition to the funded and floating debt shown above, the Brazilian Government includes as internal debt two items of indebtedness which it has seemed reasonable here to treat separately, as contingent liabilities of the Government. These items are carried under the heads of (a) Deposits, and (b) Funds and Provisions. They represent collectively the deposit balances of the Federal Savings Banks, of social security and other funds and of various government-sponsored institutions and organizations. To these accounts the Government apparently contributes from current revenues, and apparently guarantees their deposit balances. It is presumed that in return the Government has considerable powers of supervision or disposal over the utilization of the balances. One element of the Deposits item, the Restos a Pagar, because of its

very definite credit nature, has been extracted for inclusion in the floating debt as set forth above.

Another liability item, Loans to Third Persons with Government Guarantee, is treated by the Government as a contingent liability. It includes loans to state governments, state treasuries and such enterprises as state banks, the Sugar and Alcohol Institute and the National Salt Institute and the National Coffee Department.

Changes in the Deposits, Funds and Provisions, and Loans to Third Persons which grew from 2021 million cruzeiros to 5062 million from 1939 to 1946, are outlined in Table (2) for selected years 1939-1946.

Against the sum of the funded and floating debts, plus the contingent liabilities, there may be mentioned two offsetting credit items--i.e. Debtors to the Union, and the indebtedness of Banks and Correspondents to the Government. The largest element in the item Debtors to the Union comprises debts of the states, municipalities, and federal agencies to the central Government, on account, apparently, of extension of credit, both domestic and foreign. The item Banks and Correspondents appears to represent the net cash indebtedness of the banking system, and primarily the Bank of Brazil, to the Government on account of current operations in which the banks act as fiscal, paying, or other agent, of the Government, or operate with funds extended by the Government for specific purposes.

A consolidation of the funded and floating internal debt, the contingent liabilities of the Government, and the credit offsets to the Government's internal indebtedness is presented in Table (Y) for selected years, 1939-1946, Adjustment has been made in the contingent liabilities, for extraction of Restos a Pagar.

Autarchies

The so-called "autarchies", such as Lloyd Brasileiro, parts of the railroad system, Volta Redonda, the Savings Banks, and the Pensions Institutions, present an increasingly interesting and important aspect of government indebtedness in Brazil. Unfortunately, the data concerning them are incomplete.

For the most part, they have originated from funds provided in the regular or supplementary budgets, and additions to their capitalization, as well as regular contributions to their operating costs, are similarly financed. Previous to 1943 their deficits were included in the ordinary federal budget, and this practice is to be resumed in 1948.

In the recent past, the Government has been slow in financing the deficits of the autarchies and has tended, after lapses of several years, to do so by funding rather than out of current revenues. In certain instances the autarchies have had to resort to the commercial banks for their financing.

With the re-inclusion of the autarchies in the regular budget, it is expected that their impact upon the Government expenses will be clarified and their contribution to the public indebtedness consolidated and brought up to date.

For the time being, however, no complete statement of the budgets of the autarchies is available, so that it has not been practicable to include them in this discussion of Brazil's internal debt.

TABLE 2

BRAZIL

Contingent Liabilities of the Brazilian
Government, Selected Years 1939-1946 1/
(Millions of Cruzeiros)

	<u>1939</u>	<u>1942</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>
Deposits	1137	1694	4039	4725	3259
Funds & Provisions	120	101	228	480	877
Guaranteed Loans to Third Persons					
By the Bank of Brazil	744	1078	1000	829	900
By the Savings Bank of The Federal District	20	20	20	20	20
By the Bank of London and South America	--	17	13	10	6
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total	2021	2910	5300	6064	5062

1/ Source: Contadoria Geral da Uniao: Balancos Gerais do Uniao.

TABLE 3

BRAZIL

Consolidation of Internal Debt, Contingent
Liabilities and Offsets against Indebtedness, Selected Years,
1939-1946
(Millions of Cruzeiros)

<u>Item</u>	<u>1939</u>	<u>1942</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>
(1) <u>Internal Debt</u>					
Funded	5081	5290	6782	7895	9965
Floating	<u>1570</u>	<u>1824</u>	<u>6289</u>	<u>5962</u>	<u>4052</u>
Total (1)	6651	7214	13071	13857	14017
(2) <u>Contingent Liabilities</u>					
Deposits	1137	1694	4039	4725	3259
Funds and Provisions	120	101	228	480	877
Guaranteed Loans	<u>764</u>	<u>1115</u>	<u>1033</u>	<u>859</u>	<u>926</u>
Total (2)	2021	2910	5300	6064	5062
(3) <u>Offsets</u>					
Internal Debtors to the Union	1477	1158	1887	1895	2055
Banks and Correspondents	<u>492</u>	<u>539</u>	<u>2598</u>	<u>4138</u>	<u>1720</u>
Total (3)	1969	1697	4485	6033	3775

C. Development Problems, Programs and Institutions

I. Development Problems

Brazil has large possibilities for development in agriculture, mining and manufacturing. Large expanses of apparently fertile land remain to be cleared, her forest resources are tremendous, she is rich in many minerals and in water power, and her people are quick to learn. But development is impeded, in some cases by unfavorable legislation and administrative practices, and generally by unhealthful living conditions, inadequate transportation facilities, shortages of fuel and power, insufficient technical and administrative knowledge and lack of capital. The enumeration of the above elements largely indicate the direction that development must take in Brazil.

(a) Legislative and Administrative Obstacles - The major institutional obstacles to economic development are limitations on foreign exploitation of certain mineral resources, the ever-present threat of exchange restrictions and an unfavorable or at best a negative policy toward immigration. There have been indications recently of a change in Brazil's perhaps excessively nationalistic policy toward oil and other mineral resources. Although exchange controls are in effect, transfer of profits up to 8% annually on investment (liberally defined) and of capital up to 20% annually is given second priority to the importation of essentials. There is, however, at present apparently a several month's lag in the supply by the Banco do Brasil of exchange for such purposes. There is no indication that Brazil is revising its immigration policy.

(b) Sanitation - Improved health and sanitation are more commonly the result rather than the means of economic development. The Government is attempting independently and in cooperation with the Rockefeller Foundation to improve the nation's health, but progress in this direction will necessarily be slow.

(c) Transportation - The greatest immediate physical impediment to economic development in Brazil is the obvious inadequacy of transportation facilities. A considerable amount of thought has been devoted to this problem and progress has been made in recent years. About U.S. \$100 million in loans have been received

from the Eximbank for financing rail, coastwise, port and air development. But the Government's approach to the problem appears to be uncoordinated and in some respects unrealistic. Even with sound planning, however, far more capital than Brazil has will be necessary if the transportation bottleneck is to be eliminated in the near future.

(d) Fuel and power - Shortages of fuel and power may prove to be a permanent limitation factor in Brazil's economic development. Discovery of large accessible petroleum reserves may appreciably reduce the problem. Full development of hydroelectric resources would probably double Brazil's annual production of fuel and power from all sources, but this will require considerable capital. Finally, more intensive exploitation of iron ore reserves may enable Brazil to import coal as return cargo more cheaply than is now possible.

(e) Technical Knowledge - Like all underdeveloped countries, Brazil is handicapped by a shortage of trained personnel. However, this shortage will delay rather than limit economic development permanently, for technical skills will be developed as economic activity grows and diversifies.

(f) Capital - Inadequacy of capital is a partial explanation for most of the other developmental obstacles that Brazil faces. More positive measures could be taken in Brazil, perhaps by tax reforms and by control of investment, to direct the relatively small amounts of local savings into channels more productive from the standpoint of the nation. If this were done, Brazil could undoubtedly achieve much without outside assistance. Nevertheless, rapid development of the country will be achieved only if fairly large amounts of foreign capital, of which a large part will have to be equity capital, are attracted. In this connection, Brazil's attitude toward foreign investment may prove to be decisive.

II. Development Program and Projects

(a) Background

The idea of planned economic development has taken greater hold of the educated imagination in Brazil than in most other countries of Latin America. Of the many reasons for this, the following are among the most important: (a) a strong sense of manifest destiny and national prestige; (b) dissatisfaction with a raw-material and predominantly one-crop type of economy which, during two wars and the depressed inter-war period, emphasized the dependence of such an economy upon the fluctuations of international markets and the vagaries of international investments; (c) the disparate nature of the economy, owing to the size of the country relative to population distribution; (d) a feeling of urgency, resulting from the belief that economically and developmentally the imperial period (1822-1889) represented time wasted; (e) the example of the Fascist, Nazi and Soviet developmental programs.

In 1932, after forty years of experience had shown that under the old-fashioned liberalism of the Constitution of 1891 the country's progress was largely a plaything of the coffee and industrial interests of the States of Sao Paulo and Minor Gerais, the country accepted the program of organized planning offered by Vargas. This was symbolized by the corporate structure embodied in the New State as set forth in the Constitution of 1937. In 1945, dissatisfaction with the restraints involved in the Vargas program relative to its economic and humanitarian achievements brought about Vargas' overthrow and a new political and economic program embodied in the Constitution of 1946:

(b) Content

Although the spirit of the new program is less anti-foreign and more liberal than the old, the general pattern is similar. This pattern envisages a widespread structure of economic expansion, under governmental aegis, based on more or less concurrent developmental programs in the fields of (a) public health; (b) petroleum exploration and exploitation; (c) transportation, including coastwise

and river shipping; (d) agricultural techniques and equipment; (e) hydro-electric development; (f) an iron and steel industry; and (g) federal assistance to the poverty-stricken areas of the north and northeast. Implementary to these developmental programs is a project for reorganization and expansion of the credit facilities of the country, based in the establishment of a central bank capable of controlling inflation, and supported by state-controlled banks devoted to mortgage credit, agricultural credit, business credits, export-import needs and long investment needs. Implicit in inflation control is the development of a government bond market and the reduction of the interest rate through control of speculative uses of capital and credit. In this connection it may be noted that the necessity of balancing the federal budget is currently recognized as a fundamental factor in the control of inflation.

(c) Financing

The financing of this composite program has proved a major obstacle. Under erstwhile prevailing conditions of depreciating exchange rates, government deficits, inflation, and high short-term money rates, domestic private capital has been unwilling to take any considerable part in the long-term development program, and the government has been forced to do its financing practically by forced loans. The commonest methods of so doing have been (a) by the more or less arbitrary sale of capital stock in the developmental projects to the savings banks and pensions funds which are set up under government guarantee and supervision; and (b) by the issue of currency to supply the necessary capital funds. During the war and the postwar period, the financing of developmental projects was assisted by the Eximbank to the extent of more than U.S. \$ 80 million.

(d) Labor Supply

Another major obstacle is the absence of a skilled labor force. In order to stimulate, organize and standardize the trained personnel needed for the actual and anticipated industrial and technical development, the Government in 1942

legislated two training programs. (1) Under an "Organic Law of Industrial Education" formal technical training at the secondary school and post-secondary school level was embodied in two-to six-year courses as part of the regularly available secondary curriculum. (2) Concurrently, a network of apprenticeship schools for industrial workers under direction of the National Service of Industrial Apprenticeship (SENAI) was set up. This network is financed out of compulsory contributions by industrial employers and currently includes about 65 schools scattered in industrially strategic locations throughout the country. In addition to the official apprenticeship institutions there are some private schools maintained by individual industries. In all, including public and private institutions, Brazil now has some 140 industrial-training institutions, with an enrollment of 40,000 to 50,000 students.

The training offered varies from that for unskilled industrial labor to that producing highly-trained foremen and electrical and mechanical technicians. Overall planning and direction of this program is supplied by the Brazilian-American Commission on Industrial Education operated jointly by the Brazilian Ministry of Education and the Institute of Inter-American Affairs of the U. S. State Department. Relatively little technical training has yet been provided for agricultural workers.

(d) Foreign Participation

Foreign participation in the development program is a subject of much debate. Under the Vargas Constitution of 1937 and supplementary legislation, foreign capital was practically ostracized by provisions concerning control, management and personnel of corporations operating in Brazil. The new Constitution of 1946 is less nationalistic, but there continues to be a fear of foreign control of basic industries. Sub-soil rights are by the constitution vested in the nation and the present tendency appears to be to retain control of basic industries in the hands of nationals while encouraging foreign capital and skill, under the guise of a junior partner, to undertake the costly and hazardous aspects of ex-

ploration and preliminary development. This attitude is probably owing in part to the profit motive and to this extent may be modified (except in respect of sub-soil ownership) in the face of the probable failure of foreign capital to participate under present conditions. For it is increasingly recognized that domestic capital, training or personnel resources are not sufficient by themselves to carry out the program envisioned at the speed desired.

Rockefeller Experiment

In January 1947, an experiment was undertaken by Nelson Rockefeller in the form of a holding company to initiate and develop improved production, and especially agricultural production techniques in Brazil. This holding company, known as the International Basic Economy Corporation, was incorporated in New York, with a proposed capital and surplus of \$3 million.

Under the holding company, there are envisioned six subsidiaries to be established in Southern Brazil devoted, respectively, to the study and development of problems connected with; (1) the production of high-grade seeds, especially corn; (2) phosphates; (3) transportation, especially supply trucks; (4) truck-produce farming; (5) vaccination of hogs against cholera; (6) reconstitution in urban centers of raw-milk produced and powdered in the cooler uplands and flown to the urban reconstitution plants.

The new corporation, which is designed as a profit-making organization, is intended to offer an example and a methodology for making U.S. agricultural experts and techniques available to Brazil. Brazilians will be asked to subscribe the preferred stock of the subsidiary companies, and will have the option of converting to common stock at the end of ten years. The corporation is also active in Venezuela.

(e) Present Status of the Development Program

With the activation of Volta Redonda in June of 1946, a domestic iron and steel industry on a large scale is now in operation and gaining headway, (from 1937-1946, pig iron production increased from 98,000 tons to 369,000 tons).

Concomitantly, the coal industry of Rio Grande do Sul and Parana from which, by law, a major portion of domestically consumed coal must be derived, is being bolstered. Within a brief time it is expected that the iron-ore export industry represented by the Rio Doce Valley Project will be completed and in operation.

Codes governing the petroleum and mining industries - especially in respect of foreign participation - are being drawn up. The attitude adopted in these codes toward foreign capital will have an important direct effect on these industries, and indirectly, through the balance of payments, upon Brazil's ability to import capital goods in connection with other purposes.

A caustic soda industry is in the process of implementation and a project to harness the hydroelectric power and irrigation facilities latent in the Paulo Affonso falls of the Sao Francisco River is currently being initiated.

A Railroad Rehabilitation and Expansion plan is in process and is expected to be worked out over five or six years. This plan, as indicated above, contemplates the completion of 2,500 odd miles of track, with primary attention to supplying links between lines already in existence, especially links which will result in providing through facilities from the Uruguayan border to the Amazon Basin. As likewise noted above, a highway program is being carried out, resembling the U. S. national highway system in that the Federal Government will provide grants to be matched in certain fixed proportions by state governments. A major feature of this program is a through road from Rio to Boliea, thus linking north and south.

Concurrently, the Ministry of Agriculture is undertaking a four-year program of agricultural development aimed especially at increasing the production of wheat so as to make Brazil self-sufficient in this consumption commodity, import of which at the present time is requiring more foreign exchange than imports of trucks and automobiles.

During the last two years, the government has acquired through nationalization, by means of its holdings of blocked sterling, the British-owned Sao Paulo-Santos

Railway, the Brazil Railway, and some public utility holdings in the North. By agreement with the U.K., Brazil is in a position similarly to acquire possession of other British-owned utilities, but it is questionable whether, owing to poor profit prospects, the government will undertake further nationalization projects at the present time. On January 1, 1948, the Articles of the Constitution of 1946, providing for statutory federal assistance to the underdeveloped areas of the Amazon Basin and the Northeast, came into force. Under these provisions special emphasis is expected to be placed on health, transportation and drought control.

Two immediate factors may be looked to to maintain or hasten the present development trend. The first is the fact a good deal of concrete experience in the techniques and organization of overall planning was acquired during the wartime life of the Office of Economic Coordinator. The second is that apparently the recent political coalition of the three major political parties was predicated upon the drawing up and implementation of a specific four-fold plan based on transport, health, food and diet, and electrification. Indication is that the plan is in process of elaboration, and in view of the consummation of the political coalition, it is assumed that the government has guaranteed its adherence to, and cooperation in, such an immediate program.

Development Institutions

Although both the Constitution of 1937 and the Constitution of 1946 made provision for an overall planning board in the form of a National Economic Council, this organ has not as yet been set up. In the absence of such an agency, economic development currently is guided at the policy level by several boards and commissions with relatively broad powers, and at the administrative level by a considerable number of autonomous entities or "autarchies" engaged in the exploitation, production, merchandising and/or supervision of specific commodities.

(a) General Policy Coordinating Agencies

(1) The Foreign Trade Council, created in 1934 and reorganized in 1939, comprises a sixteen-man commission, chairmanned by the President of the Republic and including representatives of agriculture, industry and commerce, as well as chiefs of the various federal departments (plus the Banco do Brasil) concerned with the economic administration of the nation. The Council is subdivided into sub-commissions dealing with production, distribution and trade, and has the right to appoint special ad hoc committees for the technical study of particular problems or projects. Pending the creation of a National Economic Council, the Foreign Trade Council, despite its restrictive title, acts not only as an advisory council to the President in matters of general economic and developmental interest to the nation, but as a coordinating and supervisory agency relative to the other federal developmental agencies.

Among the Council's activities have been the stimulation of a national steel industry, of a heavy chemical industry, of nationwide electrification, and of plans for the production on a national scale of coal, sheet glass, pine-wood, wheat and other commodities of national importance in domestic consumption or foreign trade.

The structural weakness of the Council is the fact that appointments to it are on a one-year basis, though presumably renewable at the President's discretion.

(2) The Economic and Financial Technical Council. This Council is subordinated to the Minister of Finance, who is its president. As its name suggests, it is a technical body. Its primary functions are study, recommendation and policy determination in the fields of public finance, monetary and credit organization, fiscal policy and the standardization of federal, state and municipal taxation. The Council has also been concerned with other major phases of the economy such as the steel, coal and textile industries. Judging from its publication, it is one

of the most well-trained, efficient and dependable of the official organizations.

(3) The Office of Co-ordinator of Economic Mobilization. This was a wartime board and no longer exists. During its lifetime, however, it possessed greater powers of centralization and supervisory control than any of the wartime boards in the U.S., and was in fact the economic dictator of the country, responsible only to the President.

(4) The National Council on Water and Electric Power. Created in 1939, this Council is subordinated directly to the President of the Republic. Its functions to study and promote the nation's hydraulic potential; to analyze and assess the nation's needs of electric power, and in general to direct, implement and police the Water Code of 1934, especially as it affects the general plan for national electrification drawn up by the Foreign Trade Council.

(5) The National Petroleum Council. This Council, founded in 1936, is also directly subordinated to the President of the Republic and has as its chief purpose the discovery, exploration and supervision of the national petroleum reserves, which it is hoped and believed may prove to be considerable. Presumably the Council will supervise and implement the petroleum code which is currently being prepared for legislative form. In its present form, that code would permit free foreign participation in the exploitation and domestic distribution of crude petroleum but would allow for only 40% foreign participation in refining processes and the domestic distribution of refined products. Exportation would only be allowed after the stockpiling of a considerable reserve over and above current domestic consumption.

(6) The National Council on Mines and Metallurgy. This Council, created in 1940, is subordinated to the Minister of Transportation and Public Works. The membership includes representatives of the armed forces. Its functions include the study of problems dealing with the location, extraction, and disposal of minerals. It does not have jurisdiction over petroleum products. When the mining code, at present under consideration, is drawn up in the near future, this Council will

presumably direct the application of it.

(b) Single-Commodity Regulating Institutions

These institutions take the form of autarchies or autonomous entities rather than executive agencies. They are self-administered and in theory financially self-supporting. In fact they not infrequently operate at a loss which has to be financed from the budget or from extra-budgetary appropriations. Their primary function is the organization of production, price policy and supervision of specific commodities of major importance to the economy. Their makeup includes, generally, representatives of private interests associated with the commodity, as well as federal or state personnel, both technical and administrative. The heads of these institutions are, by law, appointed by the President of the Republic (or by state governors where the commodity relates to only a limited area).

Among such commodity-regulating institutions, the most important are:-

(1) The Sugar and Alcohol Institute, created in 1933, with the double purpose of relieving the internal crisis conditions then existing in the industry, and of attempting to put Brazil back into its onetime position of a major supplier of sugar in the international market. The Institute has been particularly notable for its influence in the development of the production of alcohol, which has been widely used as a motor fuel. It is also credited with responsibility for the issue in 1941 of an Estatuto da Lavoura Canaveira which is tantamount to a sugar code regulating the production, processing and pricing policies of the sugar industry.

(2) The National Mate Institute, created in 1938, aims principally at improving the organization of the mate industry, with a view to the export market in Argentina. During the war, the Institute helped stimulate and develop processes for extracting caffeine from mate.

(3) The National Pine Institute, created in 1941, to organize the lumber industry in Southern Brazil, particularly in terms of transportation problems, and to supervise the development of reforestation programs.

(4) The National Salt Institute, created in 1940, to standardize production and prices, organize quotas and improve transport facilities for salt producers. In 1943 it was designated to finance the creation of a soda ash and caustic soda company, of which it will hold the controlling stock. This undertaking is considered of great importance in the growth of a chemical industry in Brazil.

(5) The Cocoa Institute of Bahia, created in 1931, organized as a cooperative, and run by the State of Bahia, functions to systematize production, marketing methods and export standards. It has constructed warehouses, provided technical and financial assistance to planters, carried out research programs and developed experimental projects. Its jurisdiction extends to road development in the cocoa zone.

(6) Three other agencies, The National Coffee Department, The Executive Commission for the Milk Industry, and The Executive Commission for the Fishing Industry, were abolished in 1946. Executive commissions for the fruit and manioc industries are still in existence as coordinating agencies for growers, processors and exporters of the respective products.

(c) Specific Developmental Projects

Of more precisely perceptible influence on the development program are the so-called "mixed" companies, in which the government, directly or indirectly, has the controlling interest. Of these, the most notable experiments are:

(1) National Steel Company (Volta Redonda), created in 1941, to provide the basis of^a large-scale national steel industry which could not be undertaken economically under private auspices. The capital stock of the company is apparently composed of voting stock valued at one billion cruzeiros (about U.S. \$ 50 million) of which three-fifths is held by the national treasury, and 1.25 billion cruzeiros of non-voting stock, paying 5%, to be transferred to the Social Security Institutes in payment of contributions due them. From the Eximbank the company has received in excess of \$40 million.

(2) Rio Doce Valley Company, created in 1942, to exploit the great iron-ore deposits of Itabira, for export purposes over the Victoria-Minas railroad. This project was designed by Brazil, the U.S. and Britain as a potential military source of iron-ore. It is not yet completed, pending allocation of additional funds by the Brazilian Congress upon which hinges a further credit from Eximbank. When such allocation is completed, the capital of the company will consist of 650 to 800 million cruzeiros; loans from Eximbank will total U.S. \$26.5 million. The voting stock is controlled by the federal government.

(3) The National Alkali Company. This company was created in 1943. The capital of the company will total 100 million cruzeiros, and the project is said to have received a credit of U.S. \$7.5 million from Eximbank. The federal government will control the company through its control of the National Salt Institute which will subscribe the controlling stock of the new company. The remaining stock will be sold to the Federal Savings Banks, the Social Security Institutes, and the public. The purpose of the company is an annual production of 50,000 tons of soda ash, part of which will be devoted to producing annually 19,000 tons of caustic soda.

(4) Sao Francisco Hydroelectric Company. This company has just placed its capital stock, amounting to 400 million cruzeiros, on sale. The ordinary stock (200 million cruzeiros) will be taken by the government; the remainder will be taken by the social security and savings institutions, other government organizations and the public.

The purpose of the company is the increase in hydroelectric power through the progressive harnessing of the Paulo Affonso falls of the Sao Francisco River in the State of Bahia, thus relieving the present power shortage in the lower Sao Francisco Valley, stimulating industrial and agricultural production there, reducing the need of transporting coal, and developing flood control and irrigation facilities.

(5) National Motor Engine Factory. This company was designed during the war to produce airplane engines. In this respect it was unsuccessful and the project has been redesigned to produce tractor motors, and to conduct a training school for industrial skills. The company is capitalized at 400 million cruzeiros, of which the government owns the voting control. The company has received U.S. \$1.2 million from Eximbank and \$6 million of lend-lease loans.

11: Structure and
Problems of the
Brazilian Economy

II. Structure and Problems of the Brazilian Economy

A. National Income

Brazil is a country with a low average standard of living, with striking contrasts between rural and urban life, and between backward, inefficient methods of production and up-to-date industrial techniques. Dependence on one or two major crops has made its economic life characteristically subject to the state of world markets. A more balanced economy is gradually being achieved within a general upward trend, marked by rapid industrial growth in certain areas. But there is no clearly drawn up and comprehensive development program, although the basic bottlenecks of development are readily identifiable. As in other under-developed countries, local savings have been inadequate and resistant to investment in the more socially necessary but sometimes less profitable fields. Their substitution and supplementation by foreign capital and the resort to inflationary financing have frequently led to a rate of economic development not compatible with maintenance of the exchange rate, especially in view of the periodic crises in foreign markets. Some effort is being made to channel both domestic savings and foreign capital into development projects.

On the basis of fragmentary data, Brazil's national income is estimated at 100 billion cruzeiros (slightly over \$5 billion). About 30% derives from agriculture and another 30% from manufacturing. Income per capita is only slightly more than \$100. The distribution of income is apparently very unequal. Farm wages are considerably below industrial wages, and even the latter are generally low.

A part of Brazil's national income goes to foreign capital and creditors. The service on foreign investments and on the funded external debt, together with other ordinary remittances by residents in Brazil, amounts to about \$150 million annually, or 3% of the national income.

B: Agriculture, Forestry and Fisheries

A. Introduction

As already stated 67% of Brazil's working population is engaged in agriculture. About 3/4 of the total population, or about 30 millions, are on farms. This is greater than the farm population of the United States. The greater part of the agricultural population is highly concentrated. About 70% of it, 21 million, almost as many as in the United States, is located on a land area only 1/7 of the size of the United States.

Agricultural products account for almost 90% of the value of Brazil's exports and for only 20% of its imports. It is and for a long time will be the backbone of the Brazilian economy.

Brazil produces most of the tropical, subtropical and temperate crops. It is nearly self-sufficient in agricultural and animal foods. In addition, it is a large exporter of coffee, rice, cacao, oil seeds, hides and skins. In addition to producing all its requirements of cotton, it is an important exporter of it. The general standard of living of Brazilians is, however, low. The daily calorific intake of food is probably less than 2300 and the great majority of the people are poorly clothed.

The total value of Brazil's agricultural production is the equivalent of more than 1.5 billion \$ U.S. or 30% of the national income. More than three-fourths of this is produced in Sao Paulo, Minas Gerais, Rio Grande do Sul and Rio de Janeiro. Sao Paulo alone accounts for nearly half of it. Annual crop production exceeds the equivalent of 1 billion \$ U.S. and animal products one-half a billion \$ U.S.

The most important crops are coffee, corn, beans, cacao, cotton, rice, sugar, tobacco, potatoes, barley, rye and a variety of oil seeds. It is the largest producer of coffee and beans in the world, ranks second in cacao, fourth in cotton and corn, fifth in tobacco and eighth in rice. Although self-sufficient in most

crops, it must import a large part of its wheat and jute.

Brazil is self-sufficient in meat and dairy products. About 15% of meat production is exported. Skins and hides are also important export items. In recent years despite the increase of local production of wool and because of the development of Brazil's woolen industries, Brazil has imported rather than exported wool. Brazil is the fourth largest cattle and hog raising country in the world. It also raises substantial numbers of sheep, goats, horses and mules. About one-quarter of Brazil's livestock are in Rio Grande do Sul.

Brazil is self-sufficient in lumber, rubber, nuts, oils and waxes which it also exports in large quantities. The only forest products which it imports in large amounts are naval stores. It has huge reserves of a wide variety of hardwoods and softwoods. Forests cover almost half its land area. Only the Soviet Union has a larger quantity of standing timber. The country's largest forest resources are in the Amazon basin. But very large stands occur also along the Atlantic Coast and in Parana and Santa Catarina. The annual income from forestry is probably less than the equivalent of 100 million \$ U.S.

Ocean and fresh water fish resources are said to be abundant but are relatively undeveloped, and small quantities of fish are imported.

B. Development of Brazilian Agriculture

Coffee, cotton, corn, rice and sugar account for about two-thirds of the total value of all crops. Almost 95% of the total cultivated land in Brazil is devoted to them and to beans. Coffee is the most important item in Brazil's export trade. In the early thirties it accounted for about 65% of the total value of her exports, in the years immediately preceding the war, for from 40 to 50% and in 1946 for about 36%. Cotton and its products have constituted about 20% of the total value of Brazil's exports since before the war. Cacao exports were from 4 to 5% of all exports in the five years immediately preceding the war and about 3½% in 1946.

Because of the large changes that occurred in the composition of agricultural

production during the thirties, no index of agricultural output can be made. The land area under cultivation, however, increased by 38%. Farm labor increased by about 20%. Since farming techniques did not change substantially and since yields of coffee and some other crops actually fell because of soil exhaustion, agricultural output increased by perhaps 20 to 25%, or at about the same rate as population generally. The greatest increases in output occurred in cotton, cacao and rice. Cotton production increased by 35%, mainly in the State of Sao Paulo which produced less than 10% of Brazil's cotton in 1930 and about 70% in 1939. Cacao production nearly doubled and rice output increased by 63%. On the other hand, large reductions were experienced in coffee, oats, and wheat. Coffee production in 1939 was almost 30% less than in 1930. In 1930 cotton accounted for less than 3% and coffee for 49% of the total value of agricultural output. The two crops accounted for 17% and 20%, respectively, of the 1939 production.

The increase in agricultural production during the war years barely kept pace with the increase in population. Acreage under cultivation increased by about 7%. Output in 1946 was about 12% above that in 1929. Production of wheat increased by 146%, of rice by 86%, of sugar by 41% and of beans by 30%. Cotton production increased considerably until 1944, since which date it has declined sharply. In 1944, it was 25% greater than in 1939 but in 1946 was 30% less. Coffee production data are uncertain, but production was only about 50% of pre-war in 1946.

C. Development of Livestock Production

Animal production increased by about 27% during the thirties. Meat production was 40% higher in 1939 than in 1930, fats about 14% higher and dairy products about 20% higher. A decline of about 12% occurred during the war years, about 28% in meat, 18% in fats and 10% in dairy products.

D. The Future: General

Agriculture in Brazil is still on a frontier basis. Fertilizers are sparingly

used and much of the soil, peculiarly subject to leaching, has been mined. Coffee yields per tree during the period 1942-46 were only 47% of those in the last years of the 20's. Cotton yields typically decline by about 70% after 7 years cultivation. In fact, during the past three years, cotton production has decreased by about 35%, although the acreage under production has increased. New land fit for agriculture has been estimated at about 25 million acres, or slightly less than the area now under cultivation, and is located in western Sao Paulo, northern Parana and southern Minas Gerais. It should be noted that this is a minimum rather than a maximum estimate, for large areas in Brazil have not been subjected to soil investigation. Clearing of new lands is slow and costly. It is progressing at the rate of only about 180,000 acres annually. Moreover transportation facilities in Brazil have followed rather than preceded settlement and virgin land generally lacks highways and railways. The Sao Francisco Valley has excellent soil but will require costly irrigation. More intensive cultivation of the old lands of Brazil, about 70% of which are in pasture or forests, is possible, but will also require expenditures for fertilizer or clearing. In short, Brazil's land is capable of producing much more than it does, but additional production is likely to be more costly for three reasons, clearing, fertilizing and transportation, and consequently is likely to be moderate.

Cultivation methods are crude. There are fewer than 4,000 tractors in all Brazil. On the average, one in four farms has a plow, one in fifteen, a harrow, and one in ten a cultivator. Actually, of course, the typical farm has none of these, as they are chiefly found on large farms only. Methods of coffee cultivation have not changed in the past century or more. The same comment is applicable to almost all the other crops. Mechanization will proceed at a rapid rate in the future only if the shortage of farm labor becomes even more serious than it now is. This is unlikely.

Labor as presently managed is likely to be an important limiting factor in the expansion of agriculture. During the war considerable numbers of farm workers moved to the city in response to the higher wages resulting from the growing industrialization of Brazil and to the social legislation of the '40's. Labor shortages were felt on the farms located near the cities. In the interior of the country, however, labor apparently continued to be plentiful. Large scale migration back to the farms is improbable. Most of Brazil's cash crops require large numbers of workers per acre. Bad management, largely of an absentee variety, results in wasteful use of the farm labor supply. As already stated farm labor generally is provided with very crude equipment and mechanization is not likely to be rapid. Immigration has in the past supplied Brazilian farms with a plentiful labor supply. Little is to be expected from this source in the immediate future, however, because active interest on the part of the government in immigration is slight and because Brazil's laws favor nationals over foreigners.

Unless unforeseen large rises occur in the world prices of Brazil's agricultural products, agricultural output in that country is unlikely to increase at a more rapid rate than population. On the other hand the standard of living in Brazil is so low that any increase in wages may result in the consumption of a larger share of Brazil's production at home and a smaller volume of exports. This will be discussed in greater detail below.

E. The Future: Agricultural Crops:

Coffee production is likely to be greater during the next few years as the trees recover from the effects of the frosts of 1943 and 1944. In fact next year's harvest will be nearly 50% greater than in 1946, or about 18 million exportable bags. But the reduction in the number of coffee trees that has been progressing since 1934, since which date nearly 1 billion trees have been abandoned, will probably continue. It is likely that by 1960 there will be few more than 1 billion trees in Brazil or

about half the present number. This result is expected because the vast majority of existing trees are old, replanting of coffee trees is generally unsuccessful and available new coffee lands are quite limited. Moreover, coffee production in other Latin American countries and in the Orient is increasing and prices are, therefore, unlikely to rise enough to warrant large expenditures for putting Brazil's old coffee lands back into production. Nevertheless for the next decade or so, coffee should be an important factor in Brazil's balance of payments. Government-held stocks of coffee are relatively small - about 4 million bags. World per capita consumption has increased steadily for decades. Brazil's reduced production, therefore, largely will safeguard her from the very low prices resulting from over production that have plagued her in the past.

Cotton should continue to play an important part in Brazil. The world market for raw cotton will probably remain good for many years. The major problem for Brazil will be to maintain her production. As already indicated cotton exhausts the Brazilian soils quickly. About 20% of the new lands cleared annually are sown to cotton. Even at this rate of new plantings cotton production has been declining greatly. Moreover the decline in foreign markets for Brazilian textiles may cause textile manufacturers in Brazil to attempt to maintain their production by increasing local sales. This attempt will be partially successful if the incomes of the laboring classes are increased, as seems likely. Thus the ability of Brazil to maintain its volume of exports of cotton and its products is doubtful.

Most of the remainder of Brazil's agricultural production will continue to advance, but not at a much higher rate than her population and wage earner incomes increase.

F. The Future: Forest Products

Brazil's forests like her soil have been extensively mined, for fuelwood and charcoal particularly. The major obstacle to increased commercial exploitation of

her timber resources is transportation. A second important problem is an adequate efficient labor supply in the forest areas. One large American firm is operating extensive holdings in the Amazon area but has thus far been able to export little if any lumber.

Brazilian timber is only now being subjected to laboratory tests to determine its commercial uses. The laboratory findings may encourage new activity in the forest industry. Until they are completed and published, however, no firm judgment on the future can be made.

It is reported that Brazilian rubber sells locally at 25% above world prices under the cover of a heavy tariff. Increased rubber production therefore seems unlikely.

The world market for waxes and oils will for a long time be very good. Accordingly every incentive exists for Brazil to increase her production of these commodities. The main drawback to increased production, inefficient methods of collection, is likely to continue, however.

C: Electric Power and Fuels

A. Introduction

Brazil is notably deficient in known reserves of fuel and power. High hopes are held that great reserves of petroleum exist. Geological formations indicate that these hopes have some foundation. Foreign oil companies appear to be ready to spend large sums in exploring and drilling for oil. But little petroleum has been found to date. Large coal reserves exist, but the coal is of very poor quality, has an ash content varying from 25 to 45%, is consequently very expensive to transport and is located at a considerable distance from the major markets for fuel and power. Brazil has a great hydroelectric potential. But much of it is not well located for marketing of power in the foreseeable future, and a large part of it is on the Paraguay border and can be utilized only in agreement with that country. As already stated, Brazil's forest reserves are immense. But centuries of cutting for fuel and power have taken their toll and remaining stands are becoming less and less accessible. Accordingly, the cost of using wood for fuel and power has increased very greatly, in some areas more than ten-fold since 1939. Alcohol from sugar cane is mixed with gasoline, but provides only a small part of Brazil's motor fuel requirements. Cottonseed meal and coffee beans have been used for fuel, but are not of great importance. The use of the former highlights Brazil's fuel shortage, and of the latter overproduction, rather than their fuel efficiency. Unless large petroleum reserves are found, entirely new sources of power perfected, or a way found to import coal or coke cheaply, it may confidently be stated that Brazil will not become a great industrial nation in the foreseeable future. Development of her hydroelectric potential will, however, help her to continue her present industrial revolution for some time.

Brazil's consumption of energy from all sources is very small, probably less than 2% of that of the United States. Its consumption of energy from sources other than wood is probably only 75% greater than that of Chile, which has only slightly more than 10% of Brazil's population.

Wood is by far the most important source of energy in Brazil. Before the war, it probably produced 70% of the total energy of the country. Coal and petroleum each produced slightly more than 10% and water about 7% of the remainder. Much of Brazil's coal and most of her petroleum products must be imported. They accounted for about 12% of the annual pre-war value of Brazil's imports.

B. Coal

Brazil's coal reserves are estimated at 5 billion tons. The largest reserves are in Rio Grande do Sul, which before the war accounted for 80% of Brazil's production. Other large reserves are in Santa Catarina. Unlike those of Rio Grande do Sul, they provide coking coal. In 1945, Santa Catarina furnished about 40% of Brazil's output and the share of Rio Grande do Sul fell to a little over 50%. Smaller reserves are in Parana and Sao Paulo. Before the war they provided less than 1% of Brazil's production, but in 1945 their share increased to about 10%.

Before the war probably 80% of the domestic coal was consumed in the producing states of Rio Grande do Sul and Santa Catarina. The major coal consuming centers found it cheaper to import most of their coal requirements. In fact use of some domestic coal in the industrial centers of Sao Paulo and the city of Rio de Janeiro had to be required by law. In 1931 firms were required to buy at least 1 ton and in 1936 at least 2 tons of Brazilian coal for every 10 tons imported. Imports before the war accounted for about 60% of the tonnage and 70% of the calorific value of all coal used in Brazil.

About 65% of Brazil's coal consumption before the war was by the railroads and the merchant marine and 20% by gas works and at the mines themselves.

In other words, less than 300,000 tons of domestic and foreign coal were used by Brazilian commerce and industry.

War demands for coal, shipping shortages and the shortage of fuel oil gave a filip to Brazilian coal production after 1939. Domestic output doubled between that year and 1945, when more than 2 million tons were mined, about the same as Chile's annual production. The greatest increase took place in Santa Catarina, which is nearer the major coal producing centers and has coking coals. In that year it accounted for about 40% of Brazil's production. Output in Parana and Sao Paulo also increased and amounted to about 10% of the total.

Easier shipping, greater availability of United States coal and increased imports of fuel oil in 1946 resulted in a 10% reduction in Brazilian coal output in that year. Total coal consumption in 1946 was about 17% greater in tonnage and about 10% greater in energy terms than in 1939.

Strong protective measures for Brazilian coal will probably have to be taken if domestic coal output is to be maintained in the face of lower ocean shipping rates for imported coal, probable attempts to substitute fuel oil for coal because of the high price of the latter and the hydroelectric development program now under way. On the other hand completion of the steel plant at Volta Redonda will increase present coking coal requirements by at least 200,000 tons. Since the operation of the plant is under government control, national coal will probably be used to the utmost practicable.

In conclusion, Brazilian coal is not likely to form the basis for an extensive industrialization of the country.

C. Petroleum

To date Brazil has been practically completely dependent upon imports for its petroleum requirements. Before the war imports of petroleum and its products were between 80,000 and 95,000 tons. Tonnage imports in 1939 were nearly 60%

greater than in 1929. Approximately equal increases took place in all petroleum products. During the war, the volume of imports fell because of shipping shortages. In 1945 it was only 77% of the 1939 total, even after a 35% increase over 1944. But in 1946, tonnage imports were 35% greater than in 1939. Gasoline imports were about 70% higher. Imports of other petroleum products were about 11% greater in 1946 than in 1939.

Beginning in 1931, the Federal Government required that gasoline for motor fuel be mixed with alcohol made from sugar cane. As a result alcohol production nearly doubled during the thirties, and at the end of the decade constituted slightly more than 5% of the gasoline-alcohol mixture used as motor fuel. Reduced wartime imports of gasoline resulted in increased alcohol output for motor fuel use in the early war years. Production in 1942 exceeded that of 1939 by 50%. But output declined after 1942, and in 1946 alcohol production was only 20% greater than pre-war. It is not likely that the importance of alcohol as a fuel will increase.

Petroleum output in Brazil dates only since 1939. At present less than 40,000 barrels per year are produced, about one day's requirements. Proved oil and gas land amounts to no more than a few thousand acres in Bahia. Apparently Bahia oils will yield no aviation gasoline, road oil or asphalt and very little fuel oil. Still other reserves may exist in the Parana Basin west of the Sao Paulo industrial area, along the Atlantic Coast from Rio de Janeiro to Natal, in Acre Territory which is adjacent to oil bearing lands in Peru and in the Amazon Basin. Foreign oil companies are anxious to receive concessions to explore and exploit petroleum possibilities in these areas. But the policy of the Government is unfavorable to foreign exploitation.

It would be imprudent to count on any great petroleum development in Brazil in the foreseeable future.

Refinery capacity exists for less than 5% of Brazil's petroleum imports. This capacity might be expanded in the future. But public policy is also unfavorable to foreign investment in refineries.

D. Hydroelectric Power

Because her coal reserves are of poor quality and badly located and her known petroleum reserves negligible, Brazil's water power resources, which are large, assume special significance. Brazil is generally estimated to have nearly 15 million kilowatts potential and to rank eighth among the countries of the world in water power resources. This estimate must be taken with reservations, as very little data really exist concerning the unexploited visible potential in Brazil (and in other undeveloped areas like Africa). Nevertheless, the undeveloped water resources of the country are undoubtedly great. Of the estimated potential less than 7% has been developed. The major obstacle to further development is the large capital investment required.

Water power is unevenly distributed throughout Brazil. There is practically none in the northeastern tier of states including Maranhao, Piaui, Ceara, Rio Grande de Norte, Paraiba, Pernambuco, Alagoas and Sergipe. There is also practically none in Rio Grande do Sul, which, however has ample coal resources for its needs, as already indicated. On the other hand Minas Gerais has 30% of the estimated potential, Sao Paulo and Parana, about 13%, each, and Mato Grosso about 11%. Para and Amazonas also have large potentials but they are completely undeveloped. Much of the water potential of the country will probably remain undeveloped during the foreseeable future. The Amazon basin, for instance, has 23% of the potential but the area may never be developed for power. Development of the two largest waterfalls in Brazil and probably in the world, the Guaira Falls and the Iguassu Falls, both on the Parana River, is improbable because they are, respectively, on the Paraguay and Argentina boundaries.

Development of Brazil's hydro resources has been even more uneven than their distribution. About 80% of the total developed hydro potential is in the States of Sao Paulo and Rio de Janeiro and another 12% in Minas Gerais. About 60% of the total potential of Rio de Janeiro has been exploited and it is planned to develop the remainder during the next few years. About 28% of that of Sao Paulo

has been developed. On the other hand, more than 97% of the potential of Minas Gerais remains unharnessed. The uneven distribution of developed water resources has been compensated to some extent by the erection of thermal plants which account for about 16% of the total electric capacity of the country. One-quarter of the thermal capacity is in Rio Grande do Sul and based on the coal resources of that State, and nearly 30% in Pernambuco, Para and Baia. Less than one-quarter is in Sao Paulo, Rio de Janeiro and the Federal District.

Two companies both foreign owned and controlled provide about 80% of the total electric power of Brazil. The Brazilian Traction, Light & Power, supplies about 62% and the subsidiaries of the Electric Bond and Share about 18% of the total, which amounts to less than 1 million kilowatts or about 50% more than that of Chile.

Data on electric power consumption in Brazil are fragmentary. But those of the Brazilian Traction, Light & Power Companies, serving the Rio-Sao Paulo area, are a good indication of the consumption trends in the country. During the thirties kilowatt hours sold by those companies increased by 90% or at the rate of more than 6% annually. Between 1939 and 1946 a further increase of nearly 90% occurred, at an annual rate of more than 9%. About 56% of the total sales is for industrial purposes, the remainder is for household and other non-power purposes. Industrial power sales increased at a more rapid rate than the aggregate sales during the thirties and at an annual rate of about 9% between 1939 and 1946. The accelerated rate of growth in industrial power sales during the war was undoubtedly partially a result of shortages of other sources of power, already discussed. It is significant that industrial power sales in 1946 were less than 4% greater than in 1945. Data for the first half of 1947 indicate that the latter have increased at an annual rate of $7\frac{1}{2}\%$.

Serious shortages of power are envisaged in the near future in the area served by the Brazilian Traction, Light & Power Company. Even more serious shortages have already been experienced by the Electric Bond and Share which has been buying power from the former company in order to maintain a minimum of service in its area which promises to be the future economic center of Brazil.

Concrete plans for development of the two large foreign owned companies have been prepared. The Brazilian Traction, Light & Power has already started work on power projects which will cost approximately 142 million \$ U.S. during the next five years. The Electric Bond and Share companies in Brazil plan to spend some 90 million \$ U.S. on electric light and power development during the next five years. The Federal and State Governments also have plans for power development, but they have not yet fully crystallized. Most of their tentative projects are located in the area served by the Electric Bond and Share.

The major obstacle to new power development in Brazil is lack of capital, especially of foreign capital. The projects of the Brazilian Traction, Light and Power above referred to may have to be stopped because of lack of capital. It may be necessary for the Brazilian governing bodies to make more favorable concessions to foreign capital both with respect to earnings and to the transfer of funds from the country, if extensive development of the country's water resources is to take place.

E. Public Policy

Some reference has already been made to Brazil's public policy toward energy development. Briefly the Government is attempting to foster the development of Brazil's energy resources of all kinds. As already stated, all users of foreign coal must purchase stated fractions of Brazilian coal. The Government itself is financing petroleum exploration. But the Government wants its coal and petroleum resources financed and exploited by Brazilians, and foreign capital used

on a partnership basis that does not include direction and management. So long as this policy persists, foreign capital is unlikely to be attracted and Brazilian capital to be inadequate for extensive petroleum exploration and exploitation. Public policy is more favorable toward the investment of foreign capital in the development of water power. But the usual disadvantages of public utility rate regulation may prove to be a serious handicap in attracting sufficient foreign capital for the necessary expansion of hydro power facilities in Brazil.

D: Minerals

A. Introduction

Brazil is rich in minerals excluding fuels. But the poor quality of her coal and the distance of coal deposits from iron ore reserves have discouraged extensive development of heavy manufacturing industries.

Brazil's high grade iron ore reserves are the largest in the world. Its manganese ore reserves are the largest in the Western Hemisphere. Before the war her most important mineral export was gold. Among Brazil's exports are mica, quartz crystals, industrial diamonds, ilmenite and zirconium ores. Extensive deposits of bauxite, nickel and cobalt are also said to exist but have not been developed. Reserves of copper, lead, tin and zinc are very small - or at best unknown.

Mining has in the past contributed little to Brazil's national income. Before the war the total value of mineral production, excluding coal, was probably less than the equivalent of 40 million \$ U.S., of which gold represented 5-7 million \$ U.S. Minas Gerais accounted for about half of the total value of mineral production, and Sao Paulo, Rio de Janeiro and Rio Grande do Sul for an additional one-third.

B. Growth of Mining Industry

During the thirties production of minerals increased considerably. Between 1930 and 1939 cement output increased by nearly 700%, iron ore output and salt production by more than 100%, and arsenic production by 250%. Gold output increased by only 10% in this period. The major reason for the increase in minerals production during the 30's was the growing industrialization in Brazil. The very small output of minerals at the beginning of the decade must be kept in mind when considering the above large percentage increases.

During the war, the upward trend in mineral production was continued, and was even accelerated by the export demands for strategic minerals like man-

ganese and mica, the curtailment of imports as a result of shipping shortages and the filip given by the war to industrialization. Production of iron ore in 1944 was more than 3 times as great as in 1939. The cessation of war demands has resulted in a decline of more than 20% in iron ore production since 1944. Cement production in 1946 was more than double the 1939 output, as was that of arsenic. Output of manganese in 1946 was 20% greater than pre-war. Mica production increased by 50% between 1939 and 1946. Annual gold output during the war years averaged slightly above the 1939 level.

C. Future:

There is little likelihood that the output of gold, silver, and diamonds will increase in the post-war period. The production of limestone for cement manufacture should increase by at least 20% as soon as cement manufacturing machinery can be procured. The opportunity to increase exports of iron ore is certainly great but port transportation facilities will have to be improved considerably before any great increase occurs. Increased production of iron and steel by the National Steel Mill at Volta Redonda during the next few years will probably result in a further increase of about 30% in iron ore output. For reasons given in Section E below, no further expansion in the iron and steel industry in Brazil is to be expected in the immediate future. Production of manganese and other minerals will probably continue at the 1946 level.

It is doubtful that mineral production, excluding fuels, will exceed the equivalent of 125 million \$ U.S. at present rates of exchange, in the foreseeable future.

E. Manufacturing

A. Introduction

Brazil has the largest manufacturing production in Latin America. But it can scarcely be called a manufacturing nation. Relative to population and geographical area, it is less industrialized than Argentina.

As already indicated, about 1½ million, about 10% of the gainfully employed workers in Brazil, are engaged in manufacturing. But almost one-third of these are self-employed artisans, or employed in very small establishments, particularly in small repair shops and would not be included in a manufacturing census of a highly industrialized country.

Manufacturing in Brazil is quite diversified and is becoming more so. But it is generally on a small scale, for a local market and involves either the simple transformation of local agricultural raw materials or the assembly of imported products for local consumption.

Before the war, about 20% by value of all manufactured products used in Brazil were imported. In 1946, that percentage had dropped to less than 15, rather because of world wide shortages of machinery and electrical and transport equipment than because of greater self-sufficiency in Brazil. Before the war exports of manufactured goods were negligible -- less than 1% of the value of manufactured imports. In 1946 the value of manufactured exports was more than 20% that of imports of manufactures. With the resumption of the manufacture of textiles by war devastated countries, Brazil's exports of manufactured products are, however, declining.

Public policy in Brazil is favorable to the development of manufacturing. The most important immediate limiting factors to industrial expansion in the country are the limited capital available for investment, the relatively small local market for manufactured products because of the low levels of income, the inadequacy of transportation, the scarcity of trained manpower and the shortage of domestic fuels and power. It has already been noted that the last-named shortage is likely to be the main limiting element in the long-range development of Brazilian industry.

B. Importance of Manufacturing

Statistics on manufacturing in Brazil are fragmentary and frequently inconsistent. Nevertheless certain generalizations can be drawn from them.

In 1946, output of manufacturing plants having annual sales of 100,000 cruzeiros (about 5,000\$ U.S.) or more, amounted to 42 billion cruzeiros (about 2.1 billion \$ U.S.). The value added by manufacture by these plants, in other words the contribution of manufacturing to the national income, was 26 billion cruzeiros (1.3 billion \$ U.S.) or very nearly as much as the annual agricultural output of Brazil. It is likely that if all manufacturing establishments had been investigated the value added by manufacture would have been found to exceed the 30 billion cruzeiro (1.5 billion \$ U.S.) output of agriculture. In this connection it should be pointed out that the 1946 study involved 9,125 establishments as compared with 44,000 establishments of all sizes found in the industrial census of 1941.

C. Composition of Manufacturing Industries

The food and textile industries are the most important in Brazil. They account for about 45% of total industrial employment and for about 58% of the annual value of Brazil's industrial production. Together with the tobacco, clothing and the leather industries they provide 58% of industrial employment and produce 65% of Brazil's industrial output. The metallurgical industries constitute about 10% of Brazil's manufacturing. The lumber and the construction industries each accounted for more than 5% of the total. The importance of each of the major industrial groups in Brazil is shown in the following tabulation (%):

	Food and Tobacco	Textiles Leather Clothing	Metal- lurgy	Construc- tion and Construc- tion mate- rials	Lum- ber	Chem- icals	Cera- mics	Oth- er	Tota
Employment	19.6	38.3	11.3	7.2	7.0	4.7	4.4	7.5	100.
Value of output	40.3	24.9	9.7	4.9	4.6	7.7	1.9	6.0	100.

D. Location of Manufacturing

Manufacturing in Brazil is highly concentrated. Sao Paulo and the Federal District account for 55% of all industrial workers and for more than two-thirds of the value of Brazil's manufacturing production. The value of the combined industrial output of Rio Grande do Sul, Minas Gerais and Pernambuco was nearly 20% of the total. The geographic distribution of manufacturing follows (%):

	<u>Sao Paulo</u>	<u>Federal District</u>	<u>Rio Grande do Sul</u>	<u>Minas Gerais</u>	<u>Pernam- buco</u>	<u>Rio de Janeiro</u>	<u>Oth- ers</u>	<u>Total</u>
Number employed	39	16	9	8	8	6	14	100
Value of output	40	28	9	5	5	4	9	100

The geographic concentration of industry indicated by the above table is indicative of and closely related to the concentration of population and of income in Brazil. Manufacturing markets are essentially local and typically draw their materials from nearby sources. According to an estimate made just before the war, Sao Paulo, the most important industrial state in Brazil, derives only 10% of its raw materials from and sells less than 20% of its industrial output to other states.

There are only few examples of industries supplying all or a large part of the country from a small number of centers. Brazil's small but growing iron and steel industry is centered in Minas Gerais where iron ore is found in abundance. Glass from Pernambuco supplies a large part of the entire Brazilian market. Rio Grande do Sul is the center of the Brazilian wine industry.

E. Size of Establishment

The typical Brazilian industrial establishment is small, not so much in terms of number of employees as in terms of mechanical power. But there are many large plants, especially in the textile and metallurgical industries.

In 1938, only 10% of all plants had more than 12 employees. The average number of employees per establishment, according to the industrial census of 1941, was 21. Of the approximately 44,000

establishments of all sizes, more than 7,000 in 1944 had an output of 100,000 cruzeiros (about 5,000 \$ U.S.) or more. The average number of employees in these plants was 75 and in the remaining 37,000 plants only 11.

Apparently mechanical equipment is included in manpower equivalents in the above statistics. There is no current information on the number or capacity of motors in industrial establishments. In 1920, however, half of the industrial establishments in Brazil possessed no motors of any kind. Since that date electric power produced has trebled, while the number of industrial employees more than trebled and the number of establishments has more than quadrupled. In short, the degree of mechanization is still very small.

F. Growth of Manufacturing

The development of manufacturing in Brazil during the present century and especially since the first World War has been remarkable both in its over-all growth and in its diversity. Statistics from year to year are not strictly comparable. Those of more recent years are more comprehensive than earlier statistics and indications of growth are therefore exaggerated. Nevertheless, the development indicated by these statistics is so striking as to leave no doubt that it has been very great.

According to the industrial census of 1907 only 15,000 were gainfully employed in manufacturing in that year. In 1920 industrial employees numbered 275,000, an increase in 13 years of more than 80%, or about the same as the population increase from 1900 to 1920. As already indicated the number of industrial employees

trebled in the following two decades, while population increased by only about 35%. Between 1907 and 1920 mechanization more than kept pace with the growth of industrial employment. The increase in horsepower utilized was nearly 200% during the period. In the succeeding two decades the growth of mechanical power in manufacturing establishments was about equal to that of employment. Industrial expansion continued during the war years, probably by as much as 20%, as compared with a 12% increase in population.

The growth of industrial production in Brazil has not been uniform geographically. In 1907, Sao Paulo accounted for only 16% of Brazil's industrial output, in 1920 for 33% and at present for about 40%. During the period, the share of the northern states in Brazil's industrial total declined.

The greatest development in manufacturing since 1929 has been in the so-called basic industries. Output of cement increased by nearly 700%, of pig iron by nearly 400% and of steel by more than 200% during the thirties. During the war years growth of cement production failed to keep pace with consumption requirements, but output of pig iron increased by 60%, of sheet iron by 66%, and of steel by 80%. The following table summarizes the above (% of increase):

	<u>Cement</u>	<u>Pig iron</u>	<u>Sheet iron</u>	<u>Steel</u>
1929-1939	625	385	285	238
1939-1945	11	60	66	80

With the development of a steel industry and of cement producing capacity, Brazil has taken a definite step forward in her attempt to industrialize. As already indicated the further expansion of basic industries in Brazil will probably be limited to the relatively small local consumption requirements because of lack of fuels. Immediately that limitation will be even more stringent as much of Brazil's basic materials requirements will be imported in finished form because of the lack of capital and especially of the labor and managerial skill required in the production of tools, machinery and motors. But this latter limitation is being slowly removed. The volume of output of manufactured metal products increased by 150% between 1929 and 1939 and, to take a single finished metal product, the output of stoves increased by more than 10-fold during this period. Because of its relative importance in the country even in the 20's the continued development of Brazil's cotton textile industry has been very significant. The volume of output of this industry nearly doubled between 1929 and 1939 and increased by more than 20% during the war years. Other textile industries, relatively unimportant before 1930 advanced very greatly before and during the war. Linen production was negligible in 1937 but increased very greatly in the last two pre-war years. Output in 1944 was almost 80% greater than in 1939. Silk production also increased greatly during the war. With the reestablishment of textile industries in the warring nations, Brazil's ability to maintain her wartime gains in the textile industry is doubtful.

G. Foreign Trade

According to an estimate by a Brazilian expert made before the war, about 20% of the manufacturing materials used in Brazil are imported. Brazil imports almost all of the caustic soda, soda ash and sulfur, large quantities of other chemicals, practically all raw and semi manufactured metals other than iron and steel and large quantities even of the latter, all chemical pulp, and the bulk of its newsprint. On the other hand, the major Brazilian industries, foodstuffs and cotton textiles derive their raw materials from local sources. The same authority estimated that about 60% of the machinery and equipment used by Brazilian industry is imported. In 1938 about 20% by value of Brazil's consumption of manufactured articles was imported. In that year, manufactured articles constituted about 55% of all imports. The importance of manufactured imports as of all imports into Brazil was less in 1946 than before the war. In that year imports accounted for only about 12% in terms of value of Brazil's consumption of manufactures. The reasons for this decline are various. Perhaps the most important reason is the difference in the price trends in Brazil and in the countries from which she imports manufactures. Relatively high prices in Brazil give a specious indication of larger domestic output. On the other hand, as already pointed out Brazil's industrial output did increase during the war and thus rendered her less dependent on foreign sources of supply for many of her consumer needs. Finally, world wide shortages of manufactured products in 1946 served to depress

imports of them into Brazil. The following table indicates that Brazilian imports of manufactured goods were more heavily concentrated on automotive equipment, iron and steel manufactures and machinery, equipment and tools in 1946 than before the war. These are products for which Brazil will probably continue for many decades to be dependent on external sources:

% of Total Imports

	<u>Automo- biles</u>	<u>Iron & Steel Manufac- tures</u>	<u>Machinery, Equipment and Tools</u>	<u>Other Manufactures</u>	<u>Total Manufactures</u>
1937-9 av.	0.7	4.9	1.5	47.8	54.9
1946	5.5	6.5	21.3	20.9	54.2

In 1938 exports of manufactures were negligible--less than 1% of the value of manufacturing imports. In 1946 they amounted to nearly 20% of the value of imported manufactured products. More than half of these exports were cotton textiles. With the restoration of the industrial potential of war devastated countries, Brazil's manufacturing exports will almost certainly decline very considerably. Data for the first half of 1947 are already pointing very strongly in that direction.

i. Public Policy Toward Manufacturing

Brazilian manufacturing has been fostered by positive Government action especially since the beginning of Vargas' regime in 1930. Unusually high protective tariffs against foreign goods competing with local products have been coupled with tariff exemption on machinery and non-locally produced materials. Exemption from Federal consumption taxes has been granted to the cement,

chemical, iron and steel and other industries. Direct subsidies and officially sponsored long term loans at low interest rates have been used to foster manufacturing in Brazil. The Federal Government has undertaken the financing of many new plants, the most important of which is the steel plant at Volta Redonda. Two of the largest cement plants in Brazil are owned by the Government. The State of Sao Paulo owns the country's only lead smelter. Finally the almost continuous and progressive reduction in foreign exchange rates that has characterized the Brazilian economy has favored the development of Brazilian manufacturing.

I. The Future

Further expansion of Brazil's manufacturing industry is certain. As soon as equipment is available the cement industry and the chemical industries will undoubtedly expand to take care of the growing needs of the Brazilian markets. The steel plant at Volta Redonda will when completed take care of most of the unfinished iron and steel requirements of the country. Less certain but probable is the development of a chemical pulp industry and of a lumbering industry based, respectively, on the pine resources of Panama and on the virgin hardwoods found in profusion in Brazil. As already indicated, the textile industry has lost some of its wartime gains. Its immediate future appears to be in the local rather than in foreign markets.

The inadequacy of means of transport in Brazil is likely to lead to some decentralization as manufacturing develops, especially as new agricultural areas are opened up and as power is developed outside of the Rio de Janeiro--Sao Paulo areas.

F. Labor and Labor Organization

Generally speaking, labor in Brazil has been plentiful, adaptable, but not well trained. Labor in cities and in rural areas adjacent to cities has, however, been chronically short and migration to cities has therefore been almost continual. Immigration from abroad has been an important means of adding to the country's labor force. Foreign companies in Brazil have found local labor quick to learn and quite efficient when trained.

Vocational training schools have been conducted for some time by the states and by employers. The latter have, in some instances, achieved remarkable success. Shop workers on the Paulista Railroad, for example, receive excellent training. But much remains to be done.

As in most undeveloped countries, there are wide disparities between the wages of rural and urban labor and among the latter great differences exist between the wages of highly skilled and unskilled workers.

Labor organizations have been only very slightly developed in rural areas. Even in the cities 25 per cent or less of the wage-earning group are organized into unions.

Labor unions are very largely dominated by the Federal Government. Interventors appointed by the latter have in recent years directed the affairs of probably three-fourths of the unions. Communistic influence, formerly strong, has been practically eliminated from the trade union movement.

Under the Constitution of 1946, work is guaranteed to all and is a social obligation. Federal legislation provides for a dismissal wage, the amount of which varies with the term of employment of the discharged person. Furthermore, it is legally practically impossible to discharge an employee of 10-years service or more; as a result, many employers complain that it is impossible to enforce efficiency on their employees.

The Constitution provides for a minimum salary calculated to cover the normal necessities of the worker and his family; prohibition of salary differences for the same work by virtue of age, sex, nationality or civil status; obligatory and direct participation of the workers in the profits of the concern; an eight hour day, premium for nightwork, a weekly remunerated day of rest, and an annual vacation with pay. It further provides for unemployment assistance, social insurance covering maternity, sickness, old age disability, and death, through contributions by the Federal Government, employer and employee. Accident insurance must be provided by the employer. Child labor is prohibited.

Many of the Constitutional provisions enumerated above have yet to be implemented by legislation: participation of workers in profits, a remunerated weekly day of rest, and annual vacation with pay.

The maximum percentage of foreign workers who may be employed by, and the percentage of the total payrolls of any concern that may go to foreign employees are fixed by law.

Under the Constitution, collective labor agreements and the right to strike are admitted. Labor courts play an important role. Individual and collective disputes between employers and employees are assigned to them for conciliation and adjudication. In effect, therefore, they administer a system of compulsory arbitration of labor disputes.

G. Transportation and Communications

A. Introduction

The development of transportation and communications in Brazil has been small, relatively not only to the more advanced North American and European countries but also on a per caput basis to the Argentine, Mexico, Chile and Uruguay.

Transportation-wise Brazil remains essentially colonial. Coastwise transportation is very large. Inland transportation facilities are centered on the ports. Transportation in the interior is very crude or non-existent.

Most of the Amazon River Basin is devoid of highways and railroads and is dependent upon water transport. Even in the more developed areas along the coast, there is no true network of railways and highways.

The railroads carry about 60% of the freight and nearly all of the passenger traffic going beyond the confines of individual towns. Coastwise vessels carry perhaps 30% of the nation's freight. The remaining 10% is hauled by truck, animal drawn wagon and river boat. Air passenger traffic which has been growing rapidly is only a fraction of one per cent of rail passenger traffic.

The bulk of the railroads, coastwise transportation and ocean vessels are Government-owned and operated, as is the largest airline. Highway transportation and river navigation are generally in private hands.

The postal service is a Government monopoly. The Government also owns and operates the main telegraph network and radio communication stations. But the railroads have their own telegraph network and provide public service in places not served by the national system. Nearly all radio broadcasting stations are privately owned and operated. The major international cable and radio services are privately owned and operated, but the Government also operates in this field. The great bulk of the telephone service is rendered by foreign-owned private companies.

The postal service is said to be only moderately efficient. Telephones and telegraph communications cover only a relatively small part of the country.

The Government has plans for rather extensive development of railroads, highways, inland waterways, ports and telegraph services. The costs of the programs envisaged amount to the equivalent of several hundreds of millions of U.S. \$. It is not clear, however, that the programs have been prepared in great detail.

B. Transportation

1. Ocean Shipping

a. General - Some 150,000 persons are engaged in coastwise and foreign shipping. The Merchant Marine is chiefly government-owned. Brazilian-owned vessels carry about 12% of the foreign trade and practically all of the coastwise traffic.

Freight rates, both international and coastwise, are relatively high. The former are determined by shipping conference arrangements, the latter, by the Merchant Marine Commission of the Federal Government. A major reason for the high rates is very wasteful port operation, partially a result of under-maintenance but mainly, apparently, of bad organization. Costs are high also because fuel is expensive (coal and oil are used in about equal proportions).

The Government has through ownership of vessels, port priority to Brazilian ships, port improvement, subsidies to shipping lines, and exclusion of foreigners from the coastal trade, attempted to develop Brazilian shipping. The Merchant Marine is expanding rapidly. But a great deal more needs to be done to bring down costs to the Brazilian producer and consumer.

Except for fishing craft and very light boats no ship construction is performed in Brazil. Repair facilities exist, but costs are very high.

b. International - At the end of 1946, Brazil had 137 ocean-going vessels, aggregating 500,000 gross tons (672,000 dwt.). Of these, 35 were passenger cargo vessels, 96 dry cargo freighters and 6 tankers. It has since that date purchased 18 freighters of about 70,000 gross tons (95,000 dwt.) from the U.S. Maritime Commission valued at 12.5 million \$ U.S. Of the 18, 12 have

already been delivered. In addition 93,000 gross tons (140,000 dwt.) are being constructed for Brazilian account in the United Kingdom, Canada and the United States. When all deliveries are completed, the Merchant Marine will have ocean going vessels aggregating about 660,000 gross tons (900,000 dwt.) compared with 414,000 gross tons (542,000 dwt.) in 1939, an increase of more than 60%. The Eximbank has granted Lloyd-Brasiliro a loan of 38 million \$ U.S. for the purchase of ships.

Eighty per cent of Brazil's ocean going vessels are owned and operated by Lloyd-Brasiliro. The bulk of the stock in this line is owned by the Federal Government, which grants it an annual subsidy of 40 million cruzeiros.

Seventy-five per cent of all foreign trade is carried through the ports of Santos and Rio de Janeiro, 10% through Recife and about 8% through Porto Alegre.

c. Coastwise Transportation - In 1946, 3.5 million tons of freight were carried between states in coastwise service. Data are not available on ton miles, but the average length of haul is probably well over 500 miles, so that annual coastal freight traffic is at least 50% of that carried by the railroads

Coastal traffic is quite diverse. The largest tonnages hauled are of sugar, pine wood and rice which account for less than 25% of the total.

Nearly 70% of the traffic originates and terminates in the ports of Rio de Janeiro, Santos (State of Sao Paulo), Recife (State of Pernambuco) and Porto Alegre (State of Rio Grande do Sul).

Coastal traffic has been increasing steadily, although it received a setback as a result of shipping losses, fuel shortages and submarine warfare in 1942 and 1943. In 1946 the physical volume of traffic was almost 25% greater than in 1939.

According to Brazilian law coastal transportation is reserved to Brazilian-owned and operated ships. But the increase in traffic in recent years has necessitated frequent exceptions to this regulation. The Government-owned Lloyd-Brasileiro is the most important of the approximately 30 shipping companies operating in the coastwise trade.

Rates on coastal steamers are rather high, averaging 2¢ or more per ton mile.

Expansion of coastwise transportation will probably continue for some time. As already noted, ^{large} gaps exist in the rail and road network even along the coast, especially in the northern part of the country. It will be many years before those gaps are filled.

d. Ports - Between 1939 and 1945, nearly 20 million cruzeiros annually were invested in port improvement. The port of Santos received 40% of the total investment over the period, and Rio de Janeiro and the iron ore port of Vitoria received 20% each. In 1946 more than 70 million cruzeiros were invested in the port of Rio de Janeiro, practically the total port investment in that year. Port gross revenues amounted to about 600 million cruzeiros in 1946.

Loading and discharge are very slow in the major ports. During 1947, cargo vessels were required to wait for periods up to 15 days before docking in Rio de Janeiro. Delays in discharge resulted in the payment by the Central do Brasil of 1,444,000 cruzeiros in demurrage on imported coal during the first seven months of 1947. Demurrage payments on coal account by that railroad were more than 1,000,000 cruzeiros in 1946.

Examination of costs incurred in ports would undoubtedly disclose that much more might profitably be invested in port improvement than is now done.

The Ministry of Transportation and Public Works recently estimated that about one billion cruzeiros should be invested in the ports during the next five years, an annual rate of investment three times that of 1946. Part of the cost was to be financed by borrowing in the United States.

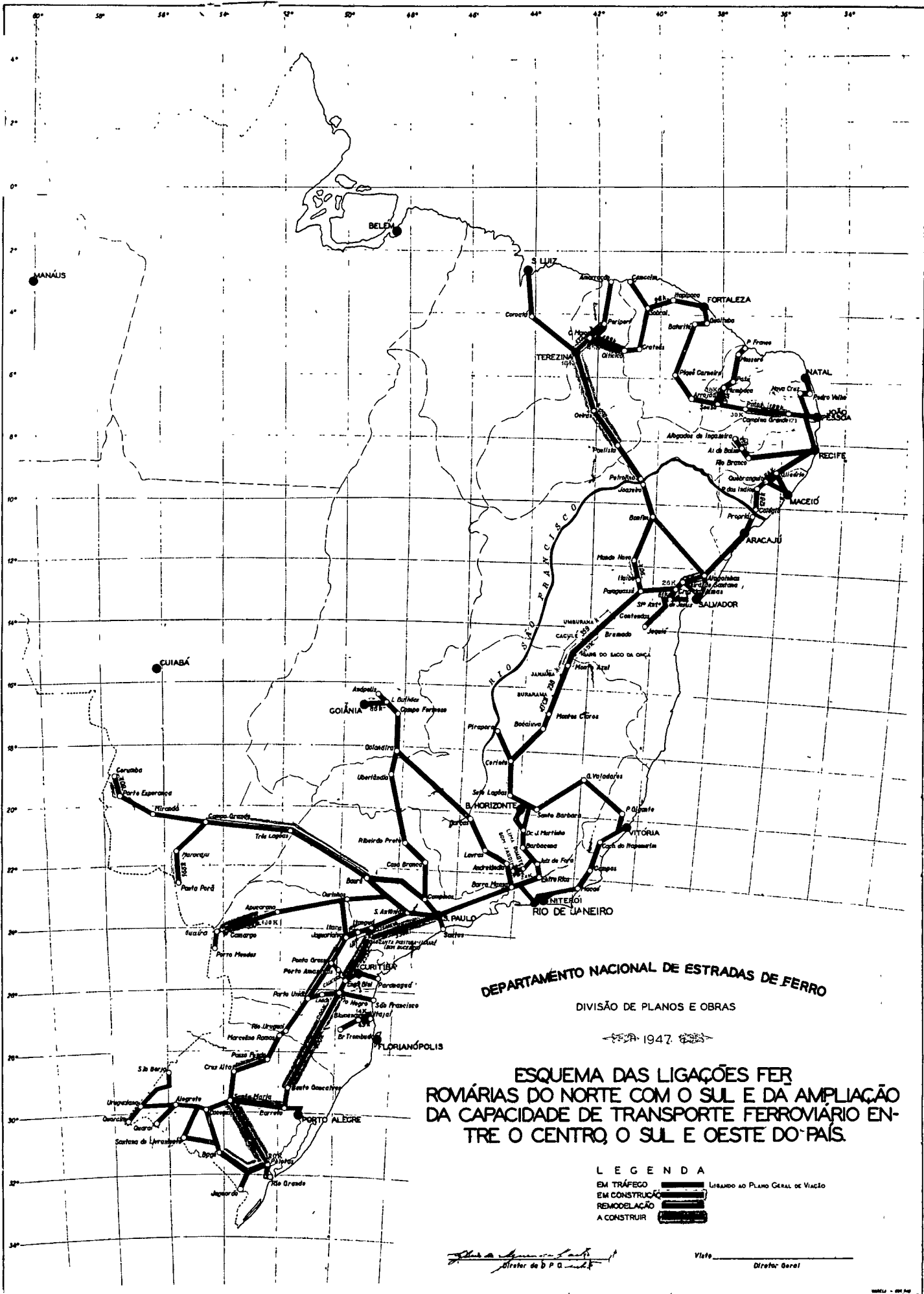
2. Inland Transportation

a. General - Rails, highways and inland waterways are inadequate to the country's needs. An internal transportation network is non-existent. Even in the populous and relatively prosperous areas around Rio de Janeiro and Sao Paulo, transportation facilities require modernization and extension. There are no railroads in the Acre and the Amazonas, which include more than 20% of the country's area. Only 2% of the railroad mileage of the Federation are in the northern tier of States and Territories in which more than 40% of the nation's area lies. Highways are almost equally non-existent in this section. Animal drawn vehicles far exceed the number of motor units on the highways.

Transportation rates are relatively high, more than the equivalent of 2 cents U.S. per ton mile, (in the U.S. rail freight rates average less than 1 cent per ton mile) even when the origin and destination is on the same railroad. Because of differences in gauge transfer from one of two connecting railroads to the other is frequently very costly. Because the railroads form no network and navigation on inland waterway is frequently interrupted several transfers of individual shipments are common and costs accordingly high.

The bulk of the railroads are publicly owned and operated; highway and waterway operations are generally in private hands.

b. Railroads - About 3 billion cruzeiros annually are spent by railroad shippers and passengers. This amounts to about 3% of the national income. (Railroad receipts in the United States are about 5% of the national income.) About 41 million tons of freight and 275 million passengers are hauled annually. The average lengths of haul are about 100 miles for freight and 200 miles for passengers.



DEPARTAMENTO NACIONAL DE ESTRADAS DE FERRO

DIVISÃO DE PLANOS E OBRAS

1947

ESQUEMA DAS LIGAÇÕES FERROVIÁRIAS DO NORTE COM O SUL E DA AMPLIAÇÃO DA CAPACIDADE DE TRANSPORTE FERROVIÁRIO ENTRE O CENTRO, O SUL E OESTE DO PAÍS.

LEGENDA

- EM TRÁFEGO USANDO AO PLANO GERAL DE VIAGEM
- EM CONSTRUÇÃO
- REMOBILIZAÇÃO
- A CONSTRUIR

Flora de Aguiar Lacerda
Diretor de B.P.O. e M.

Visto _____
Diretor Geral

There are more than 60 railroads in Brazil, of which more than half are very short with very light traffic. The total railroad mileage of the country is about 22,000, of which about 15,000 are owned by the Federal Government, 2,000 by the states and 5,000 by private persons (about 3,000 of them foreign-owned).

About 63% of the railroad mileage is in Minas Gerais, Sao Paulo, Rio Grande do Sul and Rio de Janeiro (24%, 21%, 10% and 8%, respectively).

Examination of the accompanying map indicates that the railroads typically run from the ports to the interior of the country and that no line operates for a considerable distance along the coast. The map also indicates the large number of "breaks" in the railroad network. It does not, however, indicate still other "breaks" resulting from differences in gauge. Ninety per cent of all trackage is of 1 meter gauge, 6% of 1.6 meter gauge, and the rest of varying widths.

Railroad costs are high for a variety of reasons: topography, inadequate roadbeds and tracks, badly depreciated equipment, low traffic density, the high cost of fuels and excessive personnel. With respect to the latter, the Central of Brazil has more than 40,000 employees, although the present management estimates that 15,000 would be adequate. Before the war, wood constituted nearly 40% of the fuel used by the railroads. At present it probably accounts for a somewhat lower percentage. Coal provides the bulk of the remaining motive power. Only about 2% of the railroad mileage is electrified. Average traffic density is low, about 7% of that in the United States. Even at the beginning of the war railroad rolling stock was old and badly depreciated and roadbeds were seriously under-maintained. World-wide shortages during the war aggravated the problem.

Railroad rates, regulated by the Ministry of Transport and Public Works, are correspondingly high.

Extension of the railroad network has proceeded slowly. The present mileage is about 25% greater than in 1920.

About 23% of freight revenue is from passenger traffic, a somewhat larger percentage than in the United States. Passenger traffic increased more than 40% and freight traffic by about 12% during the war years.

Before the war a plan for Railroad Rehabilitation and Expansion was formulated but little could be done to implement it. The Ministry of Transport has retained the plan and hopes to carry it out in the next five or six years. It involves the construction of several interconnecting sections in order to provide a complete north-south line from San Luiz on the north to Jugurao on the Uruguay border. The plan contemplates the completion of 2,500 miles outlined on the accompanying map. The improvement of roadbeds and track layout, electrification of some lines and on others transformation of locomotives from coal and wood to oil-burning, and the acquisition of rolling stock are also planned.

At present work is progressing on 1,000 miles of the 2,500 miles to be constructed under the plan. Considerable improvement has been made in the roadbed and track layout of the Central of Brazil. With the help of loans from the Eximbank totalling more than 30 million \$ U.S. a considerable amount of rolling stock and other equipment has been purchased within the last year or two.

A surcharge of 20% on railroad freight revenues has been established by law, the proceeds to be deposited in special bank accounts and to be drawn upon only as authorized by the Government for the purpose of purchasing equipment or

of otherwise improving facilities. Revenue from this surcharge probably amounts to 400-500 million cruzeiros annually.

c. Highways - Highway development has been even less satisfactory than that of railroads. Brazil has about 160,000 miles of roads, but the great bulk of them are unimproved dirt roads, and about 75% of them only trails. Fewer than 10,000 miles of highway are passable during all seasons of the year. Brazil has fewer miles of paved road than Uruguay.

There are less than 200,000 motor vehicles in the country, about 1/3 of them freight carriers. There are as many bicycles and horse-drawn cabs as passenger vehicles and six times as many animal-drawn wagons as trucks. More than half of the motor vehicles are in Sao Paulo and the Federal District.

The major reason for the slow highway development in the past was apparently lack of funds. Not until 1940 was the constitutionality of the gasoline tax settled. Since that year importation and consumption taxes on gasoline have provided highway revenues for Federal and State Governments.

A national highway plan was adopted by the Federal Government in 1944 and its execution committed to the National Department of Highways, an autonomous agency. Simultaneously, a national highway fund was established out of revenues from federal consumption and importation taxes on fuels and lubricants. In 1948 and 1949, 80% and 90%, and in ¹⁹⁵⁰ all of the revenues from these taxes are to be devoted to highway construction; 40% of the fund is to be devoted to national highway development, the remainder, to the States, Territories and the Federal District, which must apply all the revenues so obtained and 50% additional out of their own resources to highway construction and maintenance.

The Ministry of Transportation has estimated that about 560 million cruzeiros annually will be available for highway development in 1950 and subsequent years.

The high rates of and the poor service rendered by the railroads have encouraged highway competition to the extent that many of the rail lines are actually losing traffic. Accordingly, demands are being made that entry to and operations of highway transportation be regulated.

d. Inland Waterways - River navigation has been carried on for centuries, but very little has been done to ensure or to improve the navigability of the country's great river systems.

Data on river traffic is fragmentary. It appears, however, that less than one million tons of freight annually are carried on river boats.

Only fragmentary data are available on the navigability of the country's rivers. It is known, however, that the Amazon is navigable by ocean-going vessels to Belem and that as far as Iquitos in Peru it is navigable throughout the year by vessels of 10 feet draft. The Madeira River, the Amazon's most important tributary, is navigable for vessels of 16 feet draft during most of the year. The Sao Francisco River is navigable for small craft up to distances of more than 1,000 miles. In general, navigation on the southern rivers is impeded by falls and rapids.

Apparently most of the vessels used on the rivers are old and obsolete and river transportation costs are, accordingly, high.

The Federal Government in 1940 created SNAPP (Navigation Service for the Amazon and the Port of Para) in order to standardize and improve navigation in the Amazon Valley. SNAPP has a fleet of 32 ships, aggregating 13,000 gross tons and hauling about 100,000 tons of freight annually. Operations have resulted in annual deficits of about 7 million cruzeiros.

The Minister of Transport and Public Works has recently proposed the modernization of SNAPP by the adoption of diesel oil instead of wood and by more intensive use of lighters and tugs.

3. Air Transportation

Development of air transportation has been notable. The inadequacy of

other means of transportation has been an important factor in this development. At present there are nearly 20 airlines, the largest of which are Cruzeiro do Sul (the former Condor Airline) owned by the Government and Panair do Brasil, 52% of the stock of which is owned by Pan American Air Lines.

In 1946 commercial air lines flew 20 million miles, carried over half a million passengers and 6,000 tons of freight. Average passenger flight was 500 miles. Operating revenues were approximately 500,000,000 cruzeiros.

More than half of the traffic centers on the cities of Sao Paulo and Rio de Janeiro.

Passenger traffic quadrupled between 1934 and 1945. Freight traffic was ten times as great in the latter year as in the former. Passenger traffic nearly doubled between 1945 and 1946 and freight traffic increased by 60%.

In general air carrier operations appear to have been unprofitable in recent years, partially because of the competitive rate cutting and partially because much of the equipment used is old and obsolete.

The Ministry of Aeronautics controls rates and operations of the air lines, but its regulations are said to be enforced in a haphazard manner.

C. Communications

1. Postal

The postal system is said not to be highly developed in the rural areas, although service in the main cities is efficient. The service is operated by the Department of Posts and Telegraphs. Postal rates are said to be low.

2. Telegraph

The telegraph service is legally a monopoly of the Department of Posts and Telegraphs, but railroads operate their own network and are permitted to serve the general public where Government service is not available.

The inadequacy of telegraph services in Brazil is indicated by the fact that the density of telegraph wire is less than 5% of that of the United States in terms of area and about 15% in terms of population.

The use of telegraph service has been increasing at the rate of about 8% annually. The result has been a severe strain on existing facilities. Accordingly, demands for improvement and extension of the existing system have been raised.

In 1946 the Department of Posts and Telegraphs formulated a program of telegraph expansion. The foreign exchange requirements of the program were estimated at more than U.S. \$8 million. In the same year a surtax on telegraph messages was created, the proceeds of which are to be used for the execution of the above-mentioned program.

3. Telephone

Brazil has about 400,000 telephones in service, less than one per 100 capita, as compared with 3 per 100 for the Argentine and 20 per 100 in the United States.

The Brazilian Traction, Light and Power Company provides about 80% of the telephone service of the country. Its service is predominantly in the cities of Sao Paulo and Rio de Janeiro, but it serves some 800 communities.

There is no national network and many sections of the country are completely without telephone service. Even where local service is available connections between important cities is frequently non-existent.

The Brazilian Traction, Light and Power Company plans an expansion of about 30% in its telephone operations during the next four or five years.

H: Prices, Cost of Living, Wages and Profits

There is no reliable index of the cost of living in Brazil. None of the indices show quite as large an increase as the expansion of the money supply, partially because production increased during the period and partially it seems because wage-earner incomes failed to increase at as great a rate as the money supply.

The Ministry of Finance maintains a cost-of-living index for middle class families in the Federal District, which has serious limitations. According to that index, the cost of living increased by 125% between 1939 and 1946 and in March 1947 was nearly thrice the 1939 level. A slight decline has occurred since March of this year. The British Chamber of Commerce of Sao Paulo estimates that the cost of living for workingmen's families in that city in 1946 was nearly three times as high as in 1939 and that in May, 1947, it stood at 333% of the 1939 level. At the latter date, food prices were nearly 4 times and clothing prices nearly 5 times as high as in 1939, but rent controls and public restrictions on public utility prices held the general index down. Sales turnover data are also revealing in this respect. For the entire State of Sao Paulo monthly sales were $3\frac{1}{2}$ times as great in 1946 and nearly 4 times as great in the first half of 1947 as in 1939. The above figures reflect not only price but also volume increases since 1939.

In general, wage rates appear to have lagged behind prices between 1939 and 1946.. According to competent observers in Brazil, however, wage rates of the lowest paid workers kept pace with prices. Hourly wages of the associated companies of the Brazilian Traction nearly trebled during the period. As already stated, a further increase of nearly 20% has since been granted in anticipation of Sunday pay legislation. Until this most recent

advance the Light granted wage increases only as required by Government decree, so that its trends reflect roughly the urban wage trends generally. Agricultural wages rose by a smaller amount than urban wages, probably by no more than 150%.

As a result of the divergence between wages and price trends, profits increased very greatly in the country. In 1946, reported profits of firms subject to the surplus profits tax averaged nearly 40% of reported investment. In many instances, the rate of profit is said to be 100% or more.

With the reversal of the monetary trend described below and the development of competitive sources of supply in international trade, prices have weakened in Brazil in recent months. But the pressure by wage earners for increased income and of business interests for ample credit are an ever present inflationary potential.

I. Money and Banking

I. Introduction

The Brazilian banking system consists of 781 commercial and savings banks with more than 2,000 branches. The largest is the Banco do Brasil with headquarters in Rio and 269 branches scattered throughout the country and abroad. Banking controls are loose. Brazil has no central bank, but some central banking functions are performed by the Superintendency of Money and Credit, established in 1945 through semi-official departments of the Banco do Brasil, which acts as the Government's fiscal agent. The Government has proposed a central banking bill to the Legislature. There is virtually no organized money market in Brazil.

The monetary unit is the cruzeiro, the current value of which has been set by the Banco do Brasil, acting for the Government, but without legal sanctions, at the equivalent of U.S. 5.41 cents (buying) or 5.34 cents (selling). In November 1947, an exchange tax of 5% was imposed on some transactions. Although to date Brazil has not certified a par value of the cruzeiro to the International Monetary Fund, she remains in "good standing" with the International Monetary Fund. Exchange control has been in effect in Brazil since 1931, directed since 1945 by the Superintendency of Money and Credit operating through the Exchange Department of the Bank of Brazil.

Currency issues, to purchase gold flowing in as a result of favorable balances of payments and to finance federal budgetary deficits, and a liberal bank credit policy resulted in a quadrupling of the money supply between 1940 and 1946. This year, the reversal of Brazil's balance of payments position, the determination of the Ministry of Finance not to finance public deficits by currency issues and, in a measure, credit restrictions imposed by the Banco do Brasil have resulted in a reduction in the money supply and apparently in the levels of prices and cost of living. Like other developing countries, Brazil has had a long history.

of monetary expansion, accompanied by price inflation and exchange depreciation. It remains to be seen if her historic tendency in this respect will eventually be resumed, despite the undoubted intent of the Government and the Banco do Brasil to restrict monetary expansion. Even the immediate future holds the threat of inflation induced on the one hand by wage increases, especially in view of the new Constitution's provision for Sunday pay to all workers, which, if implemented, may increase payrolls by as much as 20%, and, on the other, by the insistence of powerful industrial, agricultural and commercial interests on more ample credit.

II. Banking Structure.

A. Introduction

The Brazilian banking system is anomalous, in terms of modern banking practice, in having no central bank with overall control of monetary and credit policy. An elaborate central bank project, fostered by the Government, is currently under Congressional consideration and may be reported out for action within a year. In the meantime, the nearest approach to a coordination of central bank functions is carried out under the general aegis of the Superintendent of Money and Credit, appointed by and responsible to the Minister of Finance, through the medium primarily of the Banco do Brasil.

About 35% of all banking deposits are typically in the Banco do Brasil, 50% in other commercial banks and 15% in savings banks. Nearly 20% of the deposits of commercial banks are time deposits. The following table shows the breakdown of deposits for December 31, 1946 (in billions of cruzeiros):

Banco do Brasil			Other Commercial Banks			Savings Banks	Total		
<u>Sight</u>	<u>Time</u>	<u>Total</u>	<u>Sight</u>	<u>Time</u>	<u>Total</u>	<u>Time</u>	<u>Sight</u>	<u>Time</u>	<u>Total</u>
15.2	1.8	17.0	18.3	5.9	24.2	7.6	33.5	15.3	48.8

Of the deposits of the Banco do Brasil, more than 30% are by public entities, more than 20% by other banks and less than 50% by the public.

Nearly 70% of all bank deposits and bank loans are in the Federal District and the State of Sao Paulo, slightly more than 10% in Minas Gerais, another 10% in Rio Grande do Sul, Pernambuco and Bahia, and the remaining 10% in the other states and territories of Brazil.

B. Superintendency of Money and Credit

The need of centralized monetary and credit control has been recognized for some time and several proposals for establishment of a central bank have been entertained, outstanding among which was that drawn up by Sir Otto Niemeyer in 1931. This need was starkly emphasized by the inflation during the recent war and resulted in February, 1945, in the establishment by Decree-Law No. 7293 of a Superintendency of Money and Credit, operating under the Minister of Finance, to coordinate monetary and credit policy pending the creation of a Central Bank.

The Superintendency was invested with sole authority in the following cases: (1) requisition of currency from the Treasury, (2) holding of bank reserves, (3) fixing interest rates on deposits and of interest and rediscount rates on loans, (4) determination of eligibility requirements for rediscounts, and (5) inspection of banks and direction of policy on banking and foreign exchange operations. It was also given the right to buy and sell gold and foreign exchange and the duty to promote the sale of Government bonds. The law provided that the commercial banks maintain on deposit with the Banco do Brasil, for account of the Superintendency, a variable percentage of their sight and time deposits, since fixed at 3 and 2, respectively, by the Superintendency. The Superintendency now controls the Rediscount Department, the Credit Mobilization Department, the Exchange Department and the Export-Import Department of the Banco do Brasil.

Since 1942 the Rediscount Department has been virtually the sole source of new currency, which it requisitions from the Treasury. It has provided short term (up to one year) rediscounts on the security of commercial and exchange paper, and has made loans against Treasury bills, for banks, other organizations and individuals. Loans on Treasury bills are now prohibited, and rediscounting operations are further restricted to financing legitimate productive needs and are forbidden for purposes of speculation. Operations of the Rediscount Department increased steadily during the war. Rediscounts effected during 1939 totalled 1.2 billion cruzeiros. In 1945 the total of loans and rediscounts was 12.8 billion cruzeiros and in 1946, 6.8 billion cruzeiros.

The Credit Mobilization Department was established in 1932 to refinance non-liquid bank assets in times of crisis. It is authorized to requisition currency from the Treasury, and thus provide currency to banks whose assets are sound but whose cash has fallen below immediate needs. Its operations increased from 23 million cruzeiros at the end of 1937 to 60 million in 1945 and to 560 million at the end of 1946. In the latter year, it was responsible for averting what might have been a serious financial crisis.

The Exchange Department, under the direction of the Superintendency of Money and Credit, regulates exchange transactions.

The Export-Import Department, established in 1941 administers official provisions relating to licensing and control of exports and imports. At the end of 1946 its credit operations totalled 269 million cruzeiros.

C. Banco do Brasil

Founded in 1808, the Banco do Brasil is the largest bank in Brazil, with branches in all states as well as in Asuncion, Paraguay, and La Paz, Bolivia. The

Federal Government holds 53% of its stock. Basically a commercial bank it was until the establishment of the Superintendency of Money and Credit a quasi central bank. It still acts as the fiscal agent of the Government and exerts considerable influence on the financial policies of the country.

The regular commercial activities of the Bank are carried out by the General Credit Department. The annual average of its credit operations in 1946 was 8,553 million cruzeiros of which 4,771 million were to public entities, 349 million to banks and 3,433 million to private borrowers.

The Bank performs an extensive guarantor function. At the end of 1946, 2,200 million cruzeiros of foreign currency loans, including those from the Eximbank and nearly 16 billion cruzeiros of domestic loans were guaranteed by it.

The Agricultural and Industrial Credit Department of the Bank, established in 1937, is a semi-official agency, whose directors are appointed by the President of the Republic. It has confined itself chiefly to agricultural and livestock loans of maturities ranging from one to ten years, principally out of deposits of certain government sponsored funds, such as those of the Retirement and Pensions Institutes. Its operations had increased to 5,359 million cruzeiros at the end of 1946. Its loans at that time were for the following purposes (millions of cruzeiros):

<u>Agriculture</u>	<u>Livestock</u>	<u>Agriculture Industries</u>	<u>Industry</u>	<u>Total</u>
766	3,251	517	825	5,359

The Banco do Brasil, on its own account, and as agent of the Superintendency of Money and Credit, has become the almost exclusive depository of other banks. In 1946 it held all but a fraction of one per cent of interbank deposits, whereas in 1940 other banks held almost one-third of all deposits made by banks. It also coordinates the activities of the 13 clearing houses variously located in the country.

D. Other Commercial Banks

The great bulk of the commercial banking business of the country is performed by Brazilian owned and controlled banks. Foreign banks hold about 7% of all deposits and account for about 4% of all bank loans. The German, Italian and Japanese banks were liquidated during the war and the number of foreign banks in the country reduced from 80 in 1937 to 38 at the end of 1946. The principal foreign banks are the Bank of London and South America, the National City Bank of New York, the Banco Nacional Ultramarino and the Royal Bank of Canada. A law enacted, April 9, 1941 provided for the liquidation within five years of all foreign banks, but subsequent decrees extended the liquidation period, and at the end of 1945, the First National of Boston was authorized to open in Rio. The proposed central banking bill provides for equal treatment to foreign and Brazilian-owned banks.

The basis of the commercial banking system is a two-name trade bill known as a "Duplicate" (because it is a duplicate of the invoice). Loans are also made against securities and other collateral. The legal limit on maturities is one year. Personal accommodation loans are becoming more common but are still small in volume.

The combination of typically tight credit conditions and a highly competitive banking system has resulted in high rates of interest on deposits as well as on loans. Annual interest rates on sight deposits range from 2 to 5% and on time deposits from 4 to 8%. Recently 9% has been offered by certain small banks for time deposits. Rates on commercial loans range from 7% to as high as 15%, although the legal limit is 12%.

Especially high banking profits during the war years encouraged, and the practice of semi-official institutions of making deposits with banks paying higher

interest rates than the Banco do Brasil facilitated the establishment of a large number of small commercial banks, many of them with borrowed capital and under inexperienced management the assets of these banks were very largely used in speculative real estate transactions. Between 1940 and 1946, head offices and branches of banks increased from 1,360 to 2,860.

Commercial bank loans, including those of the Banco do Brasil, have traditionally represented a high ratio to deposits. The following table shows the ratio of loans to deposits, 1938-1947:

<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>
91	97	102	103	89	97	108	103	98

If the operations of the Banco do Brasil are excluded from the above figures, the results are even more striking, as indicated below:

<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>
92	98	107	105	96	106	113	123	107

The ratio of cash in till to total deposits of the Banco do Brasil, typically well above 10% before the war, dropped to less than 6% in 1943 and more recent years. The ratio of cash to total deposits for all banks, excluding the Banco do Brasil (but including savings banks) has declined much less markedly, from less than 10% to about 8%. Other banks hold additional reserves in the form of deposits with the Banco do Brasil. The ratio of these reserves to deposits decreased from more than 15% to less than 12%.

E. Savings Banks

Savings banks are of two types, Federal-owned (Caixas Economicas Federais) and private. The former hold nearly 90% of all savings bank deposits. The latter have reached their highest development in Parana, Minas Gerais, Bahia and Pernambuco.

The Federal Savings Banks are autonomous Federal Government entities administered by councils appointed by the President of the Republic, which in turn are responsible to the Conselho Superior de Caixas Economicas Federais (Superior Council of Federal Savings Banks), also appointed by the President of the Republic. They have enjoyed a considerable degree of independence. The Superior Council has made limited use of its powers in regard to interest rates and loan policy. Under the proposed central banking bill, the savings banks will be supervised by the Minister of Finance.

The savings banks operate within their own states. They make the following types of loans:

- (a) Against Federal, State and Federal District Bonds
and the interest on them.
- (b) Against salaries of civil servants and of state, municipal
and bank employees.
- (c) Against precious stones and coins.
- (d) Against certain kinds of mortgages.
- (e) Against bank guarantees.

In general, loans are short-term. But loans secured by mortgage may be made for periods up to ten years.

The limits for interest collected on loans varies with the type of loan. It is from 8 to ten per cent for loans against securities and mortgages, and up to 12 per cent on other loans. Deposits of up to 20,000 cruzeiros made by individuals receive $4\frac{1}{2}$ per cent, other deposits, somewhat less.

The savings banks form a substantial part of the banking structure. At the end of 1946, their deposits totalled 7.6 billion cruzeiros, as compared with total deposits of 41.1 billion and time deposits of 7.5 billion cruzeiros in

commercial banks, including the Banco do Brasil. Deposits in savings banks more than trebled between 1939 and 1946. Time deposits in commercial banks increased at an even more rapid rate, and in 1946 were about 7 times as great as before the war. In the following table the growth of deposits of Federal Savings Banks and of time deposits in commercial banks since 1939 is illustrated (billions of cruzeiros):

	<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>
Federal Savings Banks	2.1	2.4	2.6	2.9	3.6	4.5	5.4	6.7
Other Time Deposits	1.4	1.8	2.9	3.5	5.2	7.3	9.1	8.5

F. Other Financial Organizations

In addition to commercial and savings banks, there are a number of independent organizations which may be considered part of the financial structure of the nation. They are not, however, of great importance. They are:

- (a) Cooperativos (Cooperative Associations)
- (b) Casas de Penhores (Mortgage Companies)
- (c) Companhias de Capitalizacao (Investment Companies) - These companies issue their own bonds and invest the proceeds.

A number of autonomous agencies of the Federal Government, known as Institutes or Departments, engage in promotion, financing, and stabilizing activities. The more important ones are the National Department of Coffee, the Institute for Sugar and Alcohol, and the Institute for Re-Insurance.

Private insurance has been under Government control since 1935. Life insurance policies aggregate about 3 billion cruzeiros, of which foreign companies account for one-seventh. The total liabilities assumed by fire and transportation companies exceed 52 billion cruzeiros, of which foreign underwriters account for 40%. Five endowment insurance companies with 420,000 bonds issued for a nominal value of 4.6 billion cruzeiros are in operation. The Institute de Resseguros do Brasil (Re-Insurance Institute of Brazil) was established by the Government in 1939 with a capital of 30 billion cruzeiros and a monopoly on re-insurance to develop insurance in general.

III: The Money Supply

A. Introduction

The expansion rate of the money supply in Brazil is roughly in the order of 2 to 2.5 times the amount of new currency issued. This estimate is based on the following facts: (1) Additional currency in circulation has tended to represent 30% to 40% of the total money supply and sight deposits the remaining 60% to 70%; (2) sight deposits (excluding interbank deposits) tend to be about 60% of total deposits; and (3) the cash/deposit ratio of the banking system which declined during the war years is about 7.5%.^{1/} During the years, 1940-1946, 15.8 billion cruzeiros of new currency were issued and the total money supply was

^{1/} The method by which the factor is determined is outlined below. For purposes of illustration constant ratios between cash and sight deposits, the latter and total deposits and cash in banks and total deposits are used.

Let x = money supply,) let $y = 1/3x$
 y = currency in circulation) and $z = 2/3x$
 z = sight deposits = 60% of total deposits
 a = bank cash = 7.5% of total deposits
 b = total deposits
 c = currency issue

Then (1) $x = y + z$

(2) $c = y + a$

(3) $\frac{x}{c} = \frac{y + z}{y + a}$

(4) $\frac{x}{c} = \frac{3y}{y + a}$

(5) $\frac{a}{b} = \frac{7.5}{100}$

(6) $\frac{z}{b} = \frac{60}{100}$

(7) $\frac{y}{b} = \frac{30}{100}$

(8) $\frac{y}{a} = \frac{30}{7.5} = 4$

(9) $a = \frac{y}{4}$

(10) $\frac{x}{c} = \frac{3y}{y + \frac{y}{4}}$

(11) $\frac{x}{c} = \frac{3y}{\frac{5y}{4}} = \frac{12}{5} = 2.25$

increased by about 35.5 billion cruzeiros, of which 13.2 billion were in the form of cash in the hands of the public and the remainder in the form of sight deposits, as indicated in the following table (billions of cruzeiros):

	<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>
Cash *..... (in hands of public)	3.9	4.1	6.4	6.2	8.7	11.8	14.7	17.1
Sight Deposits	7.4	7.5	9.7	12.6	19.9	24.0	27.2	29.8
Total	12.4	11.6	16.1	18.8	28.6	35.8	41.9	46.9

*At the end of 1946, banks held 3.7 billion cruzeiros in cash.

For clarity, currency issue and bank credit expansion will be treated separately.

B. Cash, 1939-1946

Cash was issued before 1942 by the Treasury, the Rediscount Department and the Credit Mobilization Department. Since that year the Treasury has not issued cash directly but has operated through the latter two agencies. As already stated the Banco do Brasil is not a bank of issue and gold and foreign exchange purchases do not, therefore, automatically result in the issue of currency.

The Credit Mobilization Department's operations were very small until 1946 when it issued 500 million cruzeiros in new cash to purchase the assets of banks in distress.

The main influence of the Rediscount Department on the money supply has been through redemption of the so-called gold loans by the Banco do Brasil to the Treasury and through loans against, and ultimate redemption of, Letras do Tesouro (Treasury Bills). Rediscounts of commercial paper were of significant magnitude in 1941, 1943, 1944 and 1946, but until the latter year their effects were transitory as they had periodically to be redeemed.

Since February, 1946, Letras do Tesouro have not been eligible for loans from the Rediscount Department. But it seems that the issue of cash to meet

Government deficits may be made indirectly. In 1946 the Banco do Brasil in order to maintain its cash position in the face of a large Federal deficit in that year had to rediscount 2.6 billions, mainly of livestock paper. But in February, 1947, some 2.3 billions of the Bank's debt to the Rediscount Department was cancelled and in return it cancelled 0.5 billion of the Treasury's debt on gold loan account and credited a deposit of 1.8 billion in favor of the Government.

The above analysis concerns the persistent bases for the increases in currency issue. The actual issues during the war years were made, as the needs of the banks for cash made themselves felt, against rediscounted bills and against Letras do Tesouro which in some instances were issued not in order to meet budgetary deficits but to enable the banks to improve their cash position, worsened by enlarged loan activities or by the purchase of foreign exchange.

The currency issue, 1940 to 1946, inclusive, totalled 15.8 billion cruzeiros, as follows:

<u>Total end of 1939</u>	<u>Annual Increases</u>							<u>Total Increase</u>
	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>	
5.0	0.2	1.5	1.6	2.8	3.5	3.2	3.0	15.8

The overall increase in the currency resulted from the following (billions of cruzeiros):

Gold Purchases	6.3
Redemption of Public Debt	6.4
Credit Mobilization Department	0.5
Commercial Paper Rediscounts	<u>2.6</u>
Total	15.8

The following table shows the development by years, 1940-46 (millions of cruzeiros):

	<u>Currency Issue</u>	<u>Changes in Rediscounts</u>	<u>Mobilization Department Operations</u>	<u>Debt Redemption For Cash</u>	<u>Gold Purchase</u>	<u>Total</u>
1940	233	211	61	- -	- -	272
1941	1,473	615	(-)10	- -	900	1,505
1942	1,606	(-)984	(-)63	1,764	900	1,617
1943	2,761	1,129	60	- -	1,600	2,789
1944	3,500	644	- -	- -	2,900	3,544
1945	3,198	(-)1,324	- -	4,516	- -	3,192
1946	3,071	2,604	500	15	- -	3,119
Total	15,842	2,895	548	6,295	6,300	16,038

The difference between the actual currency issue over the period and the total of its elements is explicable by the fact that about 200 million cruzeiros in apparent issue by the Rediscount Department represent loans out of its earnings rather than out of new cash.

Further discussion of the elements affecting the currency issue will clarify the role of each.

In the period, 1939-1946, gold and foreign exchange holdings increased by 12.7 billion cruzeiros, nearly 6 billion of them in inconvertible currencies. Actual gold purchases amounted to 6.4 billion of which 0.1 billion had not yet resulted in cash issue at the end of 1946. Had foreign exchange resulted in an automatic issue of cash as it would if a Central Bank existed, cash issue, 1939-1946, on account of the favorable balance of payments would have been 12.7 billion rather than 6.3 billion cruzeiros. In other words, 6.4 billion cruzeiros on foreign account were sterilized, not deliberately but by virtue of the financial organization. The following table shows the above development in detail, 1939-1946 (millions of cruzeiros):

	1939 <u>Total</u>	1940	1941	1942	1943	1944	1945	1946	1946 <u>Total</u>
					<u>Increase</u>				
Gold & Foreign Exch.	1,209	(-)189	966	2,663	4,520	2,477	722	1,576	13,944
Gold Purchase	694	230	396	924	2,859	1,525	487	(-)19	7,096
Gold Loan with Banco do Brasil ..	386	231	(-)503	26	2,860	1,526	(-)4,011	(-)19	496
Gold Loan Redemption - -	- -	- -	900	900	1,600	2,900	- -	- -	- -

The very short lag between gold purchases and gold redemption indicates that transfer of foreign exchange into gold was made partly at least to increase the nation's cash supply.

Public revenues other than from loans failed by 13.6 billion cruzeiros to meet public expenditures during the period. Of the aggregate deficit 4.3 billions were met out of the proceeds of a compulsory war bond issue and 0.6 billion from the sale of other bonds. Loans, ultimately cancelled, of the Rediscount Department against the public debt resulted in the issue of 6.3 billion cruzeiros. The remainder of the deficit was financed by an increase in the internal floating debt. The details appear in the table below:

	1939 <u>Total</u>	1940	1941	1942	1943	1944	1945	1946	1939 <u>1946</u>
					<u>Change in</u>				
Deficit	- -	587	731	2,019	2,367	2,088	3,219	2,633	13,644
Bond Issue	5,081	1,131	(-)242	(-)680	563	929	1,113	2,070	4,884
Rediscount Depart- ment Loan	- -	- -	- -	1,764	- -	- -	4,516	15	6,295
Rediscount Depart- ment Loan Cancell- ation	- -	- -	- -	1,764	- -	- -	- -	4,531	- -
Floating Debt	1,570	(-)373	731	497	2,080	1,784	(-)327	(-)1,910	2,482

It is interesting to note that the amount of the public debt redeemed for cash was almost the same as that of the "sterilized" foreign exchange referred to above. Comparison of the two tables above indicates that in 1940 the deficit was small and the foreign trade balance negative, so that no substantial increase in cash was to be expected on these accounts. In 1941, cash for the purchase of gold was nearly equal to the gold and foreign exchange coming into the country in that year; again the deficit was small. In 1942, foreign exchange accretions failed by 1,763 million cruzeiros to add an equivalent amount to the currency, but 1,764 millions of the 2,019 million deficit in that year were met by cash issue. In 1943 and 1944 cash issues for gold purchases fell short by 2.5 billion of the foreign exchange additions and no debt redemption for cash occurred, although in those years the deficits totalled nearly 2.5 billions. In 1945, on the other hand, new gold and foreign exchange holdings amounted to only 722 million but debt redemption was in the order of 4.5 billions. Finally in 1946 additional foreign exchange of nearly 1,600 millions was received and "sterilized" and debt redemptions amounted to only 15 millions.

Rediscounts of commercial paper as already indicated fluctuated widely during the period and were of greatest importance in 1943 and 1944 when the issue of cash on account of gold purchase and debt redemption fell far short of the increase in gold and foreign exchange holdings and in 1946 when there were no gold purchases and practically no debt redemption.

It is, of course, impossible to reach a definitive conclusion about the cause and effect direction of currency issues and bank credit expansion. The former make the extension of bank credit possible and the latter necessitates the former. The data in the above table do indicate, however, that the banking system tends to

maintain its loans at the maximum and that when cash fails to flow in ⁱⁿ sufficient volume from other sources as in 1943, 1944 and 1946, resort is had to rediscounting. In fact bank credit was so extended in 1946 that, as already indicated, the Credit Mobilization Department had to step in and issue 500 million cruzeiros to banks unable to meet their commitments.

In the following section the activities of the banking system in creating sight deposits will be examined.

C. Bank Credit Operations 1939-1946

Of the 15.8 billion cruzeiro increase in Treasury cash outstanding, 1939-1946, approximately 13.3 billion remained in circulation and 2.5 billion were retained in the banking system as reserves against deposits and as a basis for additional loans. Total loans and discounts increased by 34.0 billion cruzeiros. Sight deposits increased by 22.4 billion cruzeiros, time deposits by 12.2 billion cruzeiros, and interbank deposits by 2 billion cruzeiros. The following table shows the growth of loans and deposits and cash in banks, 1940-1946, inclusive (billions of cruzeiros):

	<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>
Loans and discounts	11.3	12.8	15.9	18.2	28.8	40.1	43.9	45.3
Sight deposits	7.4	9.5	9.7	12.6	19.9	24.0	27.2	29.8
Interbank deposits	1.6	1.9	1.3	2.5	2.8	3.8	3.5	3.6
Time deposits	1.4	1.8	2.9	3.5	5.2	7.3	9.1	8.5
Savings deposits ..	2.1	2.4	2.6	2.9	3.6	4.5	5.4	6.7
Total deposits	12.5	13.7	16.5	21.5	31.6	39.7	45.3	48.8
Cash in banks	1.1	1.1	1.3	2.1	2.4	2.8	3.2	3.7

Loans and discounts, total deposits and sight deposits quadrupled during this period. More than 85% of the increase was made possible by the rise in the

cash holdings of the banking system which in 1946 were 337% of the 1939 level. An important contributing element, however, was the drop in the cash/deposit ratio from 8.8% in 1939 to 7.0% in 1945 (it rose to 7.6% in 1946). The trend in the cash/deposit ratio for the period 1939-1946, inclusive, follows:

<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>
8.8	8.0	7.9	9.8	7.6	7.1	7.0	7.6

Examination of the above table tends to confirm the hypothesis stated above that bank credit expansion influenced the currency issue in 1940 and 1941 and had a decided influence on the monetary expansion of 1943 and 1944. Not only were rediscounts of commercial paper with resultant cash issues large in the latter years, but the cash position of the banks was, despite those rediscounts, not nearly so good as in 1942 and in earlier years. Loans and discounts increased by 58% in 1943 and by 120% between 1942 and the end of 1944. Sixty-five per cent of the increase in loans and discounts over the seven-year period under study occurred in these two years. The improvement of the cash position in 1946 reflects the efforts by the Banco do Brasil to control inflation by restricting bank credit. The rediscounts of commercial paper in 1946 were approximately equal to the budgetary deficit which, in that year, was financed mainly out of overdrafts with the Banco do Brasil; and, loans and discounts, apart from those to the Government, actually fell slightly in that year.

The reserve position of the Banco do Brasil deteriorated by more than that of the rest of the banking system during the war years and the improvement in the cash position of the banking system in 1946 was due almost exclusively to the efforts of the Banco do Brasil. The deterioration of the cash position of the Banco do Brasil during the war years resulted not only from its credit policies but also from the fact that a large part of its resources were tied up in foreign

exchange. The following table shows for each year, 1939-1946, the cash/deposit ratio of the Banco do Brasil and of all other banks. It also shows for the Banco do Brasil the ratio between its cash on the one hand and total deposits less foreign exchange holdings, on the other.

	<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>
Banco do Brasil Cash/Deposit ..	8.4	7.5	7.3	11.9	5.9	5.7	5.0	5.9
Banco do Brasil Cash/Deposit Less Foreign Exchange	9.4	7.6	8.3	18.5	9.8	9.3	7.8	10.5
All Other Banks Cash/Deposit ..	9.2	8.2	8.5	8.5	8.8	7.9	8.3	8.3

The trend in the ratio of the cash reserves to its deposits less foreign exchange may be interpreted to indicate that although the foreign exchange not purchased by the Government in the form of gold was sterilized so far as its expansionary effects were concerned it contributed partially, at least, to the money supply in the form of deposits.

Although the ratio of cash to deposits of other banks than the Banco do Brasil remained fairly constant, their reserves with the latter did not expand at the same rate as their deposits--despite the fact that there was a decided tendency to concentrate their external reserves in the Banco do Brasil over the period. In 1939 one-third of all interbank deposits were with other banks than the Banco do Brasil, in 1946 only a fraction of one per cent. In the following table, reserves of other banks with the Banco do Brasil are shown as a percentage of their total deposits, 1939-1946:

<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>
13.2	13.0	10.2	16.7	12.5	13.6	12.1	11.6

D. Velocity, 1939-1946

The velocity of circulation of the money supply apparently remained practically constant or even fell somewhat during the period. There is no satisfactory

measure of velocity in Brazil. But all indices of the cost of living and available data on wages indicate that prices generally rose at a lesser rate than the volume of money. Moreover, as already stated, production in general rose by little, if any, more than 12 or 15%. Check clearings rose by nearly 400% as compared with a 300% increase in the money supply, but three new clearing houses were established during the period and, as stated above, the Banco do Brasil assumed a much more important role as the nation's clearing house.

E. Summary and Conclusion, 1939-1946

The major bases of the expansion of the money supply from 1939-1946 were the large public deficits that occurred especially in 1942 and later years, and the very favorable balances of payments position after 1941. About half of the foreign exchange receipts and nearly half of the budgetary deficits resulted in the issue of cash, with further expansionary effect by virtue of the resulting increase in bank reserves. The lending activities of the banking system probably resulted in a greater increase in the money supply than the combined effects of the favorable balances of payments and the budgetary deficits, but bank credit expansion could not have been great without the increased currency backing that debt redemption and the purchase of gold afforded. On the other hand, the monetary supply would probably have expanded even more than it did if Brazil had had a central bank of issue and if, accordingly, all foreign exchange receipts had resulted in cash issue.

F. The Monetary Situation, 1947

The money supply increased by about 3% between December, 1946 and July, 1947. No new cash has been issued. In fact there has been a slight contraction in the amount of currency in circulation and the avowed intention of both the Government and of the Banco do Brasil is to avoid further issues of cash. Sight deposits rose by about 5% during the seven-month period.

The Federal budget is more nearly in balance than in 1946 and, as already stated, Letras do Tesouro are no longer eligible for loans from the Rediscount Department. Moreover, foreign exchange holdings have remained almost constant (net holdings have declined) and no new gold has been purchased. Accordingly, the major immediate danger of further cash issues lies in the further extension of credit by the banking^{system}/with consequent necessity for recourse to the Rediscount Department or the Credit Mobilization Department or both.

Bank loans and discounts were slightly higher and total deposits about 10% larger in July of this year than in December, 1947. The cash/deposit ratio of all banks declined from 7.6 to 7.1. The Banco do Brasil has been responsible for the increase in loans and discounts and for the bulk of the increase in deposits. Its cash reserves are, however, greater and those of other banks, less, than they were at the end of 1946, partially at least because more stringent clearing regulations established by it have forced other banks to maintain larger reserves with it. Their reserves with the Banco do Brasil increased from 11.6% to 12.5% of their total deposits. The above data are detailed in the following table (billions of cruzeiros):

	<u>December 1946</u>		<u>July 1947</u>	
	<u>All Banks</u>	<u>Banco do Brasil</u>	<u>All Banks</u>	<u>Banco do Brasil</u>
Loans and discounts	45.3	14.4	46.0	15.1
Total deposits	48.8	15.4	53.7	18.5
Cash/deposit ratio	7.6	5.9	7.1	7.2

In February, 1947, 2.3 billions of the Banco do Brasil's debt to the Rediscount Department were cancelled and in return the Government's debt of 0.5 billion to the Bank in gold purchase account was cancelled and the Treasury credited with a deposit of 1.8 billion cruzeiros with the Bank. Thus the Banco do Brasil, which had nearly reached its borrowing limit with the Rediscount Department, was put in a position to borrow further in the event of a need for cash. In fact, it has not yet had to borrow from the Rediscount Department.

G. The Monetary Supply: Future

The Brazilian Government has shown a determination to put an end to monetary expansion. In this policy, it has the support of the Banco do Brasil. This policy can succeed only if new issues of Treasury notes cease or are limited to a minimum, or if they are offset by much more rigorous bank cash reserve requirements. For some time to come, it is doubtful that the Brazilian balance of payments will be so favorable as to enable the Government to increase its gold holdings by putting cash into circulation. In fact the sale of gold by the Government is more likely. The public deficit will apparently be small in 1947. The proposed 40% increase (with exceptions) in import duties plus higher income taxes and the exchange tax recently passed by Congress will raise public revenues considerably. On the other hand, public expenditures should not rise greatly if inflation is otherwise kept in check. The proposed Central Bank will presumably have much greater control over bank lending policies than now exists. But, the pressure for further inflation is strong.

One of the most serious immediate hurdles for the anti-inflationary policy is the pressure for higher wages. As already noted, money wages failed generally, although not universally, to keep pace with prices during the war years. Moreover

the Constitution of 1946 provided that all workers be paid for Sundays and other holidays. If implemented, this will increase payrolls by from 16 to 20%. The Associated Companies of the Brazilian Traction, Light and Power, the largest employer in Brazil, have already granted Sunday pay to their workers, in anticipating legislative implementation. A general rise in wages would almost certainly result in a rise in prices preceded or followed by increased loans to the employer community. The alternatives are a reduction in profits, which even in a country with as high profits as Brazil is unlikely, or a recession in business, which the Government would be loath to permit, or both.

The pressure of businessmen for easy credit is strong in Brazil. That pressure is likely to increase if an attempt is made to finance public deficits out of bank loans at the expense of commercial loans.

Even the proposed Central Bank has in it the seeds of an inflationary potential. The Banco do Brasil now owns more than 7 billion cruzeiros in foreign exchange. Should this exchange be purchased for cash by the proposed Central Bank, the effect on the money supply would be very great. The cancellation in February of the bulk of the Banco do Brasil's debt to the Rediscount Department, discussed above, was made in consideration of the large amount of the Bank's cash absorbed by foreign exchange purchases, and may have been made in anticipation of the creation of the Central Bank.

In conclusion, then, world events together with a more conservative public budgetary policy have facilitated the anti-inflationary policy of the Banco do Brasil. But inflationary tendencies remain strong and at least a moderate expansion of the money supply is to be expected.

H. The Rate of Exchange

The trend of the exchange rate for the cruzeiro (formerly the milreis) has been almost steadily downward for decades. The following table shows the rates

at which the Brazilian Traction, Light and Power Company has purchased U.S. dollars for selected years since 1913. (These rates are better indications of the actual exchange situation in various years than the official rates that prevailed from time to time.) (In cents U.S.):

<u>1913</u>	<u>1920</u>	<u>1921</u>	<u>1928</u>	<u>1932</u>	<u>1939</u>	<u>1940</u>	<u>1945</u>	<u>1947</u>
32.66	20.41	12.51	12.06	6.62	5.12	4.76	5.00	5.34

The cruzeiro was very strong during the war years and until very recently. The present dollar shortage, discussed in another section of this report, has necessitated rather stringent exchange restrictions. The result has been the development of a free market in U.S. dollars at rates up to 20% higher than those at which the Banco do Brasil buys and sells them (18.50 and 18.72, respectively, cruzeiros to the \$ U.S., the latter rate to be increased by 5% for certain categories of transfer.) The cruzeiro is still strong, however, in relation to the currencies of almost all other countries.

Brazil has not yet declared a par value for the cruzeiro to the International Monetary Fund. Nor are Brazilians in agreement on the rate of exchange that should be established. The Banco do Brasil and the Ministry of Finance believe that the present rate can and should be maintained. Industrial and agricultural exporters are exerting strong pressure for depreciation--in some quarters devaluation by more than 50% is demanded. On the other hand, some importers are pressing for appreciation, but they do not appear to be influential.

With strong exchange controls and stabilization of internal prices, the present rate of the cruzeiro could probably be maintained, especially in view of the continued inflation in the United States and elsewhere. But depreciation has long been and is likely to continue to be a major element in Brazilian development policy.

J. Public Finance

A. Introduction

Since public administrative agencies are elected independently at three levels (National, State and Municipal), Brazil also has three distinct public budgets. Total public expenditures in 1946 amounted to well over 20 billion cruzeiros (equivalent to more than 1 billion \$ U.S.) and more than 20% of the national income. Federal expenditures amounted to more than 50% of the total, those of the States and Territories to nearly 40% and those of Municipalities to less than 10%. More than 70% of the receipts of the Federal Government come from the Federal District and the State of Sao Paulo, which also account for well over half of the receipts and expenditures of the States and Territories.

Federal revenues and expenditures trebled between 1938 and 1946, but the increase was smaller than that of either the monetary expansion or the cost of living. The real burden of public administration, therefore, fell during the war years.

The Federal budget is generally operated at a deficit, financed mainly by cash issues; the budgets of States, Territories and Municipalities are maintained more nearly in balance. The Federal internal funded debt doubled and that of States and Territories increased by less than 50% during the war years. In view of the inflation, however, the real burden of the debt also declined.

B. Federal Expenses and Revenues

Previous to 1946, the Federal Government maintained three separate budgets: the ordinary budget, the public works budget (1939-1945), and the special war budget (1942-1945). At the end of 1945, the war budget was liquidated, and in 1946 the public works budget was incorporated into the ordinary budget.

1. Ordinary Budget

The ordinary budget covers the customary government expenditures, and in recent years, as noted above, has operated generally at a deficit. The

comparison of expenditures and receipts is given below, in millions of cruzeiros, for the years 1940-1948:

	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>	<u>1947*</u>	<u>1948**</u>
Receipts	4,036	4,046	4,377	5,443	7,366	8,852	11,570	11,839	14,597
Expenditures	4,629	4,839	5,748	5,944	7,451	9,852	14,203	11,106	14,596
Balance	-593	-794	-1,371	-501	-84	-998	-2,633	+ 733	+ 1

* As of November 30

** Budget estimates

The budgetary deficits in general have resulted from two basic causes:

(a) expenditures authorized subsequently to the passage of the budget law and for which necessary revenues were not provided; and (b) expenditures authorized in previous years, but not undertaken at the time, for which the revenues provided were limited to the year in which the expenditure was originally authorized.

The large deficit in 1942 reflects, in addition to the inflationary effects on costs, the decline in receipts on account of import duties resulting from the entry of the U.S. into the war. During the next two years, increases in income tax and profits tax receipts considerably reduced the deficits. Bonuses and increased wage scales to federal employees in 1945 and 1946 increased the cost of administration in those years and resulted in large deficits, notably in 1946.

In 1947 (to November 23) an anticipated annual deficit of more than 2 billion cruzeiros was, by virtue of retrenchment and higher-than-anticipated receipts, converted into a surplus of 383 million cruzeiros. One result of this surplus has been that the customary issue of paper money to cover the deficit has not been necessary. In fact, the currency issue has been reduced by more than 100 million cruzeiros. It is believed that this successful handling of the budgetary problem in 1947 has placed a major and perhaps permanent brake upon the inflationary spiral which, as described earlier (Section on Money and Banking), has been hounding the Brazilian economic system throughout the war and post-war years.

Expenditures

The outlays for the several ministries for the years 1939 and 1946, together with the budgeted figures for 1948, are shown below in millions of cruzeiros:

Administrative Units	Percentage of whole		Percentage of whole		Percentage of whole	
	1939	1939	1946	1946	1948	1948
Executive	22	0.5	148	1.0	175	1.2
Min. War	786	18.0	2,680	18.9	2,453	16.8
" Navy	313	7.2	1,114	7.8	1,155	8.0
" Air	--		1,316	9.3	1,298	8.9
" Finance	1,316	30.4	4,172	29.4	2,780	19.0
" Transportation & Public Works	1,083	25.0	2,141	15.1	2,840	19.4
" Agriculture	117	2.7	489	3.4	796	5.4
" Education	306	7.1	816	5.7	1,597	11.0
" Justice and Interior	163	3.8	797	5.6	750	5.1
" Foreign Affairs	68	1.6	151	1.1	126	1.0
" Labor, Industry and Commerce	160	3.7	379	2.7	446	3.0
Other					180	1.2
Total	4,334	100.0	14,203	100.0	14,596	100.0

Source: Contadoria Geral du Republica: Balancos gerais

The increase in Government expenditures has roughly paralleled the growth in national income, about trebling over the period 1939-1946. In general it may be said that a large part of the increase in Government expenditures has resulted from salary increases to government employees in 1945 and 1946.

The notable growth in combined military costs, which for 1948 represent about 34% of total expenditures, is self-explanatory during the war years. Their failure to fall more rapidly in the post-war years results in part from the wage increases referred to above, in part from the continued development of aviation, and in part from reasons of national prestige and the maintenance of the army as a police force under present unsettled conditions.

The increased expenses (in absolute terms) of the Finance Ministry through 1946 were associated with conversion payments under the 1943 readjustment

of the foreign debt, which had been in default and virtually unserviced since 1933, as well as with substantial issues of internal bonds during the war, and the growth of indebtedness to the Eximbank and other agencies of the U. S. Government. Between 1946 and 1948, it will be observed, both absolute and relative costs of carrying the public debt fell considerably.

The increased expenditures of the Ministries of Public Works and Education, especially since 1946, represent programs of development in those areas which may be expected to be further expanded as a result of recent political changes. Currently it is being proposed to create two new Ministries, of Economy and of Public Health. The first would relieve the Ministries of Labor and Finance of much of their economic planning aspect. The second would coordinate the activities connected with a far-flung public health program soon to be embarked upon; these activities are at present chiefly directed by the Ministry of Education. Whether the creation of the new Ministries will involve increases in the budget for 1948 is not indicated in the announcement regarding them.

Beginning in 1948, in accordance with provisions of the Constitution of 1946, the Federal Government is required to allocate 3% of annual tax revenues to the development of the Amazon Valley, 3% of annual revenues to the relief and economic assistance of the northeast drought area and 10% of income tax receipts to the Municipalities (exclusive of the State Capitals).

Revenues

Of the revenues which finance the ordinary budget more than 80% are typically accounted for by consumption taxes, income taxes, import duties and stamp taxes, in that order. The distribution of receipts among these sources, for selected years, 1939-1946, is shown below (in millions of cruzeiros):

<u>Period</u>	<u>Import Duties</u>	<u>Consumption tax</u>	<u>Income tax</u>	<u>Stamp taxes</u>	<u>Other Revenues</u>	<u>Total Revenues</u>
1939	1,031	1,030	324	270	497	3,795
1941	1,059	1,185	537	338	295	4,045
1943	596	1,554	1,498	579	544	5,443
1945	1,026	2,832	2,350	865	921	8,852
1946	1,404	4,009	2,751	1,195	1,127	11,570
1948*	2,195	4,985	3,544	1,502	2,371	14,597

Source: Banco de Brazil: Relatorio, 1946; Budget, 1948

*Budget estimates

This table reflects the following developments in respect of federal revenues between 1939 and 1948: (a) the general increase in incomes and prices over the period; (b) the impact of the war upon import duties; (c) the growing relative importance of income taxation since 1943; (d) the effect of increases in import duties granted Brazil at the Geneva Trade Conference in the summer of 1947; and (e) the effect of increases in the corporate and individual income tax rates passed by Congress in December, 1947. The breakdown does not reflect the re-imposition of the exchange tax in November, 1947.

Import duties are on a specific rather than an ad valorem basis and therefore failed to keep pace with the price increases during the war years, falling about 50% behind, according to official estimates. This was the justification for the increase in tariff duties referred to above.

Consumption taxes are selective, in that articles of food and other articles of prime necessity are not subject to them. The rates of these taxes range from 5% to 8%.

The income tax, as revised in 1947, provides for an exemption of 24,000 cruzeiros on individual incomes; thereafter the rates increase on a proportional basis up to a maximum of 50%. The corporation tax is 15%.

The stamp taxes represent an unsystematized assortment of fees and charges on numerous sorts of transactions, registrations and occupations.

In addition to tax receipts, the Government receives revenue from state-owned lands and enterprises, exchange differentials, lotteries, and the income of certain social security funds and deposits to which it contributes and of which it is the guarantor. These so-called extraordinary and other revenues are estimated to total 2,371 million cruzeiros in 1948, out of an estimated total of 14,579 million. In the event of deficit expenditures resulting from over-estimated revenues or supplementary expenditures uncovered by revenue provisions, the Government has recourse to the Banco do Brasil, as discussed in the section on the Internal Debt.

2. Autarchies

Wholly or partially outside the budget are the "autarchies" or autonomous entities which are wholly or partly capitalized by the Government. Of these there are more than eighty, but data concerning them are scanty. Their combined revenues in 1944, 1945, and 1946 have been estimated at 4.1 billion, 8.2 billion and 7.8 billion cruzeiros, respectively. Expenditures are not known.

3. Public Works Budget, 1939-1945

In 1939, a public works budget was set up to finance a five-year plan of public works, and in 1944 was renewed to finance a second five-year plan. For budgetary purpose the public works budget was incorporated in 1946 into the ordinary budget and has remained there since then, though retaining its integral form.

This budget grew from about 550 million cruzeiros in 1939 to 1,000 in 1946, and showed a surplus in all years except 1944 and 1945. On balance, 1939-1945, it showed a net deficit of 200 million cruzeiros represented by credit operation in that amount in 1945. Revenues for this budget derived chiefly from a tax/exchange transactions and treasury profits on banking operations. In the summer of 1946 the exchange-transactions tax was rescinded, but in November 1947 a tax of 5% was re-imposed on most non-governmental exchange transactions and is expected to net in the vicinity of 1 billion cruzeiros in 1948.

4. War Budget, 1942-1945

A separate war budget was inaugurated in 1942 to provide for special war expenditures; this budget was liquidated at the end of 1945. The aggregate expenditures under it amounted to 6.4 billion cruzeiros. "Income" of 4.3 billion cruzeiros was derived from the sale of war bonds. The remaining deficit of 2.1 billion cruzeiros, 1942-1945, was financed through the issue of paper currency.

C. Budgetary Reform

Budgetary reform has been underway since the overthrow of the Vargas regime. There are no longer any special federal budgets, such as the war budget and the public works budget; all revenues and expenditures are included in a single budget, except those of the "autarchies" which are expected to be incorporated into the budget in 1948.

The Constitution of 1946, which provides for specific and mutually exclusive sources of revenues for Federal, State and local governments, is being implemented by legislation. Tax reforms, for some time under consideration and carried out in some instances already, may increase Federal revenues by 3 to 4 billion cruzeiros annually. Taxes, especially on the higher incomes, have been raised very substantially, both for individuals and for corporations. The maximum rate of surtax on individual incomes under the new law is 50%, as already stated, compared to 20% previously. The maximum rate of tax on corporate incomes, now 15%, was only 6% until recently. It has already been noted that import duties have with some exceptions, been increased by 40%, and a foreign exchange tax of 5% is now in operation. A thorough overhauling of the tax system, which would probably eliminate the stamp taxes completely, rationalize the consumption taxes, and improve collection methods, is under discussion.

More important, however, from the budgetary point of view, than these technical improvements is the apparent determination of the present administration to keep expenditures within budgeted estimates. If this determination persists, and if exchange and import controls are skillfully applied, a primary source of

inflation will be avoided, wide-spread speculation will be eliminated and over a period of time conditions attractive both to domestic and foreign investment and to a Government bond market will have a chance to develop.

K. Internal Debt of the Federal Government

1. Introduction

At the end of fiscal 1946 (January 31, 1947), Brazil's gross internal debt consisted of 9,965 million cruzeiros, funded, and 4,052 million cruzeiros, floating, a total of 14,017 million cruzeiros, an increase of 111% over 1939, at which time the funded debt equalled 5,081 million cruzeiros and the floating debt 1,570 million, for a total of 6,651 million cruzeiros. A resume of the changes in the internal debt, 1939-1946, is shown below (in millions of cruzeiros):

Revenue & Expense Acct.	<u>Floating Debt</u>				Funded Debt	Total Funded and Floating
	<u>Promissory Notes</u>	<u>Treasury Bills</u>	<u>Restos a Pagar</u>	<u>Total Floating</u>		
† 1957	- 1300	† 789	† 1051	† 2482	† 4884	† 7366

The breakdown of these changes is shown in Table (1).

The net increase in the funded debt was non-inflationary. On the other hand, the considerable amounts of floating debt which were incurred and redeemed during the period were inflationary, since they resulted from budgetary deficits and were redeemed for cash.

The service on the funded internal debt increased over the period from 260 million to 600 million cruzeiros. This carrying cost, however, when taken in comparison with changes in other economic magnitudes, represented a smaller real burden in 1946 than in 1939.

The internal debt as summarized above omits wholly or in part certain items included by the Brazilian Government as internal debt, because these items appear to represent contingent liabilities of the Government rather than true debt items. These and other such items are treated separately.

The part played by the so-called "autarchies", or autonomous government enterprises, in the public debt is difficult to evaluate because of lack of available data. This aspect of government indebtedness is therefore also treated separately, insofar as data permit.

TABLE 1

B R A Z I L

BRAZILIAN FEDERAL INTERNAL DEBT, 1939-1946 ^{1/}

(Millions of Cruzeiros)

End of Period	Funded Debt	F l o a t i n g D e b t				Total Floating	Total Funded and Floating	Gold Loan at Banco do Brasil	Budget Deficit
		Rev. & Exp. ^{2/}	Promissory Notes	Treasury Bills	Restos a Pagar				
1939	5,081		1,400	3	167	1,570	6,651	386	540
1940	6,212		783	6	414	1,197	7,409	617	587 ^{2/}
1941	5,970		1,299	--	629	1,928	7,898	114	731 ^{2/}
1942	5,290		2,099	20	613	1,824	7,214	140	2,019 ^{2/}
1943	5,853		1,194	1,806	1,505	4,505	10,358	3,000	2,367 ^{2/}
1944	6,782		597	4,552	1,140	6,289	13,071	4,526	2,088 ^{2/}
1945	7,895		200	4,602	1,160	5,962	13,857	515	3,219 ^{2/}
1946	9,965	1,957	100	792	1,203	4,052	14,017	496	2,633
Change 1939-46	4,884	1,957	-1,300	789 ^{2/}	1,051	2,482	7,366	110	13,644

Source:

- ^{1/} Contadoria Geral da Republica: Balancos Gerais da Uniao, 1939-1946. Fiscal year figures unless otherwise noted.
- ^{2/} Inclusive of expenditures, on account of (a) Public Works budgets, 1940-1945, and (b) War Budgets, 1942-1945. Deficits on account of the ordinary budget alone in 1942, 1943, 1944 and 1945, respectively, were, in millions of cruzeiros, 1371, 501, 85, and 998.
- ^{3/} Calendar year figures. From 1939 to 1942 balances in this account were converted at the year-end into Promissory Notes. The two accounts, however, were not synonymous, because the Promissory Notes usually included balances carried over from previous years. From 1943 to 1945 the Revenue and Expense account was positive to the Government and therefore did not represent any increase in public indebtedness. Balances for this account, 1939-42, in millions of cruzeiros, were: 378, 291, 421, 1318.

2. Funded Internal Debt

The funded internal debt represents public works (especially for rail-road construction), war issues, and the funding of budgetary deficits prior to 1940. Approximately 1300 million cruzeiros of funded debt was redeemed between 1939 and 1946. The funded debt is composed of two types of bonds, called Apolicies and Obrigacoes, bearing interest at rates of from 5 to 7%. The distinction between the two types of bonds is not precise, but resides primarily in the briefer maturity period of the Obrigacoes and the priority treatment extended to them; neither the Apolicies nor the Obrigacoes may be used as the basis for loans from the Rediscount Department of the Banco de Brasil.

The 4.9 billion cruzeiro increase in the funded debt between 1939 and 1946 derived from 0.6 billion of small issues for social security and debt-funding purposes, and 4.3 billion cruzeiros of war bonds issued from 1942 to 1946. The latter were originally authorized in an amount of 3,000 million cruzeiros, a total successively raised to 6,000 million and 8,000 million cruzeiros, and then in 1946 reduced to 4,500 million cruzeiros. Purchase of war bonds was compulsory. Income tax payers purchased an amount equal to their income tax payments. Workers eligible for social security benefits but not included on the income tax rolls had 3% of their wages withheld at the source for bond purchases. In 1945 the compulsory purchase requirement was eliminated for recipients of income below of less than 12,000 cruzeiros per year. The reduction in 1946 of the authorized issue, noted above, was made as a result of exemptions from the compulsory purchase requirement, and in order to protect the government bond market from speculators. Of the 4.3 billion cruzeiros accounted to war bonds at the end of 1946, 2,718 million cruzeiros represented bonds actually delivered, 145 million apparently represented bonds subscribed but not delivered, and 1,479 million represented cash receipts under the compulsory purchase requirement/^{that} had not yet been converted to bonds.

Budgeted payments on account of interest and amortization in 1947 and 1948 for the sterling and dollar bonds of the Federal Government proper are given below (equivalents of U.S. dollar millions):

	Sterling		Dollar	
	1947	1948	1947	1948
Amortization	4.5	4.6	2.7	2.3
Interest	9.0	9.0	4.5	3.9

Source: Diario do Congresso Nacional, Nov. 28, 1947.

III. The External Debt in Francs and Guilders

The basis for a settlement with French bondholders was reached in 1940, but consummation of the agreement was prevented by war developments. Negotiations were resumed in 1945, and an agreement was reached on March 8, 1946, by which the Brazilian Government undertook to earmark 60% of the proceeds of its exports to France, over a two-year period, for the formation of a "Liquidation Fund" up to the amount of U.S. \$19,320,000 (to be converted in francs at the prevailing exchange rate), for disbursement by the French Government in settlement of outstanding Federal, State and municipal bonds and loans to three Brazilian railways and for the purchase of the Sao Paulo-Rio Grande Railway. Under the provisions of the Agreement, obligations in gold francs were to be settled in current francs at the maximum rate of 5 paper francs for one gold franc.

The entire debt settlement with France and the nationalization of French railway holdings in Brazil has already been met out of the current trade surpluses of 1946 and 1947.

Currently an arrangement, similar to the arrangement with France, is under negotiation with the Dutch bondholders, though no agreement has so far been reached. However, the amount outstanding is comparatively small (Fl. 6,428,100 - about U.S. \$3.4 million). This represents about $\frac{1}{2}\%$ of Brazil's total indebtedness so that the service and amortization of the Dutch debt would not appreciably affect the exchange picture.

IV. Conclusion

With the French debt entirely liquidated, the exchange remittances due on the foreign debt from 1948 onwards will be only slightly greater than the yearly service of roughly \$32 million on sterling and dollar bonds, on account of the florin bonds. The Brazilian Government is at present appropriating \$33 million yearly for the debt services. This corresponds to the maximum due under Plan B. Any balance will be used to expedite retirement of bonds.

11. Countries Relations
with Foreign Countries

A. Foreign Trade

A. Introduction.

Brazil ranks second to Argentina among the Latin American countries in foreign trade. On a per caput basis, however, her trade is exceeded by that of most of the South American countries. The balance of trade was slightly favorable before the war, but exports greatly exceeded imports during the war years and in 1946. An import surplus of nearly 2 billion cruzeiros was experienced during the first seven months of last year, all of it during May, June and July. Until July of last year, imports were running at a 40% higher annual rate than the previous peak year, 1937, partially because of increased imports of capital equipment but to a large extent, also, because of greatly expanded imports of wheat, flour and other foodstuffs. The imposition of rather rigorous exchange controls in June of last year will exert a depressing influence on imports. But for the next few years, exports and imports will probably be very nearly in balance as the wartime import backlog is absorbed. Coffee is the chief export, cotton and its products ranking second. Exports of manufactures, negligible before the war, accounted for about 7% of the total in 1946. More than half the value of Brazil's imports is represented by manufactures. Before the war trade with the United States was less than one-third and, with Germany slightly more than 20% of the total. More than half the total was with Europe. Exports to Latin America were small but imports, especially from Argentina, were substantial. During the war trade with Europe declined considerably, and in 1946 was less than one-third of the total, the major part of the drop, of course, coming in trade with Germany. In 1946 the United States took 44% of Brazil's exports and accounted for 58% of her imports. Exports to other Latin American countries were about 11% of the total in 1946. At least for the next

few years, Brazil's export prospects appear to be good. The demand for coffee and cotton remains high. Official action has in fact been necessary in order to prevent the Brazilian local markets from being ignored in favor of some exports. The growing industrialization of Brazil should reduce her dependence on foreign markets after the wartime backlog has been absorbed, perhaps by 1950.

B. Trends, Value and Volume.

In the following table the values of merchandise imports and exports are shown for the period, 1936 - 1947, inclusive (millions of cruzeiros):

	<u>1936</u>	<u>1937</u>	<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>	<u>1947</u> <u>Jan-July</u>
Exports	4895	5092	5096	5615	4960	6725	7499	8728	10726	12197	18243	11770
Imports	4268	5314	5195	4983	4964	5514	4692	6161	7997	8617	13029	13727
Balance	627(-)	222	(-)99	632	(-)4	1211	2807	2567	2729	3580	5214	(-)1957

The huge export balances during the war years resulted mainly from the difference in price trends for Brazilian exports and imports. The unweighted indexes of export and import prices in 1946 were 323 and 247, respectively, on a 1937 base. These divergent trends cannot be explained by differences in the composition of exports or of imports between those two years. In the following table the volume of merchandise exports and imports are shown for the period 1936-1947, inclusive (million metric tons):

	<u>1936</u>	<u>1937</u>	<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>	<u>1945</u>	<u>1946</u>	<u>1947</u> <u>Jan-July</u>
Exports	3.1	3.3	3.9	4.2	3.2	3.5	2.7	2.7	2.7	3.0	3.7	1.9
Imports	4.5	5.1	4.9	4.8	4.3	4.0	3.0	3.3	3.8	4.3	5.0	4.3

Already in 1946, the wartime backlog of imports had begun to be absorbed. A large part of the accelerated rate of imports in 1947 is to be explained by this factor, but an alarmingly large part is also to be attributed to expansion in imports of consumer goods.

C. Composition: Exports.

Brazilian exports are much more diversified than those of most of the other Latin American countries, but coffee, cotton and its products still account for well over half of the total in terms of value.

During the war years the shares in Brazilian exports of both coffee and raw cotton fell and those of cotton textiles, pine wood, tobacco and carnauba wax increased. In the following table the percentages of the total value of Brazilian exports represented by the eight major export commodities are shown for 1939 and 1946:

	<u>Coffee</u>	<u>Raw Cotton</u>	<u>Cotton Textiles</u>	<u>Pine Wood</u>	<u>Coco Beans</u>	<u>Tobacco</u>	<u>Car-nauba Wax</u>	<u>Hides and Skins</u>	<u>Other</u>	<u>Total</u>
1939	39.8	20.6	0.5	1.6	4.0	1.7	2.1	4.4	25.3	100
1946	35.3	16.1	3.9	3.9	3.6	2.7	2.7	2.2	29.6	100

The combined value of exports of rice, preserved meats, rubber, leather, mandioca flour, castor seed and corn was less than 10% of the total in 1946.

The changes in the distribution of exports noted above are a result of changes in relative prices as well as in relative quantities. In the table, below, therefore, the 1946 volume exports for the major commodities are shown as a percentage of 1939:

	<u>Coffee</u>	<u>Raw Cotton</u>	<u>Cotton Textiles</u>	<u>Pine Wood</u>	<u>Coco Beans</u>	<u>Carnauba Wax</u>	<u>Hides and Skins</u>
$\frac{1946}{1939}$	94	109	212	154	99	100	65

The increasing importance of cotton textiles and pine wood in Brazil's foreign trade are strikingly brought out in the above table.

D. Composition: Imports:

The composition of Brazil's imports reflects her basically agricultural economy. More than half of her imports are manufactured goods, mainly of automotive and heavy manufacturing equipment; more than one-quarter are raw materials, chief of which are coal, metals and textile raw materials; something less than 20% are foodstuffs, of which wheat constituted about half before the war.

The major changes in the composition of imports between prewar and the immediate postwar years resulted from the large backlog of demand for capital equipment during the war years, the increasing industrialization of the country, the partially successful attempts to become self-sufficient in fuels, and the persisting world wide scarcities of goods imported in large volume before the war.

In the table shown below the shares of total imports represented by the eight major import groups are shown for the triennium, 1937-39, for 1946 and for the first four months of 1947:

	<u>Automo- biles</u>	<u>Petroleum Products</u>	<u>Iron & Steel Mfrs.</u>	<u>Mach- inery etc.</u>	<u>Paper and Products</u>	<u>Chemi- cals Pharma- ceuticals</u>	<u>Other Mfrs.</u>	<u>Coal etc.</u>	<u>Wheat</u>	<u>All Other</u>	<u>Total</u>
1937-39	5.2	6.6	8.6	20.9	2.2	4.9	6.5	4.7	10.0	30.4	100
1946	5.5	5.7	6.5	21.3	2.6	4.6	6.0	2.8	3.1	41.9	100
1947	7.9	4.8	6.0	23.4	2.0	3.5	na	2.9	3.2	na	100

Volume changes for the major imports are illustrated in the table below

(1937-39 = 100):

	<u>Automo- biles</u>	<u>Petroleum Products</u>	<u>Iron & Steel Mfrs.</u>	<u>Mach- inery etc.</u>	<u>Paper and Products</u>	<u>Chemi- cals Pharma- ceuticals</u>	<u>Other Mfrs.</u>	<u>Coal etc.</u>	<u>Wheat</u>	<u>All Other</u>	<u>Total</u>
<u>1946</u> <u>1939</u>	300	195	135	200		135	na	70	21	na	98

The increases in imports of automotive equipment, petroleum products, machinery, equipment and tools and of paper and its products and the substantial reduction in imports of coal have been remarkable. The reduction in wheat imports is misleading. In 1946 flour imports were largely substituted for imports of wheat.

Whether the immediate postwar trends in Brazil's foreign trade will continue will be examined below.

E. Direction of Trade.

Before the war Brazil was dependent on countries outside of the Western Hemisphere for a large share of her imports. Those countries also provided very

substantial markets for her exports. As a result of the war, trade with Europe and the Far East declined very substantially and that with the United States and other Western Hemisphere countries expanded. A notable revival of trade with Europe occurred almost immediately after the cessation of hostilities. The most important deterrent to the reestablishment of the prewar pattern of trade is the reduced ability of Europe and the Far East to supply Brazil with her needs and with U.S. dollars.

In the following table, the value of exports broken down by major destinations are compared for the years 1939 and 1946 (%):

	<u>U. S.</u>	<u>Argentina</u>	<u>Other Western Hemisphere</u>	<u>Germany</u>	<u>U. K.</u>	<u>Other Europe</u>	<u>All Other</u>
1938	34.3	4.5	4.1	19.1	8.8	26.3	2.9
1946	43.8	8.9	8.1	--	8.9	21.2	9.1

The most remarkable changes are the elimination of Germany, which before the war was second only to the United States as a market for Brazilian exports, and the increased shares of the United States and of Latin America.

Before the war, more than 50% of Brazil's imports came from Europe. Germany and the United States were the chief supplying countries. In 1946 more than 3/4 of Brazil's imports came from the Western Hemisphere.

The major sources of Brazilian imports are compared for 1938 and 1946 in the following table:

	<u>U. S.</u>	<u>Argentina</u>	<u>Other Western Hemisphere</u>	<u>Germany</u>	<u>U. K.</u>	<u>Other Europe</u>	<u>All Other</u>
1938	24	12	7	25	10	19	3
1946	58	8	10	--	8	na	na

F. Public Policy.

Rather close controls are exercised by public authorities in Brazil over both exports and imports. Export restrictions have been imposed upon rice, cotton,

textiles and other commodities for the purpose of ensuring adequate local supplies and of controlling inflation. As already stated very high duties have prevailed especially on imports of wheat and of manufactured goods in order to foster production in Brazil. A 40% increase in most rates of duty is about to be imposed, in order to compensate for the rise in prices which had rendered prewar tariffs relatively less important. Exchange controls strengthened in June of this year and to be discussed in the following chapter are said to have been quite effective since August.

G. The Future of Brazil's Foreign Trade.

The outlook of Brazil's exports for the next few years is bright. With the exception of cotton textiles, Brazil's major exports should find ready markets for at least three or four years. The major export problem facing Brazil is the widespread inconvertibility of currencies and the inability of Europe to resume immediately her prewar position as an exporter. For the next three years, Brazil's imports, especially of capital equipment, are likely to be very heavy. But after 1950, so-called essential imports are likely to play a relatively smaller role and the level of non-essential imports to depend on her foreign exchange availabilities.

The prospects of the coffee market are generally good. Present prices are about 10% below their peak in November, 1946. Brazilian producers won at least a temporary victory in a price struggle with American importers in the first half of this year. The world demand for coffee continues large. U.S. consumption has declined by about 15% since the war ended, but increased European consumption has more than compensated for that fall. Prices of "milds" exceed those of Brazilian coffees by well over the 10% considered normal before the war and some substitution, especially in the American market, of Brazilian for mild coffees in blends is a distinct possibility for the future.

Brazilian export prices for cotton are considerably below those of the United States. Markets for Brazilian cotton are likely to continue to enjoy the shelter afforded by the U.S. Government sponsored high prices for raw cotton. If Brazilian production can be maintained, an open question at the moment, the value of cotton exports should be quite large during the next three or four years.

The major depressing influence on exports of cotton textiles during the next three or four years is likely to be Governmental export restrictions. At present manufacturers are permitted to export only 20% of their production. World scarcities of cotton textiles should continue for at least two or three years. After 1950, the Brazilian textile industry is unlikely to be able to withstand the competition of other textile countries and will probably lose 50% or more of its present foreign market.

Exports of war-strategic materials have already nearly returned to prewar level. Foreign markets for most of the other Brazilian exports, particularly of foodstuffs, should continue good for several years.

Unless a very serious drop in world trade occurs exports during the foreseeable future should not fall below the equivalent of 900 million \$ U.S. In 1946, they amounted to 975.6 million \$ U.S., even though O.P.A. prices obtained in the United States during the greater part of the year.

The value of imports during the first half of last year was more than twice as great as during the corresponding period in 1946. As already indicated, however, Brazil's imports are now being restricted by exchange and import controls, and this policy will probably have to be continued for some time. Nevertheless, if the exchange position permits the prewar level of imports, per caput, and the absorption of the wartime backlog of demand (the equivalent of about 260 million \$ U.S.) annual imports through 1949 will probably amount to the equivalent of nearly 900 million \$ U.S., or very nearly the same as probable exports. The probability that import prices are more firm than export prices strengthens this conclusion.

After 1950, Brazil's import requirements to preserve her standard of living should decline considerably, both because the deferred war demand will be satisfied and because of increased internal production of cement, iron and steel, paper and other products. Accordingly, her economic ability to continue to have very favorable trade balances seems assured, although for political reasons she may have to yield to pressures for increased imports.

B. Foreign Public Debt

I. Introduction

Brazil's foreign debt record has been spotty, but at present her foreign debt status is good. Previous to 1921 Brazil's foreign debt was composed mainly of sterling: its large dollar component was introduced only during the decade 1921 to 1931. Between 1850 and 1920 the external debt increased from £4,574,000 to the equivalent of £151,353,000. At the end of 1938, the total Federal, state, and municipal external debt amounted to the equivalent of U.S. \$1,139 million; by the end of 1946 it had been reduced by redemption, conversion, and depreciation of the pound sterling and French franc to the equivalent of about U.S. \$620 million.

In addition, Eximbank loans of about U.S. \$89 million guaranteed by the Banco do Brasil are currently outstanding, and additional credits of U.S. \$28 million authorized by that institution have not yet been drawn upon. Brazil is furthermore indebted to the United States Government for U.S. \$80 million under a Stabilization Loan agreement and for lesser amounts on Lend-Lease and Surplus Property account.

The non-intergovernmental external debt was subject to several adjustments prior to 1930, because considerable segments of the state and municipal foreign debt were in chronic default. In 1931 and 1932 default occurred on all dollar issues, except the Sao Paulo Realization Loan of 1930, and on most of the sterling issues not already in default. In 1934 an adjustment of the foreign debt was attempted under the so-called "Aranha Plan" but this broke down in 1937. In 1943 a successful and apparently definitive arrangement was reached with representatives of the U.S. dollar and sterling bondholders, and in 1946 with the French franc bondholders. Settlement remains to be made only with the holders of florin bonds, the face value of which is the equivalent of only U.S. \$3.4 million.

The annual service charges on the Consolidated Public Debt amount to the equivalent of about U.S. \$32 million, and on the Eximbank debt to about \$10 million. In general, service charges on the Eximbank debt have been regularly met, though there has occasionally been some delay on some of the non-federal-government-guaranteed loans. Since 1943, service on the Consolidated Debt has been consistently met. Brazil is now negotiating with the United States Government for settlement of her outstanding indebtedness on account of Lend-Lease and Surplus Property Purchase, each of which accounts she hopes the U.S. Government will cancel. Annual service charges had previously been set at U.S. \$11.9 million and \$2 million, respectively, on these accounts. Negotiations are also under way for settlement of the U.S. Stabilization Loan, against which the equivalent of U.S. \$80 million of Brazil's gold has been pledged.

II. Adjustment of Sterling and Dollar Debt, 1943

In November of 1943 a complete revision of Brazil's foreign debt was arrived at by agreement with the Foreign Bondholders Protective Council Inc. of New York and with the Council of Foreign Bondholders of London.

The agreement provides for consolidation of the Federal, State and municipal debts and for resumption and settlement of the debt service, bondholders being offered a choice between two alternative plans, called A and B, and coupon arrears being settled on a discount basis in a total of \$6.3 million. Certain low-grade bonds in a special category called "Grade VIII" will be liquidated at a discount of about 88%.

Plan A provides for a reduction in interest to rates ranging from 1-7/8% to 3 1/2% (with an average of 2.49%) and for an extension of the maturity of the original bonds, the principal to be repaid remaining unchanged. Plan B establishes an average reduction of 37% in the original value of the bonds, compensated by cash payments of 29 cents on the dollar. A uniform rate of interest of 3.75% is established.

The responsibility for repayment under Plan A remains with the original issuer of the bonds, i.e., Federal, State, and local Governments, the Coffee Institute of Sao Paulo and the Banco do Estado de Sao Paulo. Foreign exchange will be provided by the competent monetary authorities, against deposits to be made in national currency, by the debtors. Under Plan B, the responsibility for debt service is assumed by the Federal Government, the amortization period covering 23 years.

At the expiration of the extended option period (June 30, 1946), 42% of the investors holding dollar bonds had chosen Plan A, 58% had chosen Plan B. Of the holders of sterling bonds 47% chose Plan A and 53% chose Plan B. The final combined percentage will probably be in the neighborhood of 42% for Plan A and 58% for Plan B.

The changes in Brazil's international indebtedness position in terms of dollar and sterling bonds between November, 1943, and December, 1946, are summarized below (in Pounds and dollars):

	<u>Nov. 1943</u>	<u>Dec. 1945</u>	<u>Dec. 1946</u>
Dollar Bonds	\$284,012,645	\$219,348,135	\$206,730,795
Sterling Bonds	£137,747,596	£111,002,794	£101,126,010

Source: Boletian do Conselho Tecnico, June-July 1947, p. 30.

Total remittances for debt payment in 1944 amounted to U.S. \$92.2 million and in 1945 to \$37.8 million (sterling converted at \$4.00 to the pound). In 1945 an internal Conversion Loan of 1.8 billion cruzeiros was authorized to provide funds for these extra payments (mostly in connection with the writing down of the face value of bonds under Plan B), but apparently the authorization has not yet been implemented. Data on total debt payments for 1946 are not available and it is presumed they approximated U.S. \$33 million. In 1947 rumors aired in the Chamber of Deputies declared that the Government had used dollars to purchase sterling for the purpose of buying in sterling bonds to an amount of upward of \$100 million. The amount was questioned by the Minister of Finance, but apparently the fact was not.

C. Gold and Foreign Exchange Holdings and Balance of Payments

I. Introduction

A series of very favorable trade balances which created favorable balances of payments during the war years and in 1946, resulted in large increases in Brazil's gold and foreign exchange reserves between 1939 and 1946. In 1947 Brazil is expected to have had a large unfavorable balance of payments, mainly as a result of her trade position vis-a-vis the U.S. This, coupled with the present inconvertibility of the bulk of the foreign exchange reserves, as distinguished from gold holdings, has created a serious U. S. dollar shortage, has drawn down the reserves, and has necessitated rigorous exchange controls. Unless large foreign credits become available, the balance of payments will probably continue to be unfavorable during the next two or three years and gold and exchange reserves will decline further. By 1950 or 1951, the balance of payments may again be favorable.

II. Gold and Foreign Exchange Holdings, 1939-1947

All of Brazil's gold (equivalent to U.S. \$354 million since the end of 1945) is held by the Government in the Banco do Brasil. The bulk of the foreign exchange reserves is owned by the Banco do Brasil. Gold and foreign exchange reserves (see table overleaf) increased from the equivalent of U.S. \$66.6 million (net) on December 31, 1939, to the equivalent of U.S. \$723 million (net) at the end of 1946, and declined to the equivalent of U.S. \$689 million (net) on November 30, 1947.

Analysis of the composition of Brazil's exchange holdings reveals a severe shortage of dollars and convertible exchange. At the end of August (the ^{last} date for which breakdown figures are available) gold holdings amounted to the equivalent of U.S. \$354^{million}, and net exchange held by the Banco do Brasil to the equivalent of U.S. \$304^{million}. Of the latter, about \$226 million represented inconvertible sterling; about \$12 million, transferable sterling; \$20 million, disposable dollars; and the

GOLD AND FOREIGN EXCHANGE HOLDINGS OF BRAZIL, 1939-1946
(U. S. dollar millions)

	<u>Official Gold</u>	<u>Foreign Exchange Holdings of the Banco do Brasil</u>			<u>Total Gold and Exchange (Net)</u>
		<u>Assets</u>	<u>Liabilities</u>	<u>Net</u>	
1939	39.5	27.1	.1	27.0	66.5
1940	50.7	6.2	1.2	5.0	55.7
1941	69.8	36.6	1.6	35.0	104.8
1942	114.8	147.5	20.9	126.6	241.4
1943	253.9	240.9	26.9	214.0	467.9
1944	329.1	301.0	32.1	268.9	598.0
1945	354.0	311.7	35.3	276.4	630.4
1946	354.2	405.9	36.6	369.3	723.5
<u>1947</u>					
Jan.	354.2	418.4	65.8	352.6	706.8
Feb.	354.2	378.6	31.4	347.2	701.4
Mar.	354.2	355.6	36.6	319.0	673.2
April	354.3	371.3	39.7	331.6	685.9
May	354.3	368.8	48.8	320.0	674.3
June	354.3	373.7	92.3	281.4	635.7
July	354.3	387.4	96.7	290.7	645.0
Aug.	354.3	402.4	97.9	304.5	658.8
Sept.	354.3	411.2	82.5	328.7	683.0
Oct.	354.3	397.8	75.2	322.6	676.9
Nov.	354.3	401.5	74.0	327.5	681.8

balance, assorted European currencies, of which little more than \$10 million was convertible. Thus, of total gold and exchange holdings of \$658 million, only about \$400 million was convertible to dollars.

Official Net Gold and Exchange Assets, August 31, 1947
(U.S. dollar million equivalents)

<u>Convertible</u>		
Gold	354	
Dollars	20	
Transferable sterling	12	
Other currencies	<u>12</u>	398
<u>Inconvertible or</u>		
<u>Non-Disposable</u>		
Sterling	226	
Other currencies (in-		
cluding blocked dollars)	<u>34</u>	<u>260</u>
Total		658

Against the gold and exchange holdings the following amounts, in gold or convertible currencies, were earmarked: \$37.5 million in gold and dollars as Brazil's contribution to the Monetary Fund; \$80 million in gold as collateral for a loan of like sum from the U. S. Stabilization Fund; about \$274 million as reserve against the currency (which by tradition must consist of gold and convertible exchange) - i.e., a total of about \$392 million in gold and convertible currencies.

With total holdings of gold and convertible currencies amounting to barely \$400 million at the end of August, it is clear that Brazil's operating margin was slender.

Margin of Freely Disposable Exchange, August 31, 1947
(U.S. dollar million equivalents)

Total gold and net convertible exchange holdings		\$398.0
<u>Less:</u> Liabilities against gold and convertible exchange holdings		
IMF	37.5	
U.S. Stabilization Fund	80.0	
Currency reserve	<u>274.3</u>	<u>391.8</u>
Freely disposable margin		7.2

Between the end of August and the end of November net exchange holdings of the Banco do Brasil increased by the equivalent of U.S. \$23 million, but how much, if any, of this increase consisted of convertible currencies is not known.

In connection with the \$80 million borrowing from the U. S. Stabilization Fund, it may be noted that neither have the official figures on gold holdings fallen in indication of gold earmarked as collateral for the loan, nor have exchange liabilities of the Banco do Brasil risen by the full amount of the borrowing. This may indicate either that the full amount of the borrowing has not been utilized, or that the operations involved in this borrowing are kept in a separate account. Pending further evidence, there is reason to believe that the latter alternative is, in fact, the case.

In connection with the currency reserve, there appears to be no legal reason why the inconvertible currencies could not be used as currency backing. The Government would need only to purchase them from the Banco do Brasil (the Government, as already indicated, does not own these reserves). In that event, the equivalent of nearly U. S. \$300 million would be freed for foreign trading. Some such action might have to be taken if the unfavorable balances of payments forecast below actually occur.

III. Balance of Payments

There is no reliable official balance of payments estimate for past years. The Brazilian Government is preparing a detailed balance of payments study for 1947, but the results will probably not be forthcoming soon. The invisible items in Brazil's balance of payments ordinarily show a fairly large deficit which must be compensated for by an export surplus. The foreign trade aspects of the balance of payments have already been discussed. Attention will here be confined to the so-called invisible trade items, except to note that at the end of November, 1947, there was an overall import surplus of about U.S. \$70 million. and that the import surplus with the U.S. was upward of \$250 million.

Payments: Capital service amounts to the equivalent of about U.S. \$100 million annually, of which about \$42 million in 1947 and \$32 million annually thereafter are scheduled for servicing Brazil's funded debt (the 1947 figure includes settlement of the French franc debt in an amount of U.S. \$10 million), slightly more than \$10 million are for servicing Eximbank loans, and nearly U.S. \$50 million for dividends, reserves, and administrative expenses abroad on account of foreign-owned firms in Brazil. In recent years foreign remittances of foreign and native residents in Brazil have amounted to about U.S. \$50 million annually. Tourist outlays probably average the equivalent of U.S. \$3 or \$4 million annually.

In 1946 and 1947, the Brazilian government made loans under payment agreements of better than the equivalent of U.S. \$100 million to Belgium, Britain, Finland, France and Czechoslovakia. Brazil's contribution to UNRRA amounted to \$30 million in 1946. Payments due on account of Lend-Lease amounted to \$12 million in 1946, and on account of U.S. Surplus Property Loans to \$8 million.

In some recent years outflows of capital in the form of private balances held abroad have been very large. Adequate information on capital movements from Brazil in 1947 are not available, nor can predictions be hazarded as to the likelihood of such movements during the next few years.

During 1947, a question was raised in the Congress whether the Government had sold dollars to an amount of U.S. \$100 million for the purchase of sterling at discounts to be used to purchase Brazilian government sterling bonds in London for repatriation or speculative purposes. A Government spokesman is said not to have denied the fact of such dollar sales, but to have set a top figure of U.S. \$20 million upon them. In the absence of further information, the occurrence of such sales up to an amount of U.S. \$20 million is included in the present calculations for 1947.

Of all the items listed above, only the capital service, the personal remittances and the tourist outlays (amounting in all to about U.S. \$150 million

annually), are likely to continue on the scale of 1946, if stringent exchange controls are exercised. Discussions are now being held with the United States Government to reduce the outstanding Lend-Lease and Surplus Property debts. Up to 1945, Brazil had paid U.S. \$35 million on Lend-Lease account and was to have paid annual installments of U.S. \$11.7 million in succeeding years. She has not yet paid her 1946 installment. Her total obligation on U.S. Surplus Property account amounts to only U.S. \$8 million. UNRRA has ceased. Extension of credit by the Brazilian Government to foreign purchasers will probably not be on a large scale in the immediate future. Brazil has no outstanding obligations to the U.S. Maritime Commission, the War Assets Administration, or the RFC.

Receipts: In 1946, Brazil received the equivalent of about U.S. \$7.9 million on account of U.S. Military expenditures, U.S. \$18 million for shipping and insurance service, U.S. \$3 million from tourists, perhaps U.S. \$3 or \$4 million in interest and dividends, and U.S. \$16.3 million in Eximbank credits, i.e., a total of about U.S. \$50 million.

Since 1946 U.S. military expenditures in Brazil have ceased. Lloyd Brasileiro has under construction 92.9 thousand gross tons of additional shipping which will increase its fleet by nearly 20%, but shipping rates are falling, and foreign competition, even in Brazilian waters, is increasing, so that shipping returns should not increase substantially. Tourist receipts will probably be in the order of U.S. \$5 million during the next few years. Interest and dividends from abroad will probably not increase significantly in the near future.

Eximbank disbursements in 1947 amounted to about U.S. \$20 million while about U.S. \$41 million of authorized credits remain to be disbursed. Negotiations are continuing for further loans.

For convenience and without any intent of attaching undue precision to the estimates, the annual rate of expected payments and receipts on invisible account

over the next couple of years may thus be summarized:

Annual Rate of Brazilian Invisible Payments and Receipts 1948-1950
(U. S. dollar millions)

<u>Payments</u>	
Foreign debt service	32
Eximbank loan service	10
Lend-Lease	12
Dividends, reserves, etc.	50
Personal remittances, and tourists	<u>50</u>
Total	154

<u>Receipts</u>	
Shipping and insurance	18
Eximbank	20
Interest and dividends	3
Tourists	<u>5</u>
Total	46

Information on inflows of private capital is fragmentary. The largest foreign investment interest in Brazil is held by British citizens, estimated at the equivalent of U.S. \$951 million in 1943. Capital ownership by U. S. citizens was estimated at \$335 million 1943 and has probably not increased significantly since then. German holdings and some Italian holdings have been nationalized. Swiss, Belgians, Czechs and Argentineans also have holdings. New capital from British and other European sources in the near future is unlikely. In fact, the Sao Paulo railroad and other British utility holdings have been sold by British owners to the Brazilian Government, and further sales are distinct possibilities. The major source of new private foreign investment is thus the United States. It is impossible at this time to predict even roughly its probable magnitude. Much will depend upon Brazil's offering private investors what they consider favorable treatment, especially in the matter of mining and petroleum legislation. In 1947, direct dollar investment was of the magnitude of U.S. \$35 million; in 1946, it amounted to about \$22 million.

For 1947 it has recently been estimated that Brazil had an unfavorable balance with the U.S. on all accounts of the magnitude of \$280 million, including, as

noted earlier, a negative trade balance of about \$250 million. Rough estimates of Brazil's dollar payments and receipts in 1947 and of the sources from which Brazil met the dollar deficit are given in the tables below.

Estimated Dollar Payments and Receipts, 1947
(U.S. dollar millions)

<u>Payments</u>			
Foreign Debt		12	
Eximbank service		10	
Dividends, interest, royalties		30	
Personal remittances and tourists		23	
Purchases of Brazilian sterling bonds		<u>20</u>	
	Total		95
<u>Receipts</u>			
Eximbank		20	
U.S. investment		35	
Shipping and insurance		5	
Interest, dividends and tourists		<u>5</u>	
	Total		65
Deficit on invisible and capital account		30	
Deficit on trade account		<u>250</u>	
	Total dollar deficit		280

Sources of Financing of Brazilian Dollar Deficit, 1947
(U.S. dollar millions)

U.S. Stabilization Fund		80	
Net reduction of official and private dollar holdings		65	
Conversion of sterling		50	
Net reduction of dollars on Argentina		45	
Withholdings of exchange for remittances of earnings; delayed collections; conversion of other currencies; and omissions)	<u>40</u>	280

The implications to be drawn from the above summary seem to be

- (a) that at the present time, Brazil has few, if any, available dollars, and
- (b) that Brazil has incurred a short-term indebtedness on dollar account to the extent of \$40 million in addition to the amount of the loan from the U. S. Stabilization Fund. If this is true, and in view of the inconvertible nature of her current foreign exchange reserves, a further lien is established against her gold holdings, and the necessity either of reducing the gold reserves against the currency or of making blocked currencies available for reserve pur-

poses becomes increasingly desirable. On the other hand, it is expected that the Marshall Plan will provide Brazil with dollars instead of inconvertible currencies to the extent of an estimated \$200 million, or so, in 1948.

IV. Conclusion

To sum up: Invisible payments by Brazil at the current rate amount to about U.S. \$150 million a year. Receipts on invisible account amount to about \$45 or \$50 million a year. For 1947, there is likely to be an overall import surplus in excess of U.S. \$50 million.

The Brazilian balance of payments is therefore likely to be unfavorable by as much as U.S. \$150 million during 1947, and by at least \$100 million annually in 1948 and 1949, unless exchange controls are exercised to reduce drastically even imports of capital equipment, or unless large amounts of new capital from the Eximbank, the International Bank, private investors, or all three are received. After 1949, the wartime backlog of essential import requirements should decline by the equivalent of from U.S. \$80 to \$100 million annually, and increased domestic industrial production should further reduce import needs, provided agricultural output keeps pace with the growth of Brazil's population and income.

In this connection, three events which took place in late 1947 and to which reference has been made in earlier sections, may again be noted. These are (a) a 5% exchange tax applicable to non-essential imports, (b) an increase of 40% in most tariff schedules, and (c) the proposal of prior-licensing requirements for all exports and imports. The first two of these will raise the price of non-essential imports, protect domestic manufactures, and therefore tend to reduce imports. The prior-licensing requirement would give the Government precise control over the types, quantities and sources of imports, as well as control over the destination of exports (i.e. the foreign currencies which the Government would permit to be imported). This measure appears to be aimed pri-

marily, through direct and indirect means, at the conservation of dollars and the restriction of imports of soft currencies, especially sterling. The three measures together, if skillfully used, should provide the Government with as great an armory of economic controls as it needs to balance its international payments. Political exigencies, however, may well be such during the next year or so that Brazil will probably have to continue to draw down her reserves, especially of gold, unless she has access to substantial credits abroad.