DEVELOPMENT and CRISIS in BRAZIL, 1930-1983
Luiz Carlos Bresser-Pereira
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Import-Substitution Industrialization

It was in 1930, or more precisely during the 1930s, that Brazil's development actually initiated its industrial revolution. The changes that began then, however, did not appear in a vacuum. Although it was only after 1930 that the stagnation of the Brazilian historical process began to be resolved by means of a great leap that broke the country's ties with its traditional, typically colonial base, there are clearly definable antecedents to this sudden surge of activity.

These antecedents can be found in the development of coffee cultivation in Brazil after the middle of the nineteenth century. The coffee cycle differs from that of sugar or gold. The fundamental difference, aside from the fact that the sugar and gold cycles took place during the more explicitly colonial period, is that the cultivation of coffee initiated the large scale use of wage labor rather than slave labor. The large coffee growers soon discovered that it was more economical to pay for labor, usually by means of a system of tenant farming, than to use slave labor. Thus remunerated labor began to arise outside the urban centers on a large scale, permitting the formation of an incipient domestic market. A break had been made with the traditional semifeudal Brazilian agricultural system, in which the *fazendas*[1] had constituted fairly self-sufficient centers, at least with respect to the consumption of the slaves and other laborers. Domestic commerce now began to develop in Brazil. The basic conditions for the establishment of a national industry oriented toward a domestic market were beginning to develop.

The fundamental importance of the appearance of a domestic market, even one not very well developed, lies in the fact that industrialization is possible only to the extent that this domestic market exists. The concurrent expansions in the cultivation and exportation of coffee and in wage labor constitute the basic cause of the emergence of this market in Brazil.

Massive immigration occurred simultaneously with the spread of coffee cultivation and the necessity for paid labor in the last half of the past century. The immigrants, with their great ambition and technical knowledge (which, even if it was limited, was probably superior to that of the traditional Brazilian population) came to be one of the bases for the takeoff of the Brazilian economy.

Some other economic antecedents of the Brazilian industrial revolution are (*a*) the development of the textile industry after the 1850s; (*b*) the industrial expansion associated with the figure of Mauá; (*c*) the installation of a system of railroad transportation, although it served only export demands rather than national economic integration; (*d*) the general installation of an economic infrastructure (not only railroads but ports, hydroelectric facilities, communications systems, etc.), made possible by the prosperity that came with coffee cultivation; (*e*) the still weak and speculative attempt to create a national industry that occurred right after the proclamation of the Republic with the *Encilhamento*,[2] and, especially; (*f*) the First World War, which made possible an extraordinary development of the emerging national industry.

Among the political and social aspects of the national revolution's antecedents are the emergence of a more active middle class during the last three decades of the nineteenth century; the creation of the national army, starting with the Paraguayan War, as an essentially middle-class organization (in contrast to the navy, with its aristocratic origins); the proclamation of the Republic, which permitted members of the middle class to take power from the Brazilian agrarian-commercial aristocracy for the few years until the election of Prudente de Morais; and the revolutions that rocked the First Republic in the 1920s, demonstrating the dissatisfaction that had spread among large numbers of the Brazilian people and that eventually led to the Revolution of 1930.

The Beginning of the Industrial Revolution: 1930–1939

The Brazilian industrial revolution had its beginnings during the 1930s because of the confluence of two major factors: the economic opportunity for industrial investments furnished, paradoxically, by the worldwide economic depression, and the Revolution of 1930.

The fundamental significance of the Revolution of 1930, which gave it such extraordinary importance in Brazil's economic, political, and social history, was that it drove from power the agrarian-commercial oligarchy that had dominated Brazil for four centuries, initially in conjunction with Portuguese colonial interests and, after independence, together with the commercial interests of the industrialized countries, particularly England. As in the case of the proclamation of the Republic in 1889, the Revolution of 1930 was above all a revolution of the middle class. However, in contrast to the first revolution, the one in 1930 had successful historical timing. Afterwards the Brazilian agrarian-commercial oligarchy was never able to count on even a portion of the power it had held for centuries.

The government established after 1930 identified itself with the goals of renovating the Brazilian economic and political situation. Confronted with the fierce opposition of the aristocracy and the traditional Brazilian middle class, it felt obligated (especially after the abortive Revolution of 1932 when these classes tried to regain power) to seek the support of the newly emerging classes: the urban proletariat, to which it appealed with extensive labor legislation; the new middle class, which continued to benefit with public employment; and the emerging class of industrial entrepreneurs, for whom the new government soon adopted a clearly industrializing policy. But because the government hesitated at that time to intervene directly in the economic sphere, this policy did not have very consequential effects. As will be seen later, the governmental actions that most benefited the Brazilian economy and its industrial development were taken by chance. Nevertheless, the simple fact that the government of the Revolution of 1930 favored industrialization, in contrast to the negativeness of previous governments, was highly significant. If one were to sum up all the small measures the government took in favor of industrialization at that time, culminating at the end of the decade with the construction of the great iron and steel works at Volta Redonda, it would be obvious that the Revolution of 1930 was essential to the beginning of the Brazilian national revolution. This statement implies no apologies for the government of Getúlio Vargas in its first phase (1930 to 1945), which was irrevocably tarnished by the dictatorship declared between 1937 and 1945. It is indisputable, however, that the Revolution of 1930 marked a new era in Brazilian history, establishing the necessary political conditions for the Brazilian industrial revolution.

The second fundamental factor underlying the Brazilian economy's takeoff is the unexpected and paradoxical appearance of an immense opportunity for industrial investment due to the worldwide depression of the 1930s. Had this not occurred, the Revolution of 1930 might possibly have been reversed by the agrarian-commercial aristocracy, and Brazil would once again have been dominated by its traditional economic activity. The Revolution of 1930 was characterized by the support of army officers of lower rank (*tenentismo*). This is less important as a revelation of military involvement *per se* than because the connection with the reformist middle class that formed the base of the army indicates a part of the motivation for the very successful industrialization policy whose major beneficiary was the emerging national industrial bourgeoisie.

Such a policy had a chance of success in Brazil in the midst of a world economic depression because of two fundamental factors: First, domestic purchasing power was maintained at a relatively constant level, despite the world depression that reduced Brazilian exports; and second, the prices of imported manufactured items rose radically because of exchange rate devaluation, so that the country's foreign purchasing power was reduced while domestic purchasing power was maintained.

Celso Furtado's description and analysis of how the level of demand remained constant in Brazil during the 1930s has already become classic. He observes that in this period of depression the classical method of defending the economy, regulation of exchange rates, although helpful, was insufficient. With the depression the price of coffee fell and our currency was devalued.

> The abrupt fall of the international price of coffee and the failure of the system of convertibility caused a drop in the external value of currency. This drop obviously was a great relief to the coffee-cultivating sector of the economy. The international price of coffee fell 60 percent. The peak of the exchange rate depreciation reached 40 percent. The majority of losses, however, were absorbed by the community in general through the high prices of imports.[3]

The fall in coffee prices permitted a 25 percent increase in the physical volume of exports. This increase, however, was far from sufficient to absorb the coffee production. Even with lowered prices, the producers continued to grow and harvest coffee until the mere cost of the harvest and subsequent activities was greater than the price of coffee. At this moment Brazil was facing economic chaos. The coffee growers quit harvesting coffee and the equilibrium of supply and demand for the product began to be reestablished. It thus became evident that "the exchange mechanism did not constitute an effective defense of the coffee economy under the exceptionally grave conditions created by the depression."[4]

It was imperative, then, to find another solution for the problem of unsold inventories that, because of the low price-elasticity of demand for the product, forced coffee prices down without a corresponding increase in sales. The solution adopted was that the government purchased and destroyed the coffee surplus. It was the only possible solution in view of the objective of defending the coffee economy by making the continued harvesting of coffee possible. "At first glance it seems absurd to harvest the product in order to destroy it,"[5] observes Furtado. But,

> to guarantee minimum sales prices was in reality to maintain the employment level in the export economy and, indirectly, in the productive

> sectors linked to the domestic market. A contraction of great proportions in the monetary income of the export sector was to be avoided, thereby proportionally reducing the effects of increased unemployment in other sectors of the economy. . . . What is important to take into account is that the value of the product destroyed was much less than the amount of income created. We were, in reality, building the famous pyramids Keynes would describe years later.[6]

In other words, Brazil was making an unproductive investment in goods that would later be burned. This, however, was better than doing nothing. The problem was not to make investments to increase production but to make them to maintain the level of employment, and consequently the level of aggregate demand. This type of unproductive investment is essential in times of depression or whenever there is a surplus with no outlet. It is obvious that it would be better if a productive investment could be found that would not only furnish employment but also lead to increased production and/or well-being. But solutions like this are not easily found. A capitalist economy is generally not flexible in this respect. This is why it can be said that such economies have achieved a great victory when they are able (as in fact they have done in the postwar period) to utilize their surplus in the arms race and in space exploration. This provides them with a powerful weapon against depressions and recessions. In Brazil, it was extremely beneficial that the government found so simple and easy a formula for making unproductive investments in an era of depression as to buy up the surplus coffee. It does not matter that in doing so the government did not intend to maintain the level of national aggregate demand but only to give a measure of support to the coffee growing sector, which was threatened with collapse. *The General Theory of Employment, Interest and Money* still had not been written. In this case, nonetheless, the Brazilian government was following Keynesian policy, permitting the level of aggregate demand to be maintained during the economic depression.

This simple maintenance of aggregate demand had a fundamental importance in the growth of an exceptional opportunity for industrial investments at the beginning of the 1930s because it was linked to another factor: The prices of imported manufactured products rose dramatically. In fact, between 1929 and 1934 the price in cruzeiros (or milreis) of a pound sterling went up almost 50 percent, despite the devaluation of the pound sterling in 1933. This devaluation of Brazilian money was directly related to the crisis in coffee, whose U.S. price fell from $.225 per pound in 1929 to $.08 per pound in 1931 because of the depression. In accordance with the low price-elasticity of demand for coffee, its exports grew very little: Between 1921 and 1930 8,371,920 tons were exported, in comparison with 8,801,263 tons during the following decade. The slight growth in the physical volume of exports, however, contrasted with the sharp decline in their value. Although Brazilian exports reached 805.8 million gold pounds during the 1920s, in the following decade they did not attain quite 44 percent of that total—that is, they equaled only 377 million gold pounds.[7]

This steep decline in Brazil's foreign purchasing power, at the same time that domestic purchasing power was being maintained by the policy that defended coffee, could only have resulted in an approximately 50 percent rise in the prices of manufactured products imported into Brazil. This fact is made even more significant because during the same period (1929 to 1934) domestic prices in Brazil generally not only had not risen but actually had fallen about 7 percent. Thus the importation of manufactured consumer goods became economically prohibitive, and a great opportunity opened up for national entrepreneurs to make highly profitable investments in the industrial sector.

This opportunity was taken advantage of. The idle capacity of the national enterprises was rapidly utilized. In March of 1931 the Vargas government, closely tied to the representatives of Brazilian industry at that time, prohibited the importation of machinery for all industries considered in a state of overproduction. This was seen as a protection especially for the textile industry, which was already well established in Brazil at the time. New investments were made in new sectors. Factories often began as workshops. The small capital necessary was in most cases raised within one family. With the reinvestment of profits, however, such factories later expanded. Although at first generally limited to consumer goods industries that required only simple equipment (food, health and beauty aids, perfume, pharmaceuticals, light metallurgy, etc.), the industries in time began to manufacture the equipment itself. In this way, by 1935 Brazilian industrial output had become 27 percent greater than in 1929, and 90 percent greater than in 1925.[8] Between 1920 and 1929 4,697 industrial establishments were created, compared to 12,232 during the succeeding decade.[9] Brazilian industrial development had been launched.

The Second World War: 1940–1945

After 1940 a new series of stimuli arose to condition Brazilian industrial development. The fundamental factor of the era was the Second World War. The inevitable question is: At what point did it constitute an obstacle or a stimulus to Brazilian industrial development? The most common reply is that the war was a powerful stimulus. This opinion is partly due to the cliché that wars benefit capitalist development. But, as Celso Furtado so well observed, "the policy followed during the war years was essentially identical to that adopted immediately after the depression."[10] Although the balance of payments created a strong pressure for lowering the exchange rate, the Brazilian government maintained it at a fixed level, refusing to allow the cruzeiro to be devalued. Again, this action was intended to protect the coffee sector by allowing it to maintain its cruzeiro income. But it also served to join together the interests of the coffee growers and the industries linked to the domestic market, because maintaining the coffee sector's income also maintained the demand for domestic products. In addition, Brazil's terms of trade improved by 18 percent between 1937 and 1945.[11] While the prices of exported products rose 116 percent during this period, in contrast to an 82 percent increase in the prices of imports, domestic Brazilian prices rose by only 97 percent.[12]

It appears, then, that the conditions of the 1930s were being repeated. Not only was domestic demand maintained by the fixed exchange rate policy of the federal government, but the intrinsic stimuli of the system itself grew. Foreign demand also grew, as is well illustrated by the fact that textile exports amounted to 13 percent of Brazilian exports in 1943. On the other hand, the supply of imported products suffered a severe blow from the total commitment of the industrialized countries' economies to the war effort. Thus again an opportunity arose for the realization of investments, and a new surge of Brazilian industrial development might have been expected.

This is not, however, what happened. The statement that the Second World War stimulated Brazil's industrial development is fundamentally an error. The U.S. economy doubtless received a strong impulse from the war. However, nothing justifies generalizing this statement to Brazil. What actually happened in Brazil during the war was a slowing in the tempo of industrial development. Although in the preceding five years Brazilian industrial output had grown by 43 percent, between 1940 and 1944 it grew only 30 percent. Including 1945, there was a growth of 37 percent during the war years, as against 49 percent in the six preceding years. And if industrial output did not present favorable indices during the war, the same can be said in relation to real product and real product per capita, which between 1940 and 1945 grew only 23 percent and 8 percent, respectively.[13]

This reduction in the developmental pace at a time when increasing domestic demand offered ample opportunity for industrial investments can be explained by a very simple fact: Brazil's industrial development was still almost totally dependent on imported equipment. Its capital goods industry was still only incipient. Faced with the war, the developed countries had been forced to reduce drastically their exports of industrial equipment as well as of manufactured items. Brazilian entrepreneurs were thus trapped by the practical impossibility of increasing their production to the extent that the market warranted. The limit of their expansion was often the full utilization of previously installed capacity. One example of this was the great development of the textile industry during this period. This traditional sector of the Brazilian economy, which had long operated at idle capacity, suddenly began to operate at full steam, producing beyond its normal capacity. Between 1940 and 1943 its capacity increased by 59 percent.[14] In 1945, when fabric exports had already begun to decline, textile factory machinery was being used an average of 14 hours a day.[15] Industrial development was thus possible only through the intensive use of existing equipment. The Brazilian economy still lacked a minimum of autonomy in order to develop without the aid of imported capital goods.

The Postwar Decade: 1946–1955

The war, however, left a heritage that facilitated Brazilian economic development in the following years. Great reserves in foreign exchange were saved up during the war because of the drastic reduction in imports. These resources were in great part squandered on the importation of nondurable consumer goods and the purchase of some European-owned public services when these countries, particularly England, refused to make payment in any other way. This irrational use of Brazilian resources reflects the economically liberal and politically conservative tendency of the government at that time. (I use the expression "liberal" in its classic sense and not in the North American one. I place "liberal" in opposition to "interventionist" in the economic sphere and to "authoritarian" in the political sphere, rather than to "conservative" as in the North American meaning.) The end of the war coincided with the fall of Getúlio Vargas. His government, although dictatorial, had given constant support to Brazilian development. The provisional government that followed, finding itself holding many foreign exchange credits, opened the doors to all types of imports.

Despite all the waste, however, the very necessary process of re-equipping national industry was begun. And with this began a period of great development for the Brazilian economy and for private industry. The average rate of growth of the real domestic product, which had been 4.7 percent between 1940 and 1945, went up to 7.3 percent in the following five years and still maintained a high average level of 5.7 percent per year between 1951 and 1955. During this decade the average annual growth was 6.5 percent and the total growth was 130 percent. Despite the high rate of population growth (during this period ap-

TABLE 2.1
Real Domestic Product and Industrial Production
(average annual growth rate by periods)

Period	Real Domestic Product (%)	Industrial Output (%)
1940-1945	4.7	6.2
1946-1950	7.3	8.9
1951-1955	5.7	8.1
1956-1961	6.0	11.0
1962-1965*	1.9	2.4

*Estimate for the first six months.

Source: Fundação Getúlio Vargas and CEPAL.

proximately 3 percent per year), the real domestic product per capita also showed great improvement. During the decade 1946–1955 it was 3.5 percent. In keeping with the term "Brazilian industrial revolution" for the period between 1930 and 1960, industrial development also received a great impulse after 1946, reinforcing industry's position as Brazil's dynamic economic sector. The average annual growth of industrial output, which had been 6.2 percent during the Second World War, was 8.9 percent between 1946 and 1950 and still maintained a rate of 8.1 percent in the following five years. The average increase in output between 1946 and 1955 was 8.5 percent per year, 2 percent more than that in the entire domestic product,[16] as Table 2.1 summarizes.

The decade immediately after the war was thus an era of economic prosperity. In addition to the foreign exchange credits that stimulated Brazilian economic development by permitting the importation, at a low price in cruzeiros, of equipment the national industry had so needed during the war, various other factors of major importance influenced the Brazilian economy and help to explain this prosperity.

In the first place, Brazil's terms of trade improved during this period. Between 1946 and 1955 there was an improvement of 151 percent. Considering the terms of trade in 1946 as an index of 100, in 1955 Brazil had an index of 251. I have not chosen these years especially to show these changes, but rather because they are the limits of the period being analyzed in this section. If we take the year of the lowest terms of trade in this decade, 1948, and compare it with that of the highest, 1954, there was an improvement of 204 percent.[17] A large increase in coffee prices was basically responsible for the change. In 1946 the average price of a sack of coffee was \$22.41; in 1955 it was \$61.62.[18] This improvement in the terms of trade is very important in explaining the acceleration of Brazilian industrialization, as it brought in foreign exchange credits that were necessary for development at a time when the country still had not reached a minimum level of autonomy with respect to the domestic production of equipment.

The importance of this improvement in the terms of trade becomes even stronger if considered in relation to the government's exchange policy at that time. In 1945 the Superintendency of Money and Credit (SUMOC), the forerunner of the Brazilian Central Bank, was created. After the fall of the Vargas government the new provisional government and later the Dutra government adopted a liberal exchange policy with ruinous consequences for the country. The official exchange market had already been abolished by Instruction 17 of the SUMOC. The open door policy then adopted resulted in the rapid exhaustion of commercial surplus abroad. In 1947, after a new failure of liberalism in the exchange policy, the government adopted a rigid system of import controls, including both a priority system and a fixed exchange rate.

This quota policy was of vital importance to Brazilian industrial development, despite the corruption of its administrative body, the Import-Export Department of the Bank of Brazil (CEXIM). For one thing, with the establishment of a priority system favoring the importation of machinery and raw materials, the importation of consumer goods became extremely difficult. Thus the domestic market for consumer goods was again reserved for national producers, who, in addition, were able to import machinery and raw materials at unrealistic exchange rates that overvalued the cruzeiro, making the price of imported equipment and raw materials ridiculously low. Instruction 70 of SUMOC modified this system, establishing a more flexible system of foreign exchange auctioning with various importation categories. This system, which would prevail with modifications until the end of the 1950s, maintained an exchange barrier to the importation of manufactured consumer goods at the same time as it guaranteed a relatively low exchange rate for imports necessary to Brazilian industry. Thus, from 1946 to 1955, and especially between 1947 and 1953, the Brazilian exchange system was transformed into a powerful stimulus to industrialization.

Also, by means of the governmental control of imports and exports, the improvement in the terms of trade was redistributed principally to the industrial sector, against the interests of the exporters, particularly the coffee exporters. This was the so-called exchange confiscation policy[19] permitting the redistribution of national income in favor of the government and the industrial sector, the modern sector of the economy in opposition to the traditional export sector. Since then "exchange confiscation," which has continued to prevail regardless of the ideological orientation of the government, has been a basic political issue. In any case, this policy played an important role in Brazilian industrial development.

Thus, industry developed greatly during the decade immediately after the Second World War. Total industrial output grew 122 percent between 1946 and 1955. It is important to note, however, that this growth did not take place equally in all the various industrial sectors. With the development process, the economic structure of the country was transformed. At the end of the war the light consumer industries had become established in Brazil. After this period the development of the more complex consumer goods industries, such as domestic electrical appliances, would begin. More emphasis would also be given to basic industries and to the manufacture of capital goods. Or, from another perspective, if one distinguishes "traditional" from "modern" industries the latter were developing more fully. Between 1948 and 1955, for example, total industrial output grew 87 percent. The output in traditional industrial sectors such as the food and textile industries grew 61 percent and 77 percent, respectively, both below the average, whereas the output of the metallurgical and chemical industries grew 172 percent and 608 percent, respectively.[20]

The great advance in the chemical industry was of course due to the development of the petroleum industry. Petrobrás was finally founded in 1953, after a long political battle in which the forces of the new Brazil and the old Brazil, of nationalism in full expansion and colonialism limited by a national inferiority complex, clashed. This enterprise, which played a fundamental role in Brazil's development, produced three times more during its first 3 years of operation than the total national output during the preceding 14 years and 7 months under the control of the National Petroleum Council.[21]

The development of the capital goods industry can be illustrated by the following data: Between 1947 and 1954 the output of capital goods grew 147 percent. Although imports grew 105 percent between 1947 and 1954 (largely because of improvements in the terms of trade), the share of domestically produced capital goods in relation to total investments was 54.2 percent in 1947 and rose to 72.9 percent in 1954.[22] The lower proportion of capital goods output in 1947 can in part be explained by the ease of importing equipment in the immediate postwar era. Even so, the growth of domestically produced capital goods from 54.2 percent to 72.9 percent at a time when imports more than doubled clearly demonstrates the development of the production goods industry in Brazil during that period.

The Consolidation of Industrial Development: 1956–1961

Thus the decade following the Second World War can be firmly established as a period of great development in Brazil. At the end of this period, however, Brazil found itself faced with three large threats to its development. First, inflation, which from 1939 to 1953 had shown an annual average rate of 11 percent, climbed to 26.2 percent in 1954.[23] Second, the Brazilian terms of trade, which had reached a high point in 1954, went into decline in the following years with the fall of international coffee prices. There was a 25 percent reduction in the terms of trade between 1954 and 1960.[24] Finally, national economic development was threatened by a crisis in the economic infrastructure.

All development up to this point had been accomplished without major planning, in reaction to external stimuli (fundamentally the exchange shortage that made it impossible to import manufactured consumer goods, and the improvement in the terms of trade) that combined with the maintainence and growth of domestic demand. This development had occurred at a very rapid pace. It was to be expected, therefore, that the infrastructural investments that had not accompanied this development would now become real bottlenecks for the economy. The railroad transportation sector was an archaic, debt-ridden system, poorly equipped, excessively bureaucratized, and still oriented toward the transportation of products from the interior to the export ports, without the capacity to attend to the necessities of the domestic market. In navigation the scene was also bleak, dominated by poorly equipped and over-bureaucratized state enterprises that were also in debt. In the energy-producing sector the foreign firms that dominated 80 percent of production were uninterested in making investments, given the low rates imposed by the government. In the iron and steel sector the basis of national production was still the Volta Redonda plant, whose capacity was far short of the country's needs. As if this were not enough, the growth rate of the real domestic product was 1.9 percent in 1956, resulting in a fall in per capita income, because of the reduced coffee harvest in that year.[25]

Nevertheless, the period from 1956 to 1961 was the golden period of national economic development. In this period the first phase of the Brazilian industrial revolution was consolidated, ending the economic takeoff. In support of this statement, Table 2.1 shows that the annual growth rate of the real domestic product reached 6 percent. More impressively, however, industrial output advanced at an average annual rate of 11 percent, almost double the rate of product growth. This extraordinary growth reached its high point in 1961, for afterwards the economy rapidly plunged into crisis, as Chapter 5 will show. Fundamental transformations had occurred in the economy by 1961, not only from the economic point of view but also from the political and social perspective, as Chapter 4 will show.

In the economic sphere, the basic structural transformation concerned the manufacturing industry's growing share in the gross domestic product (GDP). In 1950 that share was 20 percent; in 1955 it had increased to 22.6 percent, showing a 13 percent increase. In the following five years, however, the manufacturing industry's share in the GDP rose to 27.5 percent, an increase of 21 percent.[26]

In this period the fundamental economic phenomenon was the establishment of a powerful automotive industry in Brazil. Starting at practically zero in 1955, in 1960 Brazil produced 133,078 vehicles with a national content of over 90 percent. The importance of this industry is fundamental to the explanation of Brazilian development in this period, not only because of the savings in foreign exchange that it created, but especially because of the external economies the expanding enterprises brought with them. The presence of great automotive factories in Brazil meant not only wages and profits for their employees and stockholders, but also a huge increase in employment and investment opportunities for the auto parts industry, for basic industry, for dealerships, etc. Thus, the fact that profits from these enterprises would go to foreign stockholders was of little significance in comparison with the stimulus to economic development within Brazil.

But why all this development, why this extraordinary expansion at a time when, as has been shown above, conditions appeared to be so unfavorable?

Government Policy

The basic answer lies in the government of that epoch. The government of Juscelino Kubitschek began on January 31, 1956. During the following five years Brazil's government was transformed, for the first time in its history, into a deliberate and effective instrument of Brazilian industrial development. Before the Revolution of 1930 the governments had been simply representatives of the Brazilian agrarian-commercial oligarchy, whose attitudes toward industrialization ranged from indifference to open hostility. This naturally changed with the Revolution of 1930, particularly during the two terms of Getúlio Vargas. Especially during his second term, a serious attempt was made to plan the advance of Brazilian industrial development. But it was only with the government of Juscelino Kubitschek that the Brazilian government was transformed into a reasonably efficient instrument for the nation's development.

Three factors explain this positive action by the government. First, it was elected by the same political forces that had been in power since 1930. And these forces, though often contradictory, could generally be defined as nationalistic, industrializing, and moderately interventionist. It was to be expected that the new government would be decidedly in favor of Brazilian industrial development and that the political climate would be favorable to this policy.

This reason alone, however, would be insufficient to explain the situation. Juscelino Kubitschek's personality must also be taken into consideration. History is obviously not merely a record of the work of political and military leaders, but it cannot be disputed that leaders with strong personalities leave their mark on history. This is the case with Kubitschek. He perceived the opportune historical moment through which the country was passing and guided his government along two major lines: forced industrialization at full speed and, more importantly, confidence in the potential of Brazil and its people. His industrialism, the extraordinary support that he gave to Brazilian industrialization, often proceeded despite the industrialists; his unlimited optimism was a direct negation of the colonial inferiority complex, particularly in relation to people of Anglo-Saxon origin, that was then widespread in Brazil.

Finally, the third explanation of the positive role undertaken by the government in regard to Brazilian economic development between 1956 and 1961 is that the new president surrounded himself with a team of technocrats, particularly economists, who appeared in Brazil after the Second World War, in the Getúlio Vargas Foundation, SUMOC, The Bank of Brazil, and the Ministry of the Treasury. This network of technocrats, many of them foreign-educated and under the influence of CEPAL [UN Economic Commission for Latin America], was a new factor in Brazil. The development of the science of economics with even a minimum of autonomy and authenticity was also a new phenomenon in Brazil. During the second half of the 1950s this group of economists, which saw itself as a true bureaucratic class, was in a position to assume increasing control of the national economy and to plan for its development. In addition to the technical capacity of the individual members, the group also had available to it the national accounting system, essential for its planning tasks, that had been developed by the National Income Team of the Getúlio Vargas Foundation after 1947.

In 1955 the president-elect was aware of the existence of this group and its potential. He assigned to it the job of elaborating his *Target Plan* and later gave it many responsibilities in key sectors of the country's economy. It should be pointed out that this group, which was certainly not homogeneous, as the many serious disagreements among its members demonstrated, was characterized above all else by technical competence, and by the dominance of the complex science of economics. This, together with its being a truly bureaucratic group, holding positions within the state and in semipublic enterprises, permitted it to remain in power independent of governments and their political orientations. Under the political direction of the president, to whom its members served as consultants rather than determining a final economic policy, as occurred after the Revolution of 1964, this group constituted a major factor in Brazil's development.

For these reasons the federal government, despite its many limitations, despite the make-work heritage of the semicolonial Brazilian government and the consequent inefficiency of its traditional sectors, was able to take decisive action to promote Brazilian economic development during the second half of the 1950s. The stimulus furnished by industrialization, creating conditions favorable to national and foreign private investment, together with the growth of governmental investments, forms the basic explanation for the extraordinary development that Brazil underwent in this period.

It should be noted that the creation of conditions favorable to private industrial development developed not only from the economic, but also from the political order. Kubitschek's great political ability allowed his government to be one of relative tranquility, despite the conflicting interests of various socioeconomic groups. This tranquility was possible only because of the president's ability to compromise and mediate between these groups, and because he had achieved a high degree of unity among the Brazilian people in support of a particularly fascinating ideology that essentially was created by him and died out (or at least lost vigor) with him—that is, developmentalism.

Foreign Capital

A second reason for Brazil's industrial development during this period, although of less importance than the first, was doubtless also influential: the great influx of foreign capital. Actually, this influx was a further result of the government's economic policy during this period. The federal government gave incentives to the entrance of direct foreign investment in Instruction 113 of SUMOC, decreed by the transitional government that succeeded Getúlio Vargas's suicide. This government went so far as to discriminate against national enterprises in favor of foreign ones through major exchange, tariff, fiscal, and credit incentives that the government furnished for the installation of the automotive, shipbuilding, and heavy equipment industries.

It is difficult to see how direct foreign capital investments can constitute an essential condition, much less a basic cause, of a country's development. Indeed, depending on the circumstances, direct foreign investments can become a cause of underdevelopment. It is indisputable that, where certain factors converge, foreign investment can inhibit development. Specifically, direct foreign investments may be involved with minerals, commerce, agriculture, or public services, where the multiplier effects are generally lower. The economy may be so underdeveloped that foreign investment becomes an isolated cyst within a traditional economic sector, in such a way that the multiplier effects of the investments are paralyzed by the nonexistence of national suppliers (of equipment, parts, semifinished products, and even certain primary materials) and of national skilled labor. The government, which at least receives tax income, may be merely representative of a totally agrarian oligarchy, detached from the country's industrial development, which spends its resources on foreign trips and imported consumer goods. The products produced may be intended exclusively for export, given the lack of a reasonably developed domestic market. If these factors converge, as is common in highly underdeveloped economies that still have not begun the industrialization process, then foreign investments will have negative effects on the development of the country.

Even if investments are made in the manufacturing sector, where there are great multiplier effects, unless capital is scarce in the sector involved, foreign investment may be prejudicial to the country because of the future burden of remitting profits. Scarcity of capital is not an absolute given in underdeveloped countries. Especially in sectors where the necessary economic investment is small or even medium-sized, and great amounts of capital are not necessary to organize an efficient enterprise, capital generally is not scarce. On the contrary, it is abundant. For example, the Brazilian pharmaceutical industry was denationalized not because of a scarcity of national capital but because of the technical superiority (defended by patents) of foreign laboratories.

However, if foreign investments are made in a country with a certain degree of development and a reasonable domestic market, in certain large-scale sectors where capital is truly scarce, and if external economies are strong, these investments can become a positive factor in the country's economic development.

This was what occurred in Brazil, especially during the second half of the 1950s. Historically the aim of foreign capital in Brazil, at first English and later North American, was to hinder the industrial development of Brazil in order to preserve it as a market for exported manufactured products. Thus foreign investments in Brazil were especially channeled into public services, transportation (to facilitate the export of primary products), and commerce. After the 1950s, however, and particularly in the period we are analyzing, foreign enterprises exporting

TABLE 2.2
Direct Foreign Capital Movement in Brazil
(millions of dollars)

Period	Investments	Profit Remittance	Balance
1947-1953	97	327	-230
1954-1961	721	269	452

Source: SUMOC.

manufactured products to Brazil were forced to change their policy. With the rise of national enterprises and the institution of exchange and tariff barriers to the entry of their products into Brazil, they faced the alternatives of either making large industrial investments in Brazil or losing the Brazilian market. Obviously they have opted for the first solution. Together with the governmental stimuli already mentioned, this choice led to enormous foreign investment in Brazil, as can be seen in Table 2.2. The balance between profits entering and leaving the country, which traditionally had been negative in Brazil, underwent a sudden change. Not only the automotive industry but a number of other industries characterized by scarcity of capital and the strength of the multiplier effect received these investments, which, propagated through the rest of the Brazilian economy, became an undeniable contribution to the economic development of the period.

Thus Brazilian industrial development was consolidated between 1956 and 1961, impelled decisively by the industrializing policy of the government, and seconded by the substantial inflow of foreign capital into the manufacturing sector. The rise of the automotive industry was the dominant economic event of the period, and at the same time furnished the country with a perfect demonstration of the reasons for the rapid industrialization that occurred in this period: The automotive industry was above all the fruit of the government's economic policy, exercised through the Executive Committee for the Automotive Industry (GEIA). But it was also the result of foreign investments that had been stimulated by governmental policy.

It can be definitively stated that Brazilian industrial development was consolidated in that five-year period, because after that extraordinary surge of industrial growth, opposition to industrialization in Brazil, and fundamental doubts about its possibility, disappeared. The belief in

Brazil's agricultural vocation had lost all substance. But, beyond social values, there are other reasons more objective, or at least more quantifiable. The most important of these, aside from the installation of the automotive industry and the average industrial growth rate, which reached 11 percent per year at that time, was the great development of the capital goods industry. Brazil had just attained a degree of overall self-sufficiency; its import coefficient (relation of imports to the gross domestic product) was only 5.7 percent in 1960.[27] It now began to become independent in a very fundamental sector, that of equipment production. According to a CEPAL study,[28] the development of the machine tool industry during this period was extraordinary, reaching a rate of 14.7 percent per year between 1955 and 1961. This development was further illustrated by a 1962 study that found that 55 percent of all units in production were less than ten years old. On the other hand, the proportion of imports in the supply of equipment, which was 52.7 percent in 1949, fell to 32.8 percent in 1958.[29] In other words, in 1958, 67.2 percent (by value in cruzeiros) of equipment for the industrialization of the country was made by Brazilian national industry.

Generally it can be said that this was the period of the development of the automotive industry (the production of the transportation materials industry grew 700 percent between 1956 and 1961), of the chemical industry (106 percent growth), of the machine tool industry (125 percent growth), of the metallurgical industry (78 percent growth), and of some basic industries such as petroleum, aluminum, and lead.[30] At the end of this period Brazil not only was practically self-sufficient in regard to light and heavy consumer goods, but also had made enormous progress in basic industry and industrial equipment.

After a somewhat superficial analysis, it might be claimed that this fact, together with the nation's gradual fall into crisis in 1962, marks 1961 as the year that consolidated Brazil's industrial development but also as the end point of the industrial revolution. Brazilian economic development, although continuously subjected to the crises of neocapitalistic systems, appeared to have already become automatic, necessary, and independent. It can be defined as automatic because a system with a capitalist base (rather than a system with a traditional base) had been consolidated in Brazil, and reinvestment of profits in search of more profits had become institutionalized. It can be considered necessary because capitalist development had taken the form of ample industrial growth (and not merely trade), and reinvestment had become not simply advantageous but necessary to the system itself, a condition of survival for enterprises in an era of competition and technological development. It was independent, or rather, relatively independent, because the necessary equipment for the continuance of industrial development was already for the most part being produced in Brazil.

It will be seen in a later chapter of this book, however, that this analysis is not correct, because it tries to make a simple analogy between the industrial revolution of the countries that are already industrialized today and the industrialization that took place in Brazil between 1930 and 1961. In fact, this was only the first phase of Brazil's industrial revolution.

Characteristics of the Development Model

Between 1930 and 1961 Brazil's economic, political, and social structures were transformed, setting the stage for a national industrial revolution. Before moving to an analysis of social and political development in the next chapters, we can express this economic development in a model, that is, an abstract schema where only the most fundamental characteristics appear, establishing cause-and-effect relationships but also circular relationships, because many of the phenomena are simultaneously cause and effect and thus occur as circular patterns.

First, it is necessary to present and examine in isolation each of the fundamental characteristics of Brazilian economic development in this period of industrial revolution. Between 1940 and 1961 Brazil's GDP grew 232 percent, more than tripling. More significant, however, is the fact that in this period the gross domestic product per capita grew 86 percent.[31] Therefore there was a full process of economic development. The following sections outline some of its fundamental characteristics.

Industrialization

The dynamic sector of Brazilian economic development was industry. Between 1930 and 1961 Brazilian industrial output grew by 683 percent. Taking the period between 1940 and 1961, the growth of industrial output was 479 percent, while the growth of gross domestic product was only 232 percent.[32] In a period of 22 years Brazilian industrial output grew almost six times, and the developmental tempo of this sector was almost double that of the economy as a whole.

Import Substitution

Fundamentally, all of the Brazilian industrial development during this period occurred through import substitution. It was, as a matter of fact, the only alternative for Brazil, given our limited possibilities to increase exports. During its industrial revolution Brazil focused on its own needs. Industrialization benefited from the existing domestic market for imported industrial products that could be replaced by nationally produced goods. Thus there was a drastic reduction in the import coefficient, which fell from 12.6 percent in 1950–54 to 8.6 percent in 1955–61.[33] This shows that, as income grew, imports grew proportionally less, as they were being replaced by national production. The industrial entrepreneurs of this time had little difficulty deciding in which sector to invest, which products to import. The necessary market research was available, so that one could easily decide where to invest on the basis of previous importation.

Limitation of Import Capacity

Brazil's industrialization occurred basically through import substitution because its import capacity was limited. This limitation resulted in turn from diverse factors. During the 1930s the basic causes were the worldwide economic depression, the decline in Brazilian exports, and particularly the deterioration of the terms of trade brought about by the low international price of coffee. In the first half of the 1940s the war limited import possibilities. For the 16 years following the end of the Second World War the inability to expand exports was the principal limit on import capacity. Using 1953 prices as a constant, in 1947 Brazil exported $1,961,000 and in 1961, $1,976,000.[34] While the gross domestic product during this period was growing 126 percent, the level of exports remained the same. It therefore was necessary to turn to the domestic market, producing in Brazil what could not be imported, and thus replacing imports. It is true that, because of a general improvement in the terms of trade (which from a low level in 1947 rose 186 percent until 1954 and thereafter fell 25 percent until 1961) and the growth of foreign debt, the limitation of import capacity was not as strong as was the stagnation of exports. But the pressure on import capacity was sufficient to become one of the basic factors creating industrial investment opportunities in Brazil after 1947.

Rise of an Industrial Entrepreneur Class

A powerful class or group of industrial entrepreneurs arose in Brazil during these three decades of industrial revolution. An industrial revolution along capitalist lines can take place only when a group of men with entrepreneurial spirit arises, with innovative abilities, the possibility of commanding the investment process, and a willingness to take risks. In the twentieth century Brazil was one of the few countries where a class of industrial capitalist entrepreneurs emerged, promoting the sudden takeoff of development at this time.

In a previously published study,[35] I found that Brazilian entrepreneurs, or rather, São Paulo entrepreneurs, were generally immigrants themselves (50 percent), or the children or grandchildren of immigrants. Only 16 percent of these entrepreneurs were of Brazilian origin, meaning that their parents or grandparents were Brazilian. The great majority of them were also of middle-class origin. The study established several criteria for grouping entrepreneurs by social class, taking the childhood or adolescent years and considering the father's occupation, the family economic situation, the connection or lack thereof with large oldtime *fazenda* owners and exporters, the father's education, the entrepreneur's education, the family's ethnic background, and the entrepreneur's age of first employment. According to these criteria, 57.8 percent of the São Paulo industrial entrepreneurs were from the middle class (upper, middle, or lower), 21.6 percent from the lower upper class of wealthy but not traditional families, 16.7 percent from the lower class, and only 3.9 percent from the upper upper class, the Brazilian aristocracy. The Brazilian industrial revolution was therefore carried out mainly by immigrant entrepreneurs, or children and grandchildren of immigrants, of middle-class origin. An understanding of this fact is basic to understanding their economic, social, and political behavior, and the country's development process.

High Marginal Capital-Output Ratio

The high marginal capital-output ratio, or the high productivity of investments made in Brazil, facilitated the economic development of the country extraordinarily. According to data from the Fundação Getúlio Vargas for the 1947–1961 period, there was a relatively modest average annual rate of gross capital formation (16.6 percent of the Gross National Product) and a rate of net investment (excluding depreciation) of only 11.6 percent. Nevertheless, during this period there was an annual average output growth rate of 5.8 percent, which made the marginal relationship of output to capital 0.5 percent.[36] For each additional unit of capital (excluding depreciation, the portion of capital intended to replace worn-out equipment) production grew half a unit. This very favorable marginal relationship of output to capital

> could be attributed to the extensive character of agricultural production; the concentration of investments in the manufacturing industry, above all in industrial lines with low capital-output ratios (or high output to capital ratio); the relatively small proportion of investments in housing and certain public service utilities; and, finally, the recording of imported equipment at subsidized exchange rates.[37]

In other words, investment in Brazil was channeled into the sectors offering the highest and most rapid return on investment, sectors in which a relatively small investment allowed a large increase in production, either directly or through the realization of external economies. It is clear, however, that this favorable factor would have to be compensated for in later periods when it would become imperative to allot a major proportion of investment to infrastructure and housing, which involve lower capital-output ratios. (See Chapter 5.)

Increasing Government Intervention

Government intervention is a characteristic of Brazilian economic development that is often spoken of in a derogatory way. Pure liberal ideology automatically condemns government intervention in the economy. However, liberalism has been dead and buried as an economic practice for many years. It exists only as an ideology. Yet even as an ideology it does not have the requirements for long-term survival. Increased state control, not necessarily by means of total dominance of the economy or abolition of private ownership of the means of production, but through increasing participation in national investment and production, is part of capitalist development throughout the world. Governments not only play a stronger role in the economy, planning development, setting fiscal and credit incentives and penalties for private investments, and controlling credit, but also are daily furnishing a larger part of necessary investments. In France, for example, more than 50 percent of investments are made by the government and by enterprises under governmental control. In Brazil,

> faced with structural modifications in the economy, rapid urbanization, and growth of heavy industry, it was perfectly natural that investments in infrastructure would increase in relative terms, necessitating stronger governmental action, both in the rendering of services and the creation of capital, and greater participation of the public sector in total expenditures, as has occurred in all countries in the process of rapid industrialization.[38]

The public sector's share in total expenditures in Brazil went from 17.1 percent in 1947 to 23.9 percent in 1956 and 25.9 percent in 1960. After 1956, when the federal government became a deliberate and very successful agent of economic development, the increase in the government's share in the Brazilian economy was due exclusively to increased investments (which rose from 3.3 percent of total expenditures in 1956 to 5.7 percent in 1960) rather than to any increases in public consumption, transfers or governmental subsidies, or others areas of public outlay.[39]

This extraordinary growth in public investments can be better illustrated with the following statistics: In 1956 the public sector, including government enterprises, accounted for only 28.2 percent of total investment, of the gross formation of capital in the country. In 1960 this percentage had reached 48.3.[40] (This percentage continued to grow so that in 1964, 60 percent of investment was made by the public sector.[41]) Thus the public sector was transformed in such a way that it became responsible for a growing portion of the strategic factor in development, that is, investment in the most dynamic sector of the economy. Increasingly the government began not only to define economic policy through economic planning, but also to execute this policy through large investments in basic industry, transportation, energy, regional development, the exploitation of natural resources, and education:

> The growing participation of the government as allocator of the country's disposable resources ought to be understood as a consequence of the very conditions of our present development, based upon structural modifications in the demand for goods and services. The driving force of this development is far from being only the entrepreneur, as in Schumpeter's interpretation of economic development. For the majority of underdeveloped countries, the development process seems in reality to be a social, national, and nationalistic process. To a greater or lesser degree, the government is its most conspicuous and active agent, and in the majority of cases the government is the bearer of intensely felt popular demands. A general desire for higher standards of living can be felt behind these demands.[42]

Moreover, increasing state control is associated with the very process of development. In the United States the share of public expenditures in the Gross National Product was 2.5 percent in 1880 and grew to 19.8 percent in 1957; in France it was 14 percent in 1913 and 32.3 percent in 1957; in England there was an increase from 8.9 percent in 1890 to 36.6 percent in 1955.[43] The same process occurred in Brazil. In Brazil, however, unlike the former countries, the growth in tax income was not sufficient to meet governmental expenditures, creating one of the principal causes of inflation.

Inflation

Inflation has been one of the constant factors in Brazilian development. Between 1930 and 1960 prices rose 3,195 percent. During the 1940s the annual rate of inflation in Brazil was around 10 percent, in the 1950s around 20 percent, except for 1959 when the cost of living in Guanabara rose by 52 percent. During the 1960s inflation reached an annual average of more than 50 percent.

As long as inflation stayed at reasonable levels, that is, as long as it was limited to about 20 percent per year, it was doubtless a more positive than negative factor in the country's economic development.

Certainly it would have been preferable to have development without inflation, and this theoretically would have been possible. But for Brazil, an underdeveloped country undergoing a very rapid industrialization, inflationary development was virtually the only alternative. The choice was either development with inflation or price stability with stagnation. Inflation was an escape valve for the country's development, making possible the financing of the increased governmental expenditures and investments discussed above.

There are two schools of thinkers seeking to explain the Brazilian inflationary process: the structuralists, who attribute inflation to the inelasticity of supply in certain sectors of the economy, especially agricultural goods for domestic consumption and imports; and the monetarists, who attribute inflation to governmental deficits and their being financed through new issues of money. When inflation is around 10 percent or even 20 percent a year, the structuralist reasoning, especially in regard to lack of import capacity, explains a considerable portion of Brazilian inflation. However, it is not a totally satisfactory explanation even for this situation.

One of the basic points of structuralist theory is that, in the words of the *Three-Year Plan*, "the joint influence of the indicated factors—the intense increase in demand for primary products consequent upon rapid industrialization, and the relative inflexibility of the primary sector—results in a greater rise in prices of agricultural products than in prices of industrial products."[44] In order to back up this thesis the 1960 plan proposed price deflators of 680 and 426.6, respectively, for agricultural products for the domestic market and for industrial products, using 1949 prices as an index of 100. This deflator, however, is not worthy of credit. According to *PAEG* [Government Program of Economic Action], the wholesale price of agricultural products rose from a base of 100 in 1952 to 411 in 1960, in contrast to 520 for the prices of industrial products.[45] Thus there are obvious contradictions between the two indexes, the first derived from the national accounts published by the Fundação Getúlio Vargas and the latter based on indexes 46 and 49 of *Conjuntura Econômica*. This contradiction has been noted by Antônio Delfim Netto, who, after a thorough analysis, concluded that

> there is possibly an error in the deflator of industrial income, an error that leads to the underestimation of price increases after 1954 . . . so that until it is shown how these results were obtained, it seems legitimate to question these prices as much as the diagnosis (which we think incorrect) that maintains that "the relation of exchange prices is increasingly favorable to agriculture, all told, throughout this whole period." [Delfim Netto is quoting from the *Three-Year Plan*.][46]

In these terms the limitation of import capacity supports the structuralist theory. But this element alone evidently is insufficient to explain the Brazilian inflationary process. Must one then concur with monetarist theory? This is the first impression one receives from the major Brazilian work to date on inflation, *Aspectos da Inflação Brasileira e suas perspectivas para 1965*.[47] The authors state that "there are four variable explanations of Brazilian inflation: the deficits in the public sector and the method of financing them; cost pressures derived from wage readjustments; cost pressures resulting from exchange devaluations; and the pressures derived from the private sector of the economy."[48] All these causes are interrelated. The inflationary process can begin through any of the four factors, but "once begun it is able to stimulate its own perpetuation and acceleration."[49]

The inflationary process can begin with deficits financed mainly by issuing new currency; with wage increases (cost inflation) higher than the rate of domestic monetary devaluation; with pressures from the private sector, either aiming to obtain more credits or seeking to reduce liquidity and consequently augment the quick profits of price increases for real goods; or, finally, with foreign exchange devaluation. There is a structural component involved only in this last factor, because increases in the foreign exchange rate can be explained by limitations on the growth of exports. Using these four variables as a base, the authors worked out an equation that allowed them to arrive at a determination coefficient of 92.7, i.e., an equation whose variables explained 92.7 percent of the fluctuations in the annual rate of inflation for the period from 1945 to 1963. Beyond this, they were able to use their model with 1963 figures to predict the 1964 inflation rate. They predicted an increase of 82 percent, and the actual rate turned out to be 87 percent.[50] Apparently, monetarist theory prevailed in this study.

However, a more careful reading of the text yields another interpretation. In their analysis of the two theories that explain inflation, the authors very aptly point out that "the major divergence between the two explanations is in the economic implications that arise from the diagnoses. In the structuralist view, inflation is an almost normal phenomenon that occurs with the economic development process . . . according to the monetarist explanation, inflation has nothing to do with development, but has to be eliminated because of the distortions it provokes in the system."[51]

Therefore, although they never arrive at the exaggerated view that considers inflation a necessary condition of development, the authors are far from condemning inflation totally and never naively attribute it to the irresponsibility of those in power, as many proponents of monetarist theory have claimed. They recognize the fundamental role of the government in the creation of forced savings and in the promotion of economic development, not only through its definition of economic policy but also through its investments.

> From an examination of conditions inherent in the development of the presently economically backwards nations, it can be seen that it is unlikely that progress could gain momentum by the unilateral action of a class of Schumpeterian entrepreneurs. The conflict between consumption now and more consumption in the future makes the attempt to accumulate much capital result in inflationary pressures sufficiently strong to inhibit the entire process. The impulse for industrialization, in these terms, comes to be one of the ultimate aims of the government. The political decision makers begin, necessarily, to be directly interested in and in great part responsible for the performance of the economic system.[52]

In other words, the government plays a fundamental role in economic development. Institutional barriers of various types notwithstanding, entrepreneurs' pressures for higher profits, workers' pressure for higher wages as a result of the so-called demonstration effect (imitating the consumer standards of the industrialized countries), demographic pressure, the assimilation of production techniques inappropriate to underdeveloped countries, and the aforementioned behavior of international markets—all these factors push the economy toward inflation.[53]

Theoretically, the solution is for the government to increase taxes as a result of its increased responsibilities. This is what developed countries have done. There is a clear correlation between the level of a country's development and its tax burden in relation to gross domestic product. The greater the development, the greater the tax burden. In 1960, taxation as a percentage of national income in selected developed countries was as follows: Norway, 31.4 percent; Sweden, 31.3 percent; Holland, 30.3 percent; Italy, 28.8 percent; Great Britain, 28.2 percent; and the United States, 27.7 percent. In selected underdeveloped countries, the figures were much lower: Honduras, 19.2 percent; Costa Rica, 14.8 percent; Ecuador, 14.5 percent; Colombia, 11.3 percent; and India, 9.1 percent.[54]

In Brazil in 1960 taxation was 22.9 percent of national income, compared with 14.7 percent in 1947. There obviously had been considerable growth in the proportion of national income collected as taxes. This increase, however, did not keep up with the growth of governmental responsibilities, so that after 1956 the deficit in the federal treasury was around 3 percent of the gross domestic product, resulting in a powerful inflationary pressure.

In other words, although it was necessary for the government to assume increased responsibility for promoting national economic development, it was not possible to increase the tax revenue correspondingly because of the obstacles inherent in the system. For this stage of the country's development tax revenues were adequate, yet nevertheless insufficient. They were adequate in the sense that they were proportional to the country's per capita income, but insufficient because the government's responsibilities exceeded the available revenue. And it would be difficult to escape this dead end, since taxes were levied only on the approximately one-fourth of the Brazilian population who regularly participated in the domestic market and paid taxes, especially indirect taxes. Increasing this group's tax burden in order to promote the integration of the other three-quarters of the population into the market by governmental action would have been a dangerous strategy, possibly resulting in lessening stimuli to private investments. There was no other alternative for the economy except inflation, which, in addition to permitting the government to achieve its programmed expenditures, functioned as an instrument to promote forced savings while demand remained high, though artificially high in some respects.

Contrary to the monetarists' expectations, however, inflation, at least to a certain degree, is a process inherent in the development of underdeveloped countries. In Brazil it is a form of indirect taxation that solves the problem of the government's growing responsibilities in relation to the economy. As long as it does not reach the extraordinary levels of the 1960s, it is not only a natural but also a necessary phenomenon in the country's process of development.

Urbanization

Urbanization has continued constantly during the economic development of Brazil. According to the 1940 census, 31.24 percent of the Brazilian population was urban, and 68.76 percent was rural; in 1960 the urban population accounted for 45.08 percent of the total population; in 1970 it accounted for 55.9 percent. In general, urbanization has three origins: the industrialization process, which constantly demands more workers in the industries and auxiliary services located in the cities; the development of the transportation system, principally trucking, which allows workers to live in small cities in the countryside and work in the fields (this tendency has been intensified by legislation extending workers' benefits to field workers, lessening the desire of the estate owners to maintain colonies on their estates); and finally, not only the demand for workers in the urban sector, but the impossibility of surviving in the rural sector. In São Paulo, the first, and more recently, the second motivations for urbanization have been prevalent. In the Northeast, the third type of urbanization is very common. The first two are directly related to the economic development process and can be considered national. The third is an aberration. Threatened by hunger, the rural worker seeks the large cities where he is barely able to survive through informal and irregular employment, still under miserable conditions.

Increase in the Rate of Population Growth

Another constant in the process of Brazilian economic development was an increasing rate of population growth up to 1960. As levels of consumption rise, conditions of hygiene are improved, extending the sphere of preventive medicine. Even curative medicine reaches a greater percentage of the population, through institutionalized medicine with state or private health care. The mortality rate falls in keeping with these developments. At the same time, a considerable percentage of the population does not attain middle-class consumer standards, although the child-rearing expenses of the vast majority of the population with children are relatively limited, covering only food and a minimum of clothing (because education and medical assistance are free of charge or simply not provided). When these conditions prevail in a society such as Brazil's the birth rate does not go down. In such cases the stimulus to reduce births in order to maintain one's standard of living remains small, whereas the stimuli to raise large families, including the idea that "the security of the poor man is his son," continue to prevail. Thus, reducing the mortality rate and maintaining the birth rate results in an increase in the population growth rate.

In Brazil the annual rate of population growth, which was approximately 1.5 percent between 1920 and 1940, climbed to 2.4 percent between 1940 and 1950, and to 3.1 percent in the following decade. During the 1960s, however, the rate of population growth decreased to 2.8 percent and in the 1970s it decreased further to 2.4 percent.

Such an extraordinary rate of population growth, although recently decreasing, brings with it a series of problems. It increases the necessity for investments in social assistance and education. The economically inactive proportion of the population increases. The annual percentage increase in the gross domestic product has to be greater, or the product per capita (the rate of growth of the product minus the rate of population growth) will fall. Problems are created in the annual absorption of available labor. In Brazil, for example, it is estimated that with a growth of 3.5 percent per year in active population, 1,100,000 people are added annually to the labor force. During the 1960s, despite the extraordinary industrial development, the manufacturing industry increased its number of employees at an annual rate of only 3 percent, because of the use of capital intensive technology, which economizes labor. This 3 percent growth, when compared with the 3.5 percent growth of the active

TABLE 2.3
Regional Distribution of Per Capita Income
(percentage of national average)

Region and State	1950	1955	1956	1957	1958	1959	1960
NORTH	65.1	56.7	65.6	67.7	61.6	58.8	60.7
Amazonas	76.3	62.8	75.1	78.1	72.3	66.8	68.3
Pará	58.5	53.1	59.4	61.4	55.1	53.9	56.1
NORTHEAST	48.5	42.9	44.7	46.6	44.7	48.4	50.6
Maranhão	34.0	29.3	28.6	30.2	31.0	33.7	34.4
Piauí	28.7	24.9	27.1	28.2	26.5	29.0	28.8
Ceará	47.0	35.8	39.7	41.5	30.1	41.6	44.9
R.G. do Norte	53.0	44.6	53.8	48.6	40.4	53.0	56.7
Paraíba	48.5	41.6	43.4	42.7	38.6	46.4	53.9
Pernambuco	61.1	53.9	56.7	61.4	61.9	61.4	60.4
Alagoas	43.8	39.0	43.9	48.6	50.7	49.9	50.5
Sergipe	48.9	46.3	51.7	54.1	55.9	57.1	54.7
Bahia	49.7	48.6	47.5	48.8	50.2	51.7	55.7
CENTRAL-SOUTH	140.3	141.1	138.5	137.4	137.4	135.4	133.5
Espírito Santo	78.7	77.2	72.1	77.1	67.3	65.6	65.5
Minas Gerais	74.5	78.9	78.8	81.4	74.2	73.9	70.9
Rio de Janeiro	101.8	93.5	100.7	89.4	96.9	96.6	95.0
Guanabara	304.0	308.2	326.1	312.4	326.0	316.5	291.0
São Paulo	188.6	187.2	178.5	177.1	180.5	177.3	177.7
Paraná	117.7	116.5	89.3	96.4	103.1	107.9	110.7
Santa Catarina	83.9	88.9	90.2	88.0	89.5	86.5	89.6
R.G. do Sul	111.9	127.2	132.2	126.7	118.9	117.6	120.0
CENTRAL-WEST	59.9	73.6	69.2	63.8	66.8	60.9	59.3
Mato Grosso	72.4	97.4	93.1	84.7	94.4	71.4	78.1
Goiás	54.5	62.9	58.4	54.3	54.3	56.2	51.2

Source: Plano Trienal, 1963-1965, p. 86.

population and with the 5.4 percent[55] growth of the urban population, is obviously insufficient.

Unequal Distribution of Income

The only data that exists for the regional distribution of income is for the period 1950–1960. The regional inequality then prevailing has been maintained. In order to get a grip on the question, one can consider the per capita income of the different regions of the country as a proportion of the national average in 1960. The income in the Northeast in this year was 50.6 percent of the national average, compared with 133 percent for the Central South and 177.7 percent for São Paulo. The poorest state in the country, Piauí, had a per capita income of only 28.8 percent of the national average. Nevertheless, these regional inequalities did not increase. As is shown in Table 2.3, the Northeast in 1950 had a per capita income of 48.5 percent of the national average, but by 1960 this percentage had risen to 50.6 percent. It is true that in 1955 the percentage had fallen to 42.9 percent. However, the development of Petrobrás, the San Francisco Hydroelectric Company, and the activity of SUDENE [Superintendency of Development of the Northeast] caused the tendency to change. Among the outstanding factors that caused the relative loss of income in the Northeast for the first half of the 1950s was the immediate postwar exchange policy, which, because it penalized exports and favored imports, especially the importation of equipment and raw materials, was prejudicial to the typically exporting regions such as the Northeast.

Increased Wages

Between 1947 and 1960 wage earners increased their share of the national income from 56 percent to 65 percent.[56] This fact, however, ought to be viewed with reserve. This growth occurred especially at the expense of professionals, business administrators, and owners of individual enterprises, whose share was reduced from 26 percent to 18 percent, whereas the share of the capitalist group (profits, interests, and rents) grew from 18 percent to 20 percent. This growth in the share of wage workers, particularly at the expense of free professionals, can in part be explained by the fact that many of the latter became salaried. Beyond this, whereas the direct tax burden grew only 21 percent between 1947 and 1960, the indirect tax burden, which affects wage workers more strongly, grew 74 percent,[57] so that in fact "labor's share of national income when measured in terms of market prices increased considerably less than when measured in terms of cost factors."[58]

There was, nevertheless, a growth in real wages, especially between 1945 and 1960, as can be seen in Table 2.4. The growth in per capita income was thus distributed to the population, at least the urban population. Only public functionaries had their real wages reduced. Even this fact, however, could be disputed. This decrease could be attributed either to the choice of an unfavorable moment for the initial survey, or to the fact that the public service wage scale had been modified.

Wage earners thus maintained a relatively stable share of income; their salaries grew with the growth of per capita income. According to the figures of the *Three-Year Plan* the real average wage of a Brazilian worker between 1950 and 1960 grew at an annual rate of 2.7 percent. This increase permitted an average annual growth of 2.5 percent in private consumption between 1947 and 1960. Public consumption during this period, in turn, grew 5.5 percent per year, so that total consumption rose 3 percent per year, or at the same rate as the per capita income

TABLE 2.4
Index of Real Wages
(State of Guanabara)

Year	Laborer	Skilled Worker	Public Functionary
1928	100	100	100
1945	69	69	101
1960	145	111	74

Source: Desenvolvimento e Conjuntura, July 1961, p. 75.

during the period. These figures show that development had been attained without the necessity of augmenting the rate of savings,[59] which during the entire period was around 16 percent of the gross domestic product.[60]

A Model for the Development Process

Having completed this analysis of the fundamental characteristics of Brazilian economic development—industrialization, the import-substitution process, limitations on import capacity, increased government intervention, high marginal capital-output ratio, inflation, urbanization, the increased rate of population growth, regional disequilibria, and the growth of real wages and consumption—we can now outline a model for the Brazilian development process. Figure 2.1 shows a graphic schematization of the model. Necessarily, it will deal only with the fundamental elements of this model and the basic relationships between these elements.

The Brazilian industrial revolution had two major fundamental agents: industrial entrepreneurs and the government. During the first two decades the initiative rested primarily with the former. The government's role was basically to create stimuli to industrialization, a role possible because of the Revolution of 1930, which shifted power from the old anti-industrial agrarian-commercial aristocracy. The resulting predominance of the entrepreneurs led the country to develop along capitalist lines. It was only during the 1950s, especially in the second half of the decade, that the government took a more active and direct part in making investments necessary for the country's development. This greater governmental participation carried with it the onus of an accelerated rate of inflation, inasmuch as the government did not have the political

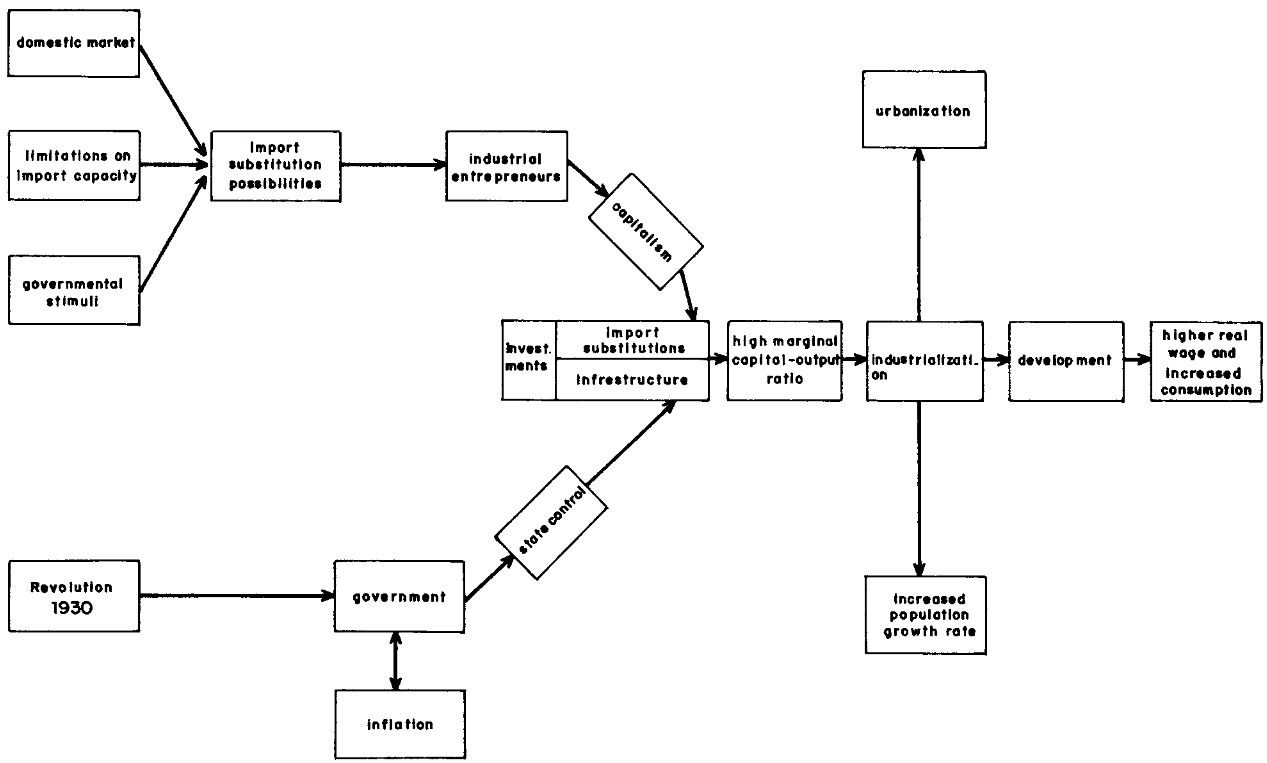

Figure 2.1. Model of Brazilian Development, 1930-1961

conditions to levy, nor did enterprises have the economic conditions to pay, increased taxes.

The investment opportunities that permitted the rise of a class of industrial entrepreneurs in Brazil fundamentally stemmed from three factors: (1) the existence of a still incipient domestic market; (2) the limitations on import capacity to which the Brazilian economy was subjected after the 1930s, which provoked the rise of prices for imported products, especially manufactured consumer goods, and thereby promoted their domestic production; and (3) governmental stimuli, either through the maintainence of domestic demand, as occurred during the 1930s with the purchase of coffee surpluses, or through subsidies for the importation of equipment, as occurred in the postwar period, or through transfers of income from agriculture to industry, as occurred through the exchange policy, or through the protection of national industry from the encroachments of foreigners, as was accomplished through the exchange policy and taxation. These three factors led to the possibility of import substitutions, and it was fundamentally through this process that Brazilian industrialization was accomplished. Private sector investments were basically geared toward replacing imported manufactured articles. Government investments were focused on infrastructure, petroleum, transportation and communications, energy, and the iron and steel industry, thus creating conditions for private investment.

Investments by the private and public sectors, however, never reached the extraordinary levels that would have forced a very high proportion of savings from the population. A relatively high rate of output growth without great efforts at savings and investment was possible because of the high marginal capital-output ratio, that is, the high productivity of the investments made.

As a result, Brazil went through a full industrialization process, developing its own industry of both nondurable and durable consumer goods, and made extraordinary progress in the sector of basic industries and equipment. Industrialization brought with it urbanization and an increase in the rate of population growth. Above all else, however, industrialization signified economic develoment, expressed not only by the increase in per capita income but also by the growth of real wages and levels of consumption. Beyond this, industrialization and economic growth were accompanied by structural transformations in the social and political order. The next two chapters will deal with these transformations.