THE BRAZILIAN ECONOMIC MIRACLE REVISITED: PRIVATE AND PUBLIC SECTOR INITIATIVE IN A MARKET ECONOMY*

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The unusually rapid pace of economic growth in Brazil's second major cyclical upswing in the postwar era (1968–74) has given rise to extensive comment and analysis.[1] Much has been written about this experience and a "model" of Brazilian development that invariably emerges from these analyses emphasizes the following features: (1) rapid industrial growth; (2) the remarkable growth of exports; (3) an income concentrating wage policy; (4) institutional change creating a more effective and income elastic tax system; (5) reformed capital markets indexed for inflation and a semifloating exchange rate; (6) increased savings and investment; and (7) a rise in the foreign debt.

While most analysts agree on the major features associated with this growth, views frequently diverge in two directions to explain the causal factors behind this performance. One line of thinking emphasizes an outward-looking, export promotion strategy. In this view, the Brazilian economy (1) freed itself from past inflationary distortions and stagnation by becoming much more integrated into the world economy, and (2) allowed the allocation of savings and investment to become much more subject to the discipline of the free market forces of supply and demand and less subject to widespread price controls and arbitrary, ad hoc rationing of foodstuffs, credit, and foreign exchange.[2] A second view emphasizes the important role of the state in promoting and controlling economic development in Brazil.[3] More particularly, the expansion of the state in many sectors has been interpreted as an important catalyst in the upswing of the late sixties, leading to an extension of state activity into areas that had hitherto been the preserve of the private sector. Similarly, the growing role of the Price Control Council (CIP) and the dominant role of the state over the allocation of savings and investment in the economy as a whole has been looked upon as evidence seriously compromising the free market model frequently referred to in describing the Brazilian economic "miracle."

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It is clear that the causes of recent Brazilian economic growth have been sufficiently complex and eclectic in origin that both camps feel free to claim that their model or explanation fits best. The state has indeed played a crucial role in promoting recent economic growth in Brazil; but, at the same time, the price system and market forces in the post-1964 period have been utilized more effectively than in the past. "Free" market forces, however, have not been characteristic of this process. On the contrary, in the post-1964 period, the state has consistently increased its presence in the productive sector, interfered with the price system, altered existing market structures, changed the legal framework affecting savings and investment decisions, introduced a battery of differential subsidies by products, sectors, and regions, and created new institutional bodies to stimulate and condition economic expansion in ways that freely functioning private market forces would not have effected. However, it can be argued that policymakers were compelled to alter substantially the institutional milieu in order to correct inflationary distortions and permit private market forces to function effectively. Thus, the actions outlined above are not inconsistent with a long-run strategy designed to strengthen the private sector in particular and market forces in general.

On the other hand, one can also argue, as do the authors of this article, that the momentum of state activity with its economic and financial power grew substantially more during this period than the original market reformers had either anticipated or desired. At the same time this activity had grown to such proportions in the eyes of many private sector producers and bankers that the fear of "statization" reemerged in the mid-1970s as a perceived threat to the growth of private sector capitalism in Brazil. Thus, despite the greater degree of flexibility of the price system and institutional changes to strengthen the private sector in the post-1964 period, serious questions remain concerning the strength of the private sector in Brazil and the degree to which it can ever reasonably expect to play an important role in future growth strategies. That this should occur in a political regime presumably dedicated to the strengthening of the private sector and capitalist institutions is curious indeed and clearly warrants analysis.

The first part of this article reviews the expanding presence of state enterprises in the productive sectors of the economy and raises some questions about the macroeconomic implications of this presence in affecting the pattern of economic growth. Next we discuss the current "statization" debate in Brazil and point out the factors that led to the relative increase in state productive activity in a regime that was initially interested in promoting the growth of a strong private sector. Third, the importance of the institutional reforms in the money and capital markets are evaluated in detail, since these financial reforms are frequently referred to as the catalyst that was to lead to the growth of private sector activity and capitalist institutions in Brazil. Empirical evidence is presented showing the growing specialization and extension of state initiative and the division of responsibilities between the state and the private sector in this area. While private sector institutions did in part play an important and interesting role in the "reformed" financial sector, the role of state has remained dominant

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in mobilizing and reallocating savings and investment in the economy. Finally, a concluding section evaluates the role of public and private sector participation in the recent growth cycle and some implications this holds for the growth of capitalist institutions in a developing economy.

PUBLIC ENTERPRISES IN THE ECONOMY 1964–1974: MACROECONOMIC IMPLICATIONS

In this review of government initiative in the recent pattern of economic growth, it is important to recall in broad outline the wide area included in the government's activities and the historical heritage leading to this pattern.[4] The public sector has always played an important role in regulating economic activity in Brazil and, by the same token, the private sector has never hesitated in calling upon the government to assume this regulatory role. Large-scale subsidized immigration at the end of the nineteenth century, monopolistic government control of coffee exports, subsidized railroad bonds (and later nationalization) are early examples of these initiatives. In the 1930s, foreign exchange controls and various "autarquias" were established to control the prices, production, shipping, and storage of salt, maté, sugar, fish, and pinewood, among others. Several private shipping lines were nationalized and a longer term instrument for industrial credit was created within the Bank of Brazil, the major government bank which acted as a central bank and, at the same time, a commercial lender to the private sector. In the early forties, the Volta Redonda steel complex was undertaken under government initiative and a government mining company, Vale do Rio Doce, was established under the stimulus of nationalist sentiment and national security in the early war years.

By the late fifties and sixties, government ownership and/or control had expanded into mining, steel, petroleum, and chemicals as well as infrastructure sectors, the banking sector, and foreign trade. Extensive product and factor price controls (salaries, interest rates, fiscal incentives) round out this network after 1964 along with the growing relative role of taxes and government expenditures as a percent of GNP. Prior to our detailed analysis of the role of government in mobilizing and allocating savings in the money and capital markets, it is useful to review its macroeconomic impact in the productive sectors and, more specifically, the change in its relative role in this area in recent years.

Table 1 summarizes the relative role of state, national, and multinational firms among the largest one hundred nonfinancial enterprises classified according to net worth and invested capital. By either criterion, the role of state enterprises is large and, moreover, growing over time. From 1968 to 1974 state participation grew from less than 60 percent to roughly 75 percent of the total net worth of the one hundred largest firms. In terms of invested capital, this participation grew from 37 to 45 percent. By 1974, government enterprises (in terms of net worth) comprised roughly 20 percent of the entire manufacturing sector sample of 5,113 firms of the Visão *Quem e Quem* survey of 1974. This participation rises to 55 percent in the chemical sector and 33 percent in the metallurgical sector. In the infrastructure sector, government firms dominate with 88 percent of total net worth. Another perspective underscoring this role is that government enter-

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TABLE 1 One Hundred Largest Nonfinancial Firms in Brazil by Net Worth and Foreign, State, or Domestic Private Status: 1968–74

A. Percentage Distribution of Net Worth by Controlling Interest

Controlling Interest	1968	1970	1972	1974
State	58.6	67.6	70.9	74.4
National (Private)	13.1	11.4	10.6	10.9
Foreign	28.3	21.4	18.5	14.7
Total	100.0	100.0	100.0	100.0

B. Percentage Distribution of Invested Capital by Controlling Interest

Controlling Interest	1968	1970	1972	1974
State	37	45	47	45
National (Private)	26	25	25	28
Foreign	37	30	28	27
Total	100	100	100	100

Source: Visão, *Quem e Quem na Economia Brasîleira*, 31 de Agosto de 1975, p. 23.

prises make up the first twenty firms in the economy in terms of net worth. Of this total, six are in the energy sector, four in telecommunications, one in mining, three in the steel sector, three in transportation, one in the chemical sector (the largest—Petrobras), and two in urban infrastructure. By 1974, twenty-two of the top twenty-five firms in the economy were state enterprises.[5]

The above data show that there has been a significant increase in the capitalization of state enterprises in the economy. Thus, it is not surprising to note that the government sector's relative role in total capital formation has increased from around 50 percent in 1960 to over 60 percent in 1969.[6] Such a prominent role in the growth of the economy raises a series of questions concerning the nature of its macroeconomic impact and the problems that have grown out of this impact.

First, it is clear these enterprises affect the profile of final prices in the economy through their role as a buyer or as a primary supplier of inputs for other industries, whether in the form of infrastructure services (light and power) or basic capital goods such as steel. Thus, the pricing policy of public enterprises can affect the cost structure for industry as a whole. In the import substitution period of the 1950s, public sector pricing essentially subsidized the cost of industrial inputs to promote industrial growth.[7] However, this policy led to growing fiscal deficits which in turn aggravated the process of inflation. From 1964 onward, public policy shifted to eliminate this source of deficit finance. Public enterprise price policies moved from a marginal (or below marginal) cost pricing policy to an average cost policy. This allowed state enterprises to become self-financing and, in the process, acquire the financial leverage to increase their relative role in the economy as a whole.

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A second feature of the expansion of state enterprise activity is the growing multiplier and accelerator links of these enterprises to the rest of the economy. Thus, the rhythm of expansion or contraction in public enterprise investment generates amplified pressures of growth or decline in many other sectors of the economy to which it is connected. One consequence of this structural feature has been the important role public sector enterprises have played in stimulating the growth of a local capital goods industry from the 1950s onward.[8] Another is the creation of many "client sectors" either as suppliers or buyers. The degree to which these client firms may enjoy favored access to credit or imports (in comparison to nonrelated firms) through their linkage to public sector enterprises is an open question deserving more study.[9]

Finally, the multiplier-accelerator relationship raises the issue of cyclical or countercyclical investment behavior. The more important the government enterprise sector, the greater is the impact of its investment behavior on the economy as a whole. Preliminary evidence suggests the possibility that the investment plans of many important public sector enterprises (in the steel, chemical, and energy sectors, for example) may have played a role in hastening the downturn of the economy in the early sixties (when they were reduced) and stimulating or leading the upswing in the late sixties (when they were increased). This latter performance preceded the sequence of rapid private sector growth financed through foreign and domestic credit after 1969.[10] In sum, the breadth of public enterprise investments in the economy has created a possible new role for government firms, that of economic stabilization through countercyclical programming of public enterprise investments. This has become a more serious factor in policymaking than in the past.

A third macroeconomic feature of public enterprise growth in Brazil at this time is its impact on the balance of payments. Public sector enterprises can preempt or substitute for foreign enterprises in the basic sectors of the economy. In turn, balance-of-payments pressures of large capital goods imports could decline if these imports are more associated with the investment activity of multinational corporations. On the other hand, the more rapidly a state enterprise wants to grow, and the more modern and sophisticated its desired technology, the more likely the nationalist procurement criteria will be relaxed and the greater will be its imports of capital goods and its negative impact on the balance of payments.

In the growth cycle of the middle and late fifties in Brazil, three factors acted to promote a significant purchase of local inputs by state enterprises: the nationalistic ethos surrounding their phase of early development; the more open populist politics of the period, which furthered this nationalistic approach; and the ever present balance-of-payments crises that conditioned the economic policy of the period. During the second growth cycle in the late sixties and early seventies, all three of these constraints were relaxed as the closed political system mitigated the nationalistic element in economic policymaking and the combination of a successful export promotion drive and mini-devaluations (a semifloating exchange rate) eliminated the former balance-of-payments crises from the mid-sixties to 1974. The net result was a tendency for state enterprises to import

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more of their intermediate and capital goods from abroad rather than procure them locally.

A recent report from the Ministerio de Industria e Comercio offers an indirect insight into this issue with data on the net commercial balance for the balance-of-payments position of the 115 largest multinational firms in the Brazilian economy for 1974.[11] The exports from Brazil for these firms amounted to roughly 800 million dollars while their imports came to 3 billion dollars, leaving a net deficit of 2.2 billion dollars. Bearing in mind that the total commercial deficit for Brazil in 1974 came to roughly 4.8 billion dollars, Brazilian firms (either private or public) accounted for the remaining 2.6 billion. Two factors argue that most of this remaining net deficit is largely due to the trade account of state enterprises rather than private domestic firms. First, with the exception of the Vale do Rio Doce mining company, state enterprises do not engage in significant export activity while private domestic firms contribute substantially to export earnings in such sectors as clothing, textiles, shoes, leather goods, furniture, wood products, and foodstuffs. Second, as we have seen, state enterprises expanded their activities considerably in recent years in the steel, hydroelectric, mining, petroleum, and petrochemical sectors. All these activities required sophisticated capital equipment imports to service this expansion. On balance, then, local private firms no doubt generated a net surplus in their balance of trade while state enterprises generated a net deficit. By 1975 the energy crisis (and the consequent balance-of-payments pressure) created a reappraisal of this policy of liberal imports. A more nationalistic procurement pattern is being taken more seriously now with a new import substitution strategy promoting the local capital goods sectors. Clearly, the role of state enterprises and public sector investment plans will play a crucial role in defining this policy.

A fourth area of impact of public enterprise action lies in capital market development. Legislation designed to reform and improve the functioning of the Brazilian capital markets has been a cornerstone of the institutional reforms in Brazil within the last decade. In particular, it was hoped that new underwritings in a reformed stock market could play an important role in allowing private firms to gain low-cost, long-term capital for growth and expansion. Yet, of the 250 firms listed in the local stock exchange, some five to six firms (all public enterprises) monopolize the daily trading and have dominated the issue of new securities. From May 1974 to May 1975 new underwritings for public sector enterprises on the stock market grew 84 percent while underwritings for private sector firms only grew 32 percent.[12] The reasons for this are clear. The large-scale public enterprises are on the whole better managed, more able to compete successfully in the economy due to their special monopolistic or oligopolistic status, and better able (and more inclined) to pay out dividends to minority stockholders. In short, they represent a low risk and reasonable-to-high return to minority stockholders in comparison to the high risk of private company shares. Thus, what began as an institutional reform to promote the low cost capitalization of private sector growth has in effect become a vehicle for public enterprise capital expansion. By 1975 private sector interests had become so concerned over this development that they persuaded President Geisel to sus-

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pend any future underwritings of public enterprises through the stock market for an indefinite period of time.

A final feature of public enterprise impact lies in the area of technology. This is a little studied area but one that will clearly deserve more attention in the future given the current balance-of-payments drain of royalty and technical assistance payments by local and foreign firms. Since public enterprises are among the largest buyers of sophisticated technology in Brazil, their purchase of this technology (either locally or abroad) can alter the stimulus for or against an increase in the degree of autonomous technological development in Brazil.[13] The recent construction of the subway in São Paulo is illustrative here. The long gestation period permitted the time needed for local firms to develop the technology and manufacture successfully the entire line of subway cars and engines currently used in the network. The fact that the Rio subway is now entering its bids for these cars several years later offers a programmed continuation of this activity for the future. On the other hand, authorities for the Itaipu hydroelectric project resorted to the importation of much key machinery and turbines. Although local machinery firms could very likely have met the technical specifications for much of this equipment, they could not do so in the short time period given in the bidding competition conducted by the government.[14]

Two factors stand out here: (1) a longer gestation period is required on the part of public authorities in meeting the equipment demand for public investment projects if one is interested in supporting the technological capacity of the local capital goods industry, and (2) a more systematic and prolonged programming of public procurement of equipment is needed to avoid the feast or famine syndrome. This programming could give domestic firms the stable backlog of orders through time required to maintain a guaranteed return on their investment in retooling for complex equipment orders.

By the same token, given their current large-scale size in many sectors (steel, energy, oil, etc.), public enterprises are the only national firms with internal economies of sufficient scale to undertake in-house research and development initiatives in conjunction with the support of public sector research institutes. Their future direction in this regard is still uncertain. However, it is difficult to imagine any significant increase in local research and development activity without the active support of public sector enterprises in developing this potential either through their procurement policies or in-house R and D work.

In summary, public sector enterprises have acquired a substantive presence in the major productive sectors of the Brazilian economy. Moreover, as seen above, this presence weighs heavily in the performance of the economy in such areas as the pricing of industrial products, multiplier effects on other sectors, cyclical and countercyclical investment behavior, balance-of-payments pressures, capital market development, and technological change. In such a setting it is not surprising to note that the relative role of public sector investment in total capital formation has increased over time. What is of interest though is to note that this has continued through populist and authoritarian regimes.

In contrast to actions in some other countries (such as post-1973 Chile), the

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post-1964 antisocialist movement, which was designed to create and strengthen a capitalist economy in Brazil, did not compromise the growth of the public sector in the economy. This was due in part to the close historical association of the military technocracy in the development and administration of most of these public enterprises in the name of national development and national security. In short, the increased role of public sector activity was not associated with a civilian socialist ideology and did not grow out of socialist-oriented political action in the past.

At the same time, the role of public enterprise investment was crucial to the economic recovery so important to the post-1964 governments. Rapid economic growth was important to establish both the credibility and the legitimacy of the post-1964 political regime.[15] Any attempt to dismantle, diminish, or transfer the role of public sector enterprises in the economy would have seriously compromised or at least delayed economic recovery, given their prominent role in many key sectors. Pragmatism overruled ideology as the economic drive of these enterprises was harnessed to the goal of rapid economic growth. What emerges from this experience is that these enterprises have acquired a form of institutional legitimacy regardless of the nature of the regime in which they operate and, as a result, demonstrate an internal dynamic of their own in the Brazilian growth process. In view of this, it is interesting to consider the degree to which they may have enjoyed a privileged status in the recent policymaking milieu and what threat, if any, they may represent to the private sector.

THE STATIZATION DEBATE—CURRENT VERSION

"Estatização" has been a perennial theme in the postwar debate on economic growth in Brazil. However, it remained a relatively mute issue during most of the recent cycle of economic growth. The rapid rate of growth created the image of a positive sum game where everyone gained and no one lost, despite the fact that the relative share between public and private sector activity was shifting in favor of the former over the latter. By late 1974 and early 1975, however, the slowdown in the economy brought the issue more to the surface and the tone of the debate grew more strident in some circles, especially among those who believed that the new Brazilian model of political economy was expected to enhance the role of the private sector and private market forces in the economy.[16] In this context it is instructive to review the criticism of the growth of public enterprises recently made by proponents of free enterprise in Brazil. In effect, they center around the complaint that these enterprises have enjoyed unfair and discriminatory advantages over private firms in the post-1964 period. Their complaints can be summarized as follows:

1. The antiinflationary stabilization policies (1964–67) hit private firms much harder (through credit restrictions) than public enterprises which could expand in the face of monetary restraint.

2. The interministerial price council (CIP) has controlled the prices of many private sector firms, while many public enterprises have had greater freedom to raise their prices to become self-financing.

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3. Public sector enterprises have been totally exempt from paying income taxes up to 1975.

4. Private companies cannot get long-term foreign loans as cheaply as public enterprises who can borrow at reduced rates of interest from the World Bank and the Inter-American Development Bank. (Note: This is due more to the sectoral preference of the international agencies and their financing of large-scale projects over small ones rather than to any bias for private or public clients.)

5. No possibilities exist for long-term low cost capitalization for private firms through the imperfectly developed stock market comparable to what state enterprises can gain through public savings, self-financing, and foreign loans.

6. The public enterprise stock subscriptions through the stock market have drained private savings away from private to public enterprises.

7. Joint ventures between state enterprises and multinational enterprises invariably emphasize the import of capital equipment to the detriment of the local private sector capital goods industry. (Note: This bias toward imported capital equipment grows out of international agency loans to public enterprises since worldwide bidding is required for this equipment as a requirement to secure the loan.)

8. Until the mid-seventies, the rechanneling of public savings into private sector loans through the National Savings Bank (Caixa Econômica) and the National Development Bank (BNDE) was a much more expensive line of credit (due to indexing for inflation and interest charges) than that which was available to foreign firms and public enterprises through foreign lending sources. (Note: This was due to the fact that the devaluation of the exchange rate was at a rate less than the internal indexing for inflation from 1968 to 1974.)

9. Indexing is applied to private sector debts to the public sector but not to late payments by public sector entities to private sector creditors and firms.

10. Technological development has been prejudiced in private firms because of public sector procurement policies favoring imported capital goods after 1964.

This catalog of complaints raises the question of why a presumably capitalist-oriented regime has so systematically favored public over private initiative, to what extent this is deliberate or merely a byproduct of rapid economic growth, and what if anything could be done about it. Although some of these complaints are exaggerated, in general, public enterprises have had greater advantages in capturing long-run capital resources for expansion than private firms. Part of this advantage grows out of the sheer size of these firms rather than their public ownership status. For example, the few large-scale private firms have not encountered difficulty in mobilizing foreign financing through the Eurodollar market. Nevertheless, many implicit and explicit advantages favoring public enterprises during this period derive from their public sector status as well. In large part these post-1964 advantages for state enterprises are a byproduct of three causal factors: (1) the desire to eliminate the government deficit and correct past distortions of inflation during the stabilization period (1964–67), (2) the desire to promote economic recovery as rapidly as possible, and (3) the historical

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weakness of the private sector in the Brazilian setting, preventing the creation of a great number of large-scale private enterprises.[17]

The first factor became important after 1964 when the regime allowed public enterprises to readjust their prices from subsidized to user-cost levels in an attempt to correct past inflationary distortions on the prices of public services and eliminate an important cause of the inflationary deficits of past governments. This change from subsidized to self-generated earnings, combined with their flexible, autonomous operational status, gave state enterprises the economic resources to promote their future expansion much more effectively than before. Thus, these actions to correct the previously distorted price system (with respect to low public sector prices), to introduce a more businesslike efficiency and capacity for effective self-management and self-financing, and to eliminate an inflationary source of deficit financing, led to a strengthened public enterprise sector vis-à-vis the private sector.

The second factor promoting economic recovery necessarily implied an important role for public enterprises in that the private sector was unable to act decisively in the recessionary environment of the middle sixties. This was due in part to the tight restrictions on credit to control inflation and in part due to the natural reluctance of private firms to undertake investment in a recession milieu. The availability of external credit from international agencies for the expansion plans of public sector activities permitted the government to exploit the opportunity of quickly promoting the expansion of public enterprise activity in a countercyclical fashion and thus add stimulus to the rest of the economy through the multiplier-accelerator effects of public investment.[18] In retrospect, this strategy allowed public enterprises to gain resources for growth more readily than private firms during the mid-to-late sixties. Finally, the weakness of the private sector is evident in its inability to compete for funds on the stock market where, according to any criteria of an expected rate of return, public enterprises are a more secure and remunerative portfolio investment for prospective stockholders than private firms.[19]

TABLE 2 *Fixed Assets Per Worker, Output Per Worker, and Salary Per Worker for Foreign, State, and Local Private Enterprises in Brazil: 1972*

Enterprise	*Fixed Assets Per Worker* (1)	*Value Added Per Worker*[1] (2)	*Annual Salary Per Worker*[2] (3)
State	Cr.$ 150,919	Cr.$ 99,370	Cr.$ 16,540
Foreign	38,851	53,410	12,750
National (pvt)	34,978	34,760	9,590

Source: Carlos Von Doellinger and Leonardo C. Cavalcante, *Empresas Multinacionais na Industria Brasileira* (Rio de Janeiro: 1975), IPEA/INPES, Coleçao Relatorios de Pesquisa No. 29, pp. 65–68.

[1]Output per worker equals salaries plus profits per worker on 31 December 1972.
[2]Annual wage bill per worker on 31 December 1972.

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The much larger scale of government enterprises and the more impressive human capital content (in comparison with private national firms) can be seen in table 2. Fixed assets per worker are five times larger for state enterprises than for private national firms for industry as a whole. This stands out in the relevant sectoral comparisons as well. At the same time, the levels of average productivity and average wages are much higher in state enterprises. This evidence suggests that in comparison to private national firms, state enterprises are far larger in scale, more capital intensive, register higher levels of productivity, and pay higher salaries. The implications of this are clear. State enterprises are in a position to attract and hold better talent and engage in more significant on-the-job training than most private firms and bargain for better credit terms in the foreign capital market. Their comparative advantage in human capital and scale economies gives them leverage to move into new sectors of the economy and easily out-compete smaller local firms. Thus, we see how a strategy of conglomerate growth can emerge with Petrobras moving into allied chemical fields and the state mining enterprise (Vale do Rio Doce) moving into paper and pulp manufacturing, fertilizer production, reforestation, etc.

The net result of the foregoing points out the difficulties of altering the balance between public and private enterprises in favor of the latter even in an economy that is presumably interested in promoting capitalist development, since the institutional changes designed to improve the functioning of the price system invariably favor the larger public sector enterprises. Any attempt to redress this imbalance would probably require the authorities to alter the functioning of the price system in a drastic fashion to reduce specifically the growth potential of public enterprises in favor of the private sector with a high cost in terms of slower, short-to-medium-term economic growth. Given the fact that economic growth has been an important legitimating factor for the present government (rather than the promotion of the private sector per se), it is unlikely that this regime will decisively alter the relative role of public enterprises in the economy, since they play such an important role in promoting this growth.

This, however, does not mean that the government will not introduce some palliative measures to reduce some of the more discriminatory advantages accruing to public enterprises. Action has already been taken to make public enterprises pay income taxes. At the same time, public enterprises for the moment are no longer able to engage in further underwritings of new issues on the stock market. Indexed loans from the National Development Bank to certain specified private sector activities from late 1976 onward had only a 20 percent ceiling despite the fact that inflation was higher than this ceiling, and the conglomerate expansion of public enterprises into sectors heretofore the preserve of private enterprise is currently prohibited except through express consent of the president. Finally, an unspecified amount of public trust funds (PIS, PASEP) will presumably be invested in the stock market in the future in an attempt to create an antispeculative source of institutional investment for private firms in this market.

At present, it is uncertain how much further the government will go in this direction and to what extent the above measures will make any real change

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in the differential growth of public versus private enterprise in Brazil. What does appear clear is that public enterprises have acquired a strong growth potential (and a constituency and lobbying influence of significance) that would make it difficult to engage in any marked change in their relative status in the economy. At the same time, the improved functioning of the price system and the growth and extension of the money and capital markets in Brazil, measures that were presumably designed to further the development of capitalist institutions and private enterprise, have not curtailed the relative role of public sector activity in the economy. On the contrary, it may very well have enhanced it. The reasons for this apparent paradox lead us into a discussion of one of the more important innovations in the post-1964 period: namely, the role of state financial intermediation in the mobilization and allocation of savings and investment through the capital markets.

STATE INITIATIVE IN THE FINANCIAL SECTOR: RECENT CHANGES AND CURRENT PROBLEMS

Introduction

Among the many economic innovations undertaken by the post-1964 Brazilian governments, none has been more discussed and debated than the financial and capital market reforms. These reforms stand out in many of the recent analyses of the economic miracle.[20] Whether from the point of view of mobilizing savings or stimulating aggregate demand or supply, the reforms in the financial sector were an instrumental factor in affecting the pattern of growth during this period. Moreover, it was precisely these reforms that were considered essential to revitalize and strengthen the private sector in Brazil. The remainder of this article will minimize any detailed historical explanation of the recent evolution of the Brazilian financial sector. Instead, our attention will be focused on some of the main problem areas that have characterized the growth of this sector, underscoring the role of state initiative and state institutions in altering the structural features of the financial markets to condition the pace and pattern of economic growth.

A quick review of the literature reveals three schools of thought in characterizing the role of the financial sector in the recent growth cycle:

1. An optimistic school emphasizes the positive features of these reforms and argues that the recent pattern of rapid economic growth in Brazil would have been impossible without the dramatic expansion and diversification of financial assets and financial markets.[21] In brief, the successful performance of the productive sector was highly conditioned by the reorganization and reform of the money and capital markets. The usual illustration offered is the crucial role of the new instruments of consumer credit (substituting for the earlier parallel markets and consumer consortiums for the purchase of durables) in promoting the rapid recovery of automobile production and household appliance products after 1967.[22] In addition, debt instruments, indexed for inflation, are credited with having allowed a substantial increase in aggregate savings which in turn increased investment and output.[23]

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2. A second, more critical, school of thought highlights the failure of the financial reforms in lowering the cost of credit (the rate of interest). In contrast to the "positive" school above, this line of argument points out that the reorganization of the financial system and the introduction of a more diversified portfolio of financial assets was accomplished in an unnecessarily complicated fashion that precluded any lowering of the cost of credit and very likely increased it in real terms. The reforms created many special institutions with segmented financial markets and assets and in the process failed to achieve any marked increase in the efficiency of operation, hence the continuing high level of real interest rates.[24]

3. A third line of thought, which comes closest to the authors' position, falls between these two extremes. On the one hand, there were several undeniably positive features associated with the reform and expansion of the financial system in Brazil, such as an increased supply of savings (including substantial foreign savings captured through the Eurodollar market and a large increase in the number of "small" savers through savings passbooks) and a lengthening of the average term of credit from 3–6 months to 18–24 months. On the other hand, certain social costs, not generally recognized by policymakers, were incurred in promoting this change, the most notable being the opportunity cost of using government resources (various forms of fiscal incentives) to promote the development of certain segments of the capital market. Thus, a careful scrutiny of both the benefits and the costs is necessary before drawing any definitive conclusion on this issue. An example of this more cautious line of reasoning for the Brazilian case can be found in the analysis by Patrick and Wai[25] of some of the benefits and costs associated with the reform and expansion of the stock market in Brazil.[26]

Expansion and Diversification of the Financial Sector, 1959–1975

The major institutional changes and market diversification in the financial sector of Brazil from 1959 to 1975 can be seen in table 3, which presents a comprehensive profile of the growth of monetary and nonmonetary financial assets in the hands of the public since 1959. The nonmonetary assets are divided between indexed and nonindexed instruments (such as stocks, debentures, etc.). Finally, for comparative purposes, national account data are presented on the change in aggregate savings in Brazil (columns 17 and 18). In summary, three major conclusions can be drawn:

a. The relative absence of savings instruments prior to 1965 suggests that, until the creation of indexing, an unknown and probably not insignificant part of private savings was channeled into the unofficial credit market. This informal market (along with foreign exchange, real estate investments, consumer consortiums, etc.) was the principal way savers protected themselves against inflation. Since these transactions were unrecorded and not included as a part of savings (in financial data), an important part of the growth of the official financial market for private savings after 1965, evident in table 3, very likely represents a shift from informal to formal savings rather than an equivalent increase in aggregate private savings per se.

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TABLE 3 *Selected Data on the Growth of the Brazilian Financial Sector: 1959–1975 (In Millions of Cruzeiros)*

	Monetary Assets[1]	*Nonmonetary Assets: Indexed*[1]								
		Savings Deposits	*Time Deposits*	*Exchange Bills*	*Real Estate Bonds*	*Government Bonds*[3]	*FGTS*[7]	*PIS*[8]	*PASEP*[8]	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1959	146	—	2	1	—	—	—	—	—	3
1960	192	—	4	5	—	—	—	—	—	9
1961	357	—	4	5	—	—	—	—	—	10
1962	663	—	17	32	—	—	—	—	—	49
1963	1,096	—	28	30	—	—	—	—	—	58
1964	2,263	—	57	155	—	29	—	—	—	241
1965	4,007	—	97	465	—	285	—	—	—	847
1966	1,378	18	77	211	—	651	—	—	—	957
1967	4,938	68	390	1,199	243	—	597	—	—	2,562
1968	5,867	244	745	2,453	354	503	1,007	—	—	5,306
1969	6,953	563	654	1,614	551	598	1,228	—	—	5,208
1970	7,200	1,188	2,337	2,113	812	2,295	1,513	—	—	10,258
1971	10,802	1,680	5,051	6,833	1,121	1,182	1,987	296	729	18,879
1972	17,609	3,952	7,571	6,897	1,887	2,848	2,706	1,109	625	27,595
1973	29,909	6,409	8,871	14,557	1,502	744	3,869	2,498	2,746	41,196
1974	31,351	14,803	7,651	9,708	1,770	NA	5,595	6,008	2,655	48,187
1975[4]	12,807	10,826	9,035	4,300	−756	NA	3,525	3,060	2,831	32,820

Table 3 (continued)

	Nonmonetary Assets: Nonindexed[1]						*Savings*[6]	
				Issues of Stocks & Bonds[5]				
	Technical Reserves[2] *(Ins. Co's)*	*Mutual Funds*[2]	*Fiscal Incentive Funds (157 Funds)*[2]	*In Currency*	*Incorporation of Reserves to Capital*	*Total Nonmonetary Assets (Excluding Stocks)*	*Private*	*Total*
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1959	1	1	—	NA	NA	5	159 (0.093)	393 (0.231)
1960	2	2	—	NA	NA	13	183 (0.081)	508 (0.225)
1961	3	2	—	NA	NA	15	486 (0.143)	788 (0.233)
1962	5	9	—	NA	NA	63	863 (0.155)	1,343 (0.242)
1963	7	13	—	NA	NA	78	1,481 (0.147)	2,232 (0.222)
1964	20	9	—	959	343	261	3,287 (0.172)	4,294 (0.225)
1965	24	0	—	1,245	1,026	871	5,175 (0.171)	6,764 (0.224)
1966	20	14	—	1,779	1,510	991	3,888 (0.090)	8,187 (0.190)
1967	29	93	57	2,920	1,435	2,741	6,101 (0.105)	10,848 (0.187)
1968	−32	536	118	4,783	2,387	5,928	7,623 (0.092)	17,347 (0.221)
1969	192	473	107	6,119	10,383	5,980	13,036 (0.125)	21,949 (0.211)
1970	226	553	76	6,813	9,540	11,113	17,693 (0.107)	43,441 (0.262)
1971	85	2,378	254	17,054	7,709	21,596	20,645 (0.093)	59,609 (0.269)
1972	287	−1,446	111	15,524	13,083	26,548	24,825 (0.085)	79,063 (0.273)
1973	305	342	460	21,288	21,042	42,303	383,945 (0.100)	108,054 (0.282)
1974	545	−249	1,010	24,038	28,938	49,493	NA	NA
1975[4]	182	−423	1,225	14,814	18,153	33,804	NA	NA

Sources and Notes:
(1) Basic data, *Boletims e Relatorios Annuais do Banco do Brasil*, various years (especially January 1976 and April 1976.) Assets are expressed as flows. Monetary assets equal currency plus demand deposits.
(2) From 1959 through 1968 data derived from *Sistema Brasileira de Poupanca e Emprestimos*, BNH, Rio de Janeiro, December 1971.
(3) These data refer to the bond purchases by private individuals, excluding purchases by public sector entities and financial intermediaries. See Pastore *et al.* (1975). Source, Banco Central. Data for 1974 and 1975 not available.
(4) Data up to June 1975.
(5) Source: *Boletim do Banco Central*, January 1976.
(6) Source: Contas Nacionais: Fundaçao Getulio Vargas. No data available for 1974 or 1975. The numbers in the parentheses are private or total savings as a percent of national income for the year in question.
(7) FGTS net receipts.
(8) PIS and PASEP change in total liabilities.

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b. Although national account data (column 18) record a rise in aggregate savings (as a percent of national income) since 1965, there is no relative rise in private savings during this period (column 17). On the contrary, table 4 shows that government savings grew substantially as a proportion of total savings in Brazil while private savings declined from 44 to 35 percent of total savings.[27]

TABLE 4 Percentage Distribution of Total Savings by Source in Brazil: 1968–73

Source	*1968*	*1970*	*1971*	*1972*	*1973*
Private Savings	.44	.41	.34	.31	.35
Depreciation	.29	.23	.23	.23	.22
Government Savings	.18	.30	.31	.35	.35
Foreign Savings	.09	.06	.12	.11	.08
Total	1.00	1.00	1.00	1.00	1.00

Source: Derived from National Account Data *Conjuntura Econômica*, various issues.

c. The most striking finding in table 3 is the diversification of savings instruments since the early sixties. This diversification caused a sharp decline in the ratio of monetary to nonmonetary assets (excluding stocks). For example, in 1960, monetary assets (currency plus demand deposits) were fifteen times the amount of nonmonetary assets (column 1 divided by column 16). By 1967, this ratio was only 1.8, and by 1974, monetary assets were considerably less than nonmonetary assets.

Table 3 also underscores that three factors were present in this diversification. First, indexation raised the real rate of return on financial assets and thereby permitted an increase in the expansion of indexed savings instruments. The growth of these assets is clearly confirmed in columns 2–5. Second, column 6 shows that the creation and expansion of an indexed government bond market (ORTN) was substantial after 1965.[28] Chronologically, it was this market for nonmonetary assets that preceded the others. Finally, public trust funds generated through forced savings (payroll taxes, etc.) and tax credits such as FGTS, PIS, PASEP, and Fiscal 157 funds have come to represent a substantial and growing component of the nonmonetary assets held in the hands of the public after 1970 (columns 7–9 and 13). From 1971 to 1974, these funds increased from 15 to 31 percent of total nonmonetary assets (excluding stocks and bonds).

The Stock Market

The marked expansion of stock market transactions and the sharp rise in stock prices from 1968 to 1971 constitute one of the more interesting and controversial features of recent financial history in Brazil. From early 1968 until June of 1971 (the peak of the stock market price rise), the volume of stock transactions rose thirty-five times in real terms and stock prices rose eight times (table 5, columns 2 and 3).[29] The price and transaction time series of table 5 point out that these

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indices began to rise in 1968–69. This was clearly in response to the tax incentives created in 1968 to promote the development of the stock market.[30]

TABLE 5 Major Stock Market Indicators in Brazil from 1965 to 1975

Year	New Issues (Shares of Stock) for Firms Registered with "Open Capital"*	Total Stock Transactions*	Price Index for Stocks	General Price Index
	(1)	(2)	(3)	(4)
1965	33	NA	NA	72
1966	19	151	NA	99
1967	67	210	NA	128
1968	331	262	136.6	159
1969	244	1282	308.0	192
1970	227	1948	373.0	234
1971	417	9126	1077.6	280
1972	412	5472	731.0	329
1973	240	4698	502.5	380
1974	110	2772	411.5	490
1975	94	4254	NA	625

Sources:
(1) *Boletim do Banco Central*, Janeiro 1976.
(2) Refers to transactions on stock markets of Rio de Janeiro and Saõ Paulo; same source as (1).
(3) See note 29.
(4) *Conjuntura Econômica*, Rio de Janeiro, various issues, Base 1965–67 = 100.

*In millions of constant cruzeiros.

After mid-1971 the market suffered a sharp and prolonged decline, and from 1971 to the end of 1974, stock prices fell by more than half while the general price level rose 1.75 times. Transactions in real terms fell 75 percent. Demand softened during this period since the earlier rise had in large part been aritificially inflated by substantial tax credits offered in 1968 for those investing in the stock market. This inflated demand grew much more rapidly than the limited supply of existing shares at that time with a consequent rise in prices. Following 1971, however, the incremental impact of these incentives declined while the Central Bank, which had been restricting the issue of new stocks in the earlier period, permitted a large expansion of new underwritings throughout late 1971 and 1972 that contributed to the price decline along with the softening of demand.[31] To this should be added the influence of the speculative fever that first buoyed the rising prices and later exacerbated the decline.

This erratic performance of the Brazilian stock market has been a subject of debate. The capital market reforms of the mid and late sixties looked to this

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market as a logical vehicle to mobilize savings for expansion of the private sector in the post-1964 period. In retrospect, the results were disappointing. The potential for this classic mechanism to promote economic growth and strengthen private sector firms is questionable in the Brazilian milieu. In brief, the recent history of the stock market can be summarized as follows:

a. The rapid expansion of the market in the late 1960s was due in large part to the stimulus of fiscal incentives through tax exemptions on the distribution of dividends and tax credits. These were granted to firms and individuals who purchased mutual funds. The opportunity cost of foregone government revenues in these measures raises serious questions about the social cost of this policy.

b. Only a small number of firms in fact benefited from the expansion of the stock market. State enterprises rather than private firms were the major beneficiaries.[32] These firms accounted for the vast majority of new issues and their weight predominates in the daily trading of the exchange. Table 6 shows that in 1970 five state enterprises accounted for only 17 percent of total transactions. By 1974 this had risen to 41 percent. Ironically, one could argue that what the public treasury lost in foregone revenues growing out of fiscal incentives for capital market reforms, they gained back through the increased subscription of stock to state owned enterprises through the stock market. This behavior is of course quite rational on the part of the investors since these state enterprises (Petrobras, Electrobras, the Bank of Brazil, etc.) are the only "blue chip" companies that guarantee a reasonable dividend and protect the interests of minority stockholders.

c. As was to be expected, the boom milieu hardly encouraged careful and objective long-run investment decisions. With no supervisory agency similar to the Securities and Exchange Commission in the U.S., the room for stock manipulation, secret information, and cavalier treatment of minority stockholders

TABLE 6 Total Current Value and Participation of Selected State Enterprises in Stock Market Transactions on São Paulo Stock Market: 1970–1974 (Millions of Cruzeiros)

	Total Transactions	*Participation of Five Largest State Enterprises**	*Percent*
1970	1,570	268	17.1
1971	9,108	2,560	28.1
1972	10,284	2,175	21.1
1973	10,912	2,571	23.6
1974	7,081	2,930	41.4

Source: Bolsa de Valores de São Paulo, Annual Reports, various issues

*State enterprises included are: Banco do Brasil; ACESITA; Siderugica Nacional Vale do Rio Doce; Petrobras

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is large indeed. An inflationary environment and the lack of substantial institutional investors (insurance companies, pension funds, etc.) further add to the speculative tendencies of stock market behavior. The thin market in most stocks (outside the state enterprise securities) means that the action of a small number of stockholders (for example, those with privileged information) can decisively affect the price of a given stock. Thus, price-earnings ratios (to the extent that such data are available and reliable) and other conventional measures are far less useful indicators to guide investors. It is not surprising to note that most small- and medium-sized investors generally abandoned this risky environment after 1971 and placed their money in the growing market of passbook savings accounts, thereby reducing further the demand for stocks.

d. The stock market never turned out to be an important vehicle in capturing private savings in Brazil, except for a brief period in 1971–72. It is difficult to quantify the amount of underwritings generated by the stock market. However, it is possible to look upon the supply of stock through "open capital" corporations as a proxy for stock-market induced underwritings.[33] Table 5 shows that "open capital" public offerings recorded an annual average of 40 million cruzeiros (in constant cruzeiros) between 1965–67. This rose to 267 million between 1968–70 and finally reached a peak annual average during 1971–72 at 414 million cruzeiros. These values fell to 148 million cruzeiros between 1973 and 1975, reaching a low in 1975 of only 94 million cruzeiros, four times smaller than the peak recorded in 1971.

Considering that stock values have declined significantly since that time and given the current recessionary environment affecting the Brazilian economy, it is difficult to imagine that the stock market will ever assume an important role in mobilizing savings for investment in the short-to-medium run. Thus, ten years after the enactment of the major capital market reforms, neither private market forces nor government intervention and subsidies could create the necessary environment to ensure that this classic device for capitalistic growth could succeed in mobilizing a significant portion of domestic savings to service the growth of the private market economy in Brazil.

The Pattern of Financial Market Specialization

The recent growth of the Brazilian financial sector has been accompanied and in part caused by an effort at institutional reform that began in 1965 with the enactment of the *Lei de Reforma do Mercados de Capitais*. From the beginning, a deliberate choice was made to create specialized credit institutions to deal with separate financial markets. At the same time that the government promoted market specialization, it also permitted the natural merger of several banking and nonbanking financial institutions. By 1975 several large private financial conglomerates operating in several specialized credit markets had become a growing oligarpolistic feature of the private financial scene in Brazil. Moreover, these institutions are just now beginning to centralize their previously separate financial administration. This implies that the earlier pattern of specialization of separate institutions for separate financial markets is gradually being conditioned

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in part by this merger movement.[34] Still, market segmentation, which was the initial goal of the reform laws, was clearly the dominant feature of the financial sector from 1966 to 1973 and remains important today.

The present noncommercial bank financial network can be divided into five areas depending on whether they are public or private sector entities or whether they deal in short-, medium-, or long-run credit.

Consumer Credit / Consumer credit institutions service the purchase of consumer durables. Except for commercial banking, consumer credit is the oldest market segment within the private sector financial structure. The *financeiras* appeared at the end of the fifties, accompanying the growth of the import substitution industrialization process (1955–61), which emphasized the production of consumer durables such as automobiles and household appliances. To acquire funds, these institutions would issue bills of exchange (*letras de cambio*) that could be sold with a discount thereby permitting a real rate of return for buyers of this paper. In the process, they were able to circumvent or bypass the usury law. The typical installment loan could range from three months to three years. (In certain periods, authorities would sometimes reduce the maximum term to restrict aggregate demand.)

Housing Finance / The housing sector is the area in which the post-1964 financial reforms have been the most extensive, consistent, and far reaching in their impact on the economy as a whole. At the same time, they best characterize how the general style of Brazilian growth strategy was applied in the financial sector. Resources for this sector come from three sources: (1) forced savings generated through the National Unemployment and Seniority Fund (FGTS) and rechanneled through the National Housing Bank (BNH); (2) deposits from private savings and loan institutions; and (3) deposits from government savings banks (caixas econômicas). As table 7 shows, in the early period more than half of these resources came from the forced contributions of the FGTS fund. By the end of the period, however, voluntary savings deposits in both private and public savings institutions predominated. Deposits from private institutions in particular have grown very rapidly in recent years (from 6.1 percent in 1972 to 15.5 percent in 1974), which represents the most impressive private sector initiative in the financial sector.

The growth of the financial network servicing housing necessarily combines many of the key elements of the post-1964 financial reforms and reflects many of the problems as well. First, there was an intense period of "institution building" in the early phases of this effort with the creation of the FGTS fund, the National Housing Bank, private savings and loan institutions, the implementation of a new rent reform law,[35] and the introduction of indexing for inflation for the relevant savings instruments. Second, state resources in the caixa econômicas or resources under control of the state (such as the FGTS fund) were the dominant form of financial support in the early years of the program and never fell below 70 percent of the total supply of savings for the housing sector during this period. Third, the success of the passbook savings instrument

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TABLE 7 *Sources of Savings for Housing Finance in Brazil: 1966–1975 (in Millions of Current Cruzeiros)*

	Government Savings Banks (Passbook Savings)		*FGTS (National Unemployment Fund)*		*Private Savings and Loan Associations (Deposits)*		*Real Estate Bonds*		*Total*
	Cr$	*%*	*Cr$*	*%*	*Cr$*	*%*	*Cr$*	*%*	*Cr$*
1966	18	27.7	—	—	—	—	47	72.3	65
1967	77	7.9	597	61.3	9	0.09	290	29.8	973
1968	261	10.1	1,604	62.2	69	2.6	644	24.9	2,578
1969	752	15.3	2,832	57.5	141	2.8	1,195	24.3	4,920
1970	1,787	21.2	4,345	51.5	294	3.4	2,007	23.8	8,430
1971	3,251	24.6	6,332	47.9	510	3.8	3,128	23.6	13,221
1972	6,390	29.3	9,038	41.5	1,323	6.1	5,015	23.0	21,766
1973	10,142	30.5	12,907	38.8	3,657	11.0	6,517	19.6	33,223
1974	21,118	37.9	18,505	33.2	7,807	14.0	8,287	14.0	55,718
1975*	28,964	41.7	22,207	31.7	10,787	15.5	7,531	10.8	69,309

Source: Banco Central do Brasil, *Boletims* and *Relatorios Annuais*, various years.

*Through July.

in drawing many small savers into the system for the first time was a result of not only the positive returns to savings that could now be earned but also a result of the confidence the public had in government savings banks.[36] Later, the newly created private savings and loan institutions began to contribute significantly to the total finance available for housing through the sale of *letras imobiliarias*. This sequence in the housing sector of state initiative and state resources setting the groundwork, followed later by private contributions in marshaling resources for development, reflects the general sequential pattern of state versus private initiative in the overall pattern of economic recovery and growth from 1966 to 1974.

Finally, in recent years the very success of the segmented market approach has created savings in excess of what can be invested in the housing sector. Since indexing for inflation and a real rate of interest have to be paid to the depositors of these funds, their application has to guarantee an equivalent rate of return. In response to this dilemma the Housing Bank has broadened its definition of real estate financing to include loans to industries producing building materials and the financing of municipal water and sewage systems. (In this latter case, the risk of partial defaults has probably increased since municipal authorities are limited in their capacity to raise revenue.) Some excess funds have also been used to finance exports. Finally, part of the surplus has been applied in government indexed bonds.

The federal financial network servicing housing was designed to stimulate

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the output of the building materials industries and promote employment in the civil construction industry. It has achieved a substantial impact in both areas. At the same time, however, equity concerns have been overlooked as they have been in general economic policy. While the civil construction sector has experienced high rates of growth, this activity has not extended significantly into the areas of low-income public housing units. In practice, a tight wage policy combined with the requirement that all buyers of BNH housing units must include indexation for inflation and a positive rate of interest in their monthly amortization payments, effectively excludes most low-income wage earners from this housing market. The high default rate for those low-income wage earners who are in the market has been a common occurrence in recent years.[37] Various modifications of repayment schedules have been tried to alleviate this problem, the most recent measure (November 1975) reducing by 50 percent the rate of indexation applied to the mortgage loans of these people. A partial offset to this essentially middle- and upper-class oriented housing network is the growth of public goods (sanitation facilities) generated through the BNH in many lower income urban neighborhoods.

In summary, the federal housing system represents a comprehensive effort to achieve housing and employment objectives simultaneously and at the same time reform the financial sector to include mortgage financing hitherto absent in the Brazilian financial network. This was accomplished initially through state initiative and state resources. It could hardly be otherwise, given the fact of inflation and the long-run mortgage loans (up to fifteen years) characteristic of this market. The private sector nevertheless is now beginning to play a more important role in rechanneling savings through private savings and loan associations and no doubt will continue to expand in this field now that the financial returns have been established through state initiative.[38]

Private Investment Banks / The private investment banking sector was originally conceived to play the role of mobilizing and rechanneling savings into long-term industrial loans. This was to be accomplished through three sources of credit supply: long-term savings deposits from the public, rechanneled government and foreign funds, and the issue of new underwritings. In this respect the private investment banks were to complement the effort of a revitalized and expanded stock market to provide long-term funds for the capitalization of private firms in Brazil. In retrospect, one can say that these banks did successfully develop and draw upon time deposits from the public. By 1973–74, time deposits accounted for 15 to 20 percent of total nonmonetary assets excluding stocks (table 3, the ratio of column 3 to column 16). At the same time, these institutions became an important vehicle to rechannel government and foreign savings to local firms. The underwriting function, however, never materialized and, after the abrupt decline in the stock market in 1971, this possibility disappeared altogether. In practice, the loans from these banks never achieved the long-term credit envisioned. Most loans are medium term in length and tend to supply working capital needs rather than long-run investment requirements.

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Government Bond Market / As discussed earlier, the government bond market (ORTN) was the first to be indexed for inflation in Brazil and thereby became the first indexed asset available to the public. This bond market has gone through three stages of growth acquiring a different role in each stage. Initially, the resources obtained through the sale of these bonds were used to reduce the current fiscal deficit that hitherto had been covered through the expansion of the money supply (Central Bank credit). Its role was to offer a noninflationary means to finance the fiscal deficit and, in the process, involuntary purchases with nontransferable clauses were forced on many public sector entities and some private firms. From the late sixties onward, however, voluntary purchases became much more important on the part of the general public as the security and rate of return on bond purchases were established.

After 1968, with the cash deficit substantially reduced, bond sales essentially collected resources for the public sector. More recently, the bond market in its third growth stage has acquired three additional functions: acting as a convenient vehicle to transfer resources from surplus to deficitary sectors within the public sector; facilitating the use of bonds as compulsory reserve requirements for commercial banks; and permitting the exercise of open market operations to control aggregate demand (through the introduction of short-term notes—LTN's).

Financial managers of private firms and banks also frequently purchase government bonds for the firms' portfolio investments not only because of the security and good rate of return but also for liquidity. The holders of government bonds always have a guaranteed buyer at current prices; i.e., the government. Private paper does not have this secure liquidity. Here a quick sale could result in a rapid decline in price. Table 3 shows that between 1971 and 1973, the flow of new bonds placed in the hands of the public represented 5.3 percent of all nonmonetary assets (excluding stocks).

Public Trust Funds (PIS and PASEP) / Two major public trust funds were established in the early seventies to create retirement benefits for private (PIS) and public employees (PASEP) through employer contributions in the former and through an earmarked portion (1 percent) of value added (ICM) tax revenue in the latter. Their impact on the distribution of income is not inconsiderable, as has been pointed out elsewhere, since, following the indexing of each account, there is an annual distribution of yields (at least 3 percent) based on each worker's share in the market (salary levels and seniority determine these shares).[39] Thus, their role in the financial sector is substantial and increasing. Data from the Central Bank show that after only five years of operation, the PIS-PASEP funds have generated a volume of financial resources equal to 45 percent of all the bills of exchange (letras de cambio) issued by the financeiras and 80 percent of the resources (time deposits) captured through the investment banking institutions.[40] Thus, this public sector initiative in mobilizing trust funds has reached a stage where it produces a resource base rivaling that of the major private savings institutions. Since it will take at least another four years before these funds will stabilize as a constant proportion of GNP, these funds will continue

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to grow in the near future and become the major source of savings in the Brazilian financial sector.[41] From their creation in 1969 until 1974 these funds were administered through the federal savings banks (caixas econômicas) and the Bank of Brazil. From 1974 to the present, management of these funds passed to the National Development Bank (BNDE).

Some observers have criticized the management of these funds, claiming that the resources are essentially being rechanneled to the private sector for working capital purposes rather than fulfilling investment needs. The data are less than ideal to measure this distinction. Central Bank data again show that, at least with respect to the PIS fund, investments apparently make up a large part of its application. However, it is not clear how well these statistical sources can distinguish between working capital and investment applications of loans. In any event, all funds are fungible and loans for working capital purposes could release funds within the firm (that otherwise would have been used for working capital) for investment. Both sources of funding play a role in promoting expansion.

State Initiative in the Financial Sector—Additional Comments

The previous sections discussed in some detail the evolving role of the government in creating and conditioning the segmented market structure of the post-1964 financial system in Brazil. This analysis would not be complete without some discussion of the influence of the government through the National Monetary Council (CMN) and the government's role in supplying agricultural credit. It is difficult to imagine the federal authorities engaging in a stabilization program on the one hand and, at the same time, promoting far reaching reforms in the money and capital markets on the other without creating a vehicle to coordinate these efforts. The CMN is this vehicle. The functioning of this council was instrumental in introducing a consistent direction to the entire thrust of monetary and fiscal measures during this period, a consistency that was lacking in the bureaucratic fragmentation of economic policy in pre-1964 Brazil.

The CMN is headed by the finance minister and, among others, includes the ministers of planning, industry and commerce, agriculture, the presidents of the Bank of Brazil and the Central Bank.[42] The council has exercised two basic roles: insuring compatibility among separate economic policy initiatives in diverse bureaucratic entities, and establishing the regulatory guidelines for the implementation of these policies. The phase of the Brazilian economic stabilization effort (1964–67) illustrates the first of these objectives. Here the principal problem was to reduce the fiscal deficit that had created inflationary pressures in the economy. The CMN was instrumental in forcing all ministries to accept a compatible program of sectoral government expenditures in line with the projected deficit.

During the period of rapid economic growth (1968–74), when public investments and programs expanded, the CMN continued to coordinate the execution of these projects, especially with reference to the mobilization of savings.[43] Through the open market sale and purchase of indexed government bonds, the

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CMN has been able to reallocate surplus government resources (from the PIS-PASEP trust funds, for example) to deficitary programs or agencies without jeopardizing the financial viability of the programs producing the surpluses. Finally, the CMN has undertaken the task of coordinating the management of the federal financial system discussed earlier. It is our judgment that the council has been efficient in maintaining a consistent pattern of policy design and policy execution in the financial sector during this period. At the same time, however, there have been certain social costs incurred in the execution of some of these programs which, as will be seen shortly, should qualify our otherwise favorable judgment of government initiative in this area.

Another major area of government action and influence in the capital markets merits discussion: namely, governmental policy toward rural credit. Throughout the sixties and seventies, a series of measures were undertaken to increase agricultural output and productivity. These policies included price support programs for many crops, subsidies for the purchase of modern agricultural inputs (tractors and fertilizers), and the marked expansion of rural credit at concessional interest rates. These rates typically varied from 0 to 18 percent a year and were not indexed for inflation (which in recent years has varied from 20 to 40 percent a year). All these credit programs drew upon resources in the Central Bank and were channeled through the formal banking system, especially the branches of the Bank of Brazil. Part of these resources came from the local counterpart of international agreements (the Canadian Wheat Agreement, Work Bank Agreements, etc.). The entire program was administered by the CMN which passed judgment on all programs affecting the agricultural sector proposed by the various ministries.

Several points emerge here. First, the agricultural sector has been subject to government intervention for decades, especially in relation to final prices, export taxes, exchange rates, and quotas. Second, the post-1964 governments have added to this intervention by introducing a battery of incentives for the use of modern inputs (machinery and fertilizers) that have played an important role in raising agricultural productivity as conventionally measured (output per man). Third, in the credit market, our major concern here, there has been a large increase in the programs and the funds available to the agricultural sector. In 1969 the grand total of government funds applied to agricultural uses amounted to a little over 7 billion cruzeiros. Three years later this total had increased almost six-fold to 41 billion cruzeiros.[44]

In contrast to the innovative action of introducing positive rates of interest in the various nonagricultural financial markets, the post-1964 governments have chosen not to do this in the agricultural sector. Expanded credit here has continued to be offered at negative real rates of interest. This raises questions about the misallocation of resources implicit in this policy and the possible equity consequences growing out of a non-price-rationed market for rural credit in which large landowners gain at the expense of small farmers.[45] The important conclusion for our purposes is that, in highlighting the growing role of the government in mobilizing savings and rechanneling these resources for development, the government's treatment of the agricultural sector becomes crucial.

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This is one of the most deliberately managed and subsidized credit areas in the economy, and, as can be seen above, represents a sharp contrast to the government's reforms in the other credit markets where all loans have been indexed for inflation and charged a positive rate of interest.

In short, government initiative in restructuring the financial markets in the post-1964 period has consisted of a dual policy: a delicate balance between government initiative and market forces has been employed to create a viable, segmented financial market structure (in urban areas) serving special groups of savers and borrowers with positive real rates of interest; and a highly subsidized area (agriculture) where private market forces are minimized in the credit market and direct allocation and government intervention prevails.

This, of course, begs the question of why the government feels the agricultural sector deserves "special" treatment. While this goes beyond the scope of this paper, a comment is in order. The usual argument for subsidizing agricultural credit lies in the fact that many other policies that may be difficult to change invariably penalize agriculture (overvalued exchange rates, export taxes or quotas on agricultural products, price controls on foodstuffs, etc.). Credit subsidies are thus a compensatory scheme to offset the negative impact of these policies. Lessening the original penalizing distortions would very likely prove more beneficial than introducing a compensatory distortion to deal with this sector. To date this has not been attempted. The net result of these complications is that the agricultural sector in Brazil has rarely encountered free market forces in the supply and demand for formal credit.

Summary: Accomplishments and Dilemmas

The previous analysis showed how the creation of a financial system was a logical and important part of the total pattern of market reform and economic growth strategy in post-1964 Brazil. Despite positive accomplishments, problems have arisen and social costs have been incurred in this effort to reform the capital markets. In view of this, continuing change and experimentation can be expected in the future. In brief, our conclusions can be summarized as follows:

a. The expansion of the capital markets was extensive following the passage of the capital markets law and the establishment of indexing in 1965. Although aggregate savings may not have increased as much as official financial statistics might imply, the average term length of loan increased substantially and the formal credit market diversified its indexed financial instruments through time to compete for the public's savings. The expansion of consumer credit aided the economic recovery of the consumer durable manufacturing sector (automobiles and household appliances) and the restructuring of housing finance led to a significant expansion of the mortgage market and stimulated the building materials industry as well as civil construction. Finally, government programs (FINAME and FIPEME) in the National Development Bank (BNDE) expanded credit for local producers of capital equipment in an attempt to reproduce the conditions offered by suppliers' credit from abroad.

b. The strategy of capital market development in Brazil should not be

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confused with a free market philosophy or, on the other hand, with a complete government monopoly on credit. In fact, the term structure of interest rates was always administered by government authorities and the segmented financial markets created through the government's capital market development strategy were always regulated to avoid the adjustment costs of financial decompression into a free market model where interest rates find their own levels. On the other hand, the private sector played a useful role in capturing some domestic savings through the financeiras (letras de cambio) and private savings and loan institutions (*cadernetas de poupancas*) while at the same time acting as a major channel through investment banks for foreign and government funds.

In the division of labor between public and private sector activity in the capital markets, public sector initiative stands out in the higher risk or longer term credit markets (such as agriculture, housing, or long-term industrial expansion) while the private sector builds on its comparative advantage in the lower risk and shorter term areas of consumer credit (financeiras) and the rechanneling of government and foreign loans to private borrowers for working capital purposes (investment banks). The most marked contrast with a developed country's capital market (such as the U.S.) stands out in the pivotal role of the government in mobilizing savings in Brazil through forced as well as voluntary means (PIS-PASEP-FGTS and the caixas econômicas). Given the weakness of the stock market, the private sector's capacity to mobilize savings is limited to letras de cambio and the recent growth of private passbook savings. These efforts are still relatively insignificant in comparison to funds rechanneled from state sources. While the private sector's use of credit has grown since 1964, its role as a source of credit has consistently declined.

c. Capital market development in Brazil has incurred important opportunity costs through the use of fiscal incentives (Decree Law 157 funds) to promote the application of foregone tax revenue for capital market growth. Also, the creation of public trust funds (PIS, PASEP) through forced savings has a cost in terms of foregone public expenditures as well as implications for the distribution of income through their coverage and the incidence of benefits associated with their later dispersal. These social opportunity costs must be taken into consideration before arriving at any conclusion on the net benefits of capital market development in Brazil.

d. Among the several problems that have grown out of Brazil's experience with capital market development, the most serious long-run dilemma concerns the supply of long-term capital for private sector expansion. As discussed here, neither the stock market nor the private investment banks fulfilled their expected roles of supplying long-term equity financing for private firm expansion. Outside of retained profits, medium and large national firms can only resort to debt financing through the National Economic Development Bank (BNDE) and other government banks. These high cost loans cannot be very long term given the firms' uncertainty about the behavior of their future prices and profit margins in an inflationary environment combined with the certainty of indexation for their future debt obligations with the bank. In practice, many firms have found it difficult to meet their BNDE debt obligations.

In principle, three possible alternatives exist: (1) reduce the cost of long-

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term borrowing for these firms by reducing the burden of indexing; (2) permit the BNDE to accept stocks as partial payments for the debts incurred; or (3) devise a new strategy to revitalize the moribund stock market. All three present problems. Reducing the rates of indexation for loans to the private sector, as was done by the BNDE and the Housing Bank in 1975, is a form of subsidy that in the long run could jeopardize the government's capacity to maintain the financial viability of its various trust funds and maintain the public's confidence in the indexed financial system. The second alternative elicits strong resistance on the part of private borrowers who fear the consequences on their firms' equity position. It also raises the question of the wisdom of transforming a national development bank into a vast holding company for a large number of private firms. The third alternative is the most attractive to all parties in principle, but the most difficult to carry out in practice as seen in our earlier discussion of the stock market.

e. A second issue that has surfaced in recent years is the question of mergers versus specialization. The initial philosophy of the capital market reforms was based on the principle of market specialization: independent financial institutions for specific markets. Recently, the larger private commercial banks have been buying the controlling stock in certain financeiras, savings and loan institutions, and investment banks. This merger activity has altered somewhat the independent and separate market pattern established earlier and raises the question of whether cost economies of scale are apparent in these mergers and thus justify official encouragement or whether monopoly pricing may result if the movement continues. To date, the government has taken no official stand on this issue except to state that the deciding criterion should be based on which structure can lower the cost of borrowing most effectively. An additional consideration here is the feeling that larger domestic banks may be able to compete more effectively with large foreign banks abroad in negotiating external loans for Brazilian customers from the Eurodollar and other foreign capital markets. At present, small independent market-specific financial institutions operate in given markets alongside institutions linked to the multimarket conglomerates of large commercial banks. The needs of these two separate kinds of institutions are different, the possibilities of compatible coexistence under present conditions uncertain, and the benefits and costs of promoting one or the other strategy open to question.

f. The most serious dilemma facing policymakers today is the growing limitations of indexing. As pointed out earlier, the absence of an equity channel for long-run capitalization of private industry overemphasizes the reliance on debt financing. Since these debts are indexed for inflation, the burden of repayment limits the degree to which firms can continue to resort to this financing without incurring heavy risks. Since all prices do not rise together, a given firm's product prices may diverge from the average price rise in such a way that its profits fall behind the rate of inflation reflected in the indexing formula. One solution is to limit the amount of inflationary readjustment for indexing. In 1975 the government established a 20 percent index ceiling on longer term loans despite the fact that inflation was a good 10 percent higher.

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However, this form of subsidized loan cannot become a long-run solution to the problem without jeopardizing the financial viability of the indexed trust funds that supply the resources for this loan financing (PIS, PASEP, FGTS). A similar problem exists in offering subsidized mortgage rates to the lower income strata in the housing market. The continuation of this practice would compromise the workers' share of future FGTS unemployment benefits. The former case is a regressive transfer of income from workers to firms. The latter case is probably a progressive income transfer from better paid workers to lesser paid wage earners and at the same time a transfer of future income for present consumption. In any event, the facile downward readjustment of indexed loans or mortgage repayments is not a satisfactory long-run solution to the shortage of capital as long as trust funds are involved.

CONCLUDING REMARKS

Our analysis of the role of state initiative in the recent growth cycle of Brazil (1967–74) attempted to identify the problems encountered in trying to create a larger role for the private sector in this process. This becomes an even more interesting dilemma when one bears in mind that Brazil probably has a more developed capitalist business sector than any other Third World nation and, at the same time, a succession of governments since 1964 that has presumably had an ideological bias to promote capitalist development.

The evidence presented here, however, strongly suggests that despite the professed goals of strengthening the private sector and restructuring the market economy to promote that end, the growth of state enterprises in the industrial and infrastructure areas has increased relative to private sector activity. At the same time, the reform and expansion of the money and capital markets has been brought about largely through state initiative and the state dominates in mobilizing savings and allocating investment. This is not to deny that markets have not been made more responsive to forces of supply and demand (particularly the capital markets) or that the private sector has not improved its performance in response to the changed institutional milieu. However, no serious attempt has been made to increase its relative weight in the Brazilian economy and its role has been clearly subordinate to that of the state in generating and controlling the resources promoting the recent pattern of economic growth.

Three elements stand out as the major explanatory factors producing this result. First, rapid economic growth has always been a more important legitimating factor for the post-1964 Brazilian governments than any restructuring of society to promote capitalist institutions or free market forces per se. The latter have acquired more importance than in the pre-1964 period, but are always subordinate to the goal of growth in the short run. The implications of this are clear when one bears in mind that any radical dismantling of state enterprises and reduction of state intervention in the product and factor markets (prices, interest rates, etc.) could have led to a period of financial decompression, unemployment, and stagnant growth that the post-1964 government would have found intolerable.

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Second, the technological and financial scale economies enjoyed by state enterprises merely confirm the historic weakness of the private sector in Brazil. State enterprises are the major domestic concerns that have evolved into large modern corporations with progressive and autonomous management, impressive human capital resources and, in some sectors, relatively efficient performance. It can be argued that they gained these advantages through time by being able to draw upon a source of capital resources (i.e., the state) unavailable to private firms. Thus, an institutionalized advantage for acquiring low-cost capital resources gave public enterprises an inherent competitive advantage over possible private competition. Yet, it is unlikely that the local private sector could have mustered the resources or the technology to move into these areas and nationalist sentiment would not allow foreign capital to dominate many of these sectors. Thus, the imperatives of growth demanded public sector initiative and these imperatives continue to operate today.

Third, the lack of any workable strategy to generate low-cost, long-run capitalization for private firms has become apparent in the recent attempts to reform the stock market and develop investment banks for new underwritings. This is the single most important structural defect of the private sector in Brazil today and all the institutional innovations undertaken in the capital market reforms have done little to resolve this dilemma. Current attempts to alleviate the debt-financing burden of BNDE indexed loans to the private sector (through reduced ceilings on monetary correction) or inject public trust funds into the stock market are evidence that some form of extensive state subsidies is required to resolve this dilemma with the attendant risks of jeopardizing the financial viability of the trust funds themselves. It is not clear that the presumed benefits of a larger private sector would outweigh the social costs of the foregone expenditures in using these resources in this fashion, particularly in view of the risks involved.

In effect, this is a statement of the dilemma of private sector capitalism in LDC's. There is no way the private sector can hope to achieve the financial and technological scale economies needed to succeed in modern industry without access to low-cost, long-term financing. Yet, given the imperfect financial market structures (high risk and uncertainty) common to LDC's, there is no way to accomplish this without substantial government intervention and subsidization of these markets over a significant period of time. Thus, the government could continue to use its power to tax and mobilize savings but then transfer some of these funds to the private sector as an institutional investor in the underdeveloped private capital markets to offset speculative tendencies. The opportunity costs of such a strategy are substantial. What the Brazilian case shows is that, even in an LDC that one could imagine most amenable to local capitalist expansion, these costs are considered high and the alternative strategy of continued public initiative and dominance in the financial markets and state enterprise growth in the producing sector is the most likely alternative for the future.

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NOTES

1. An extensive literature exists on this subject. A limited review of standard references is as follows: Edmar L. Bacha, "Recent Brazilian Economic Growth and Some of Its Main Problems," *Textos Para Discussão No. 25*, Departamento de Economia, Universidade de Brasilia (Apr. 1975); Werner Baer, "The Brazilian Boom 1968–72: An Explanation and Interpretation," *World Development* (Aug. 1973); Werner Baer, "The Brazilian Economic Miracle: The Issues and the Literature," *Bulletin of the Society for Latin American Studies*, no. 24 (Mar. 1976); Werner Baer and Paul Beckerman, "Indexing in Brazil," *World Development* 2, nos. 11 and 12 (Oct.–Dec. 1974); Fernando Henrique Cardoso, "Associated-Dependent Development: Theoretical and Practical Implications," in *Authoritarian Brazil*, edited by Alfred Stepan (New Haven: Yale University Press, 1973); Eduardo Periera de Carvalho, *Financiamento Externo e Crescimento Econômico no Brasil* (Rio de Janeiro: Coleção Relatorios de Pesquisa, IPEA/INPES, 1974); Albert Fishlow, "The Size Distribution of Income in Brazil," *American Economic Review Papers and Proceedings* (May 1972); Albert Fishlow, "Reflections on Post-1964 Economic Policy in Brazil," in *Authoritarian Brazil*; Albert Fishlow, "Indexing Brazilian Style: Inflation without Tears," *Brookings Papers on Economic Activity*, no. 1 (1974); C. Furtado, "The Post-1964 Brazilian Model of Development," *Studies in Comparative International Development* 8, no. 2 (Summer 1973); Carlos Langoni, *Distribuição da Renda e Desenvolvimento Econômico do Brasil* (Rio de Janeiro: Editora Expressão e Cultura, 1973); Walter L. Ness, "Financial Markets Innovation as a Development Strategy: Initial Results from the Brazilian Experience," *Economic Development & Cultural Change* 22, no. 3 (Apr. 1974); Affonso C. Pastore, "Observações Sobre a Politica Monetaria no Programa Brasileiro de Estabilização," Livre Docencia Thesis, Universidade de São Paulo (1973); Affonso C. Pastore, "Aspectos da Politica Monetaria Recente no Brasil," *Estudos Econômicos* 3, no. 2 (1973); Mario Henrique Simonsen, "O Modelo Brasileiro de Desenvolvimento," Fundação MOBRAL, Ministerio da Educação e Cultura (mimeo 1973); Thomas Skidmore, "Politics and Economic Policymaking in Authoritarian Brazil 1937–1971," in *Authoritarian Brazil*; Donald Syvrud, *Foundations of Brazilian Economic Growth* (Stanford, California: Hoover Institute of War and Peace, 1975); Maria Conceição de Tavares, *Da Substituição de Importações ao Capitalismo Financeiro* (Rio de Janeiro: Zahar Editora, 1972); Carlos Von Doellinger, et al., *Politica de Comercio Exterior e Seus Efeitos 1967–73* (Rio de Janeiro: Coleção Relatorios de Pesquisa No. 22, IPEA/INPES, 1974); John Wells, "Euro-Dollars, Foreign Debt, and the Brazilian Boom," Centre of Latin American Studies, University of Cambridge, *Working Paper No. 13* (England, 1973).
2. The most recent comprehensive review following this orthodox interpretation can be found in: Syvrud, *Foundations*, and Simonsen, "O Modelo."
3. See Baer, "The Brazilian Boom," and Henri Phillipe Reichstul and Luciano G. Coutinho, "O Setor Produtivo Estatal e o Ciclo" (mimeo., 1975).
4. Annibal Villela and Wilson Suzigan, *Politica do Governo e Crescimento da Economia Brasileira 1889–1945* (Rio de Janeiro: IPEA/INPES, Serie Monografica 10, 1973); and Werner Baer, Isaac Kerstenetsky, and Annibal Villela, "The Changing Role of the State in the Brazilian Economy," *World Development* 1, no. 11 (Nov. 1973).
5. *Quem é Quem*, Visão (1975).
6. Data available from *Conjuntura Econômica* 25, no. 9 (1971) and "Sistema de Contas Nacionais: Metodologia e Quadros Estatisticos," Fundação Getulio Vargas (Setembro de 1974).
7. For a review of this period see Werner Baer, *Industrialization and Economic Development in Brazil* (Homewood, Ill.: Irwin Press, 1965); Joel Bergsman, *Brazil, Industrialization and Trade Policies* (New York: Oxford University Press, 1971); and Judith Tendler, *The Electric Power Industry in Brazil* (Cambridge, Mass.: Harvard University Press, 1968).
8. See Werner Baer, *The Development of the Brazilian Steel Industry* (Nashville, Tenn.: Vanderbilt University Press, 1969), and Nathaniel Leff, *The Brazilian Capital Goods Industry 1929–1964* (Cambridge, Mass.: Harvard University Press, 1968).

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9. We are grateful to Tom Trebat for this point.
10. See Reichstul and Coutinho, "O Setor" and Baer, "The Brazilian Boom."
11. Reported in *Gazeta Mercantil*, São Paulo (3 Dezembro de 1975), p. 5.
12. *Journal do Brasil* (22 Aug. 1975), p. 16. For detailed information on stock trading and new issues see the annual reports of the Bolsa de Valores de São Paulo for 1972, 1973, and 1974.
13. When international agencies finance a substantial part of the expansion plans of state enterprises, international bidding from foreign firms is required. Domestic firms are allowed only a limited cost advantage over foreign firms, thereby reducing their chances of participating extensively in the supplier activity.
14. The argument that the technical capacity of local producers can meet much of this demand is made not only by private producers in the capital goods area but also by leading technical experts. The director of the Instituto de Pesquisas Tecnologicas de São Paulo made the same remarks in a personal interview with the authors.
15. Skidmore, "Politics and Economic Policymaking"; Fishlow, "The Size Distribution"; and Celso Lafer, *O Sistema Politica Brasileiro* (São Paulo: Editora Perspectiva, 1975).
16. There was extensive debate on this issue in all the major newspapers in Brazil throughout 1975 and 1976. The most detailed statement setting forth the private sector position can be found in a report issued by the São Paulo Federation of Industries (FIESP). See *Gazeta Mercantil*, São Paulo (4 de Setembro de 1975).
17. For an interesting sociological analysis of the entrepreneurial behavior of private sector Brazilian industrialists in Brazil, see Fernando Henrique Cardoso, *Empresario Industrial e Desenvolvimento Econômico no Brasil* (São Paulo: Difusão Européia do Livro, 1964). For several economists' perspectives on this issue see Bergsman, *Brazil Industrialization* (chap. 6); Leff, *The Brazilian Capital Goods Industry* (chap. 6); and Samuel Morley and Gordon W. Smith, "Import Substitutions and Foreign Investment in Brazil," *Oxford Economic Papers* (Mar. 1971).
18. See Baer, "The Brazilian Boom," and Reichstul and Coutinho "O Setor."
19. Many private firms, of course, deliberately ignore the stock market to avoid disclosure requirements and the problem of weakening family control. However, those that are listed on the stock market are usually among the largest, most modern, and best managed private firms in Brazil and it is precisely these firms that find it difficult to compete with state enterprises for stock market capital.
20. Conceição de Tavares, *Da Substitução*; C. Furtado, "The Post-1964 Brazilian Model"; Ness, "Financial Markets"; Syvrud, *Foundations*; and Andre F. Montoro Filho, "The Recent Development of the Brazilian Financial System and the Application of a General Equilibrium Analysis" (Ph.D. dissertation, Yale University, 1976).
21. Ness, "Financial Markets"; Syvrud, *Foundations*; and Montoro Filho, "The Recent Development."
22. See Montoro Filho, "The Recent Development." With the growth of inflation, an informal inflation-proof market developed (frequently referred to as the "parallel market") designed to circumvent the 12 percent usury law. With the creation of indexed credit instruments, however, there was a gradual decline of funds channeled into the parallel market. By 1970 this market practically disappeared except as a form of nonformal credit for many small farmers in the rural areas. Consumer consortiums or lotteries became so popular in the preindexed credit era in Brazil that it has been estimated that close to 20 percent of all automobile sales were conducted through these nonbank consumer consortiums.

    In light of the above, we should be careful in interpreting the sharp growth of formal credit in the banking system from the mid-sixties onward as representing an equivalent increase in aggregate savings and investment brought about by indexed credit instruments. There is clearly an important element of substitution here as savers transferred their savings from the informal market and consortiums (which are not recorded in official statistics) to the formal credit market.
23. Ness, "Financial Markets." See note 22 above.
24. Kenneth King, "Recent Brazilian Monetary Policy," CEDEPLAR, Belo Horizonte (mimeo., Outubro de 1972).

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25. H. Patrick and U. Wai, "Stock and Bond Issues and Capital Markets in Less Developed Countries," *IMF Staff Papers* (July 1973).
26. In closing this introduction, we should make clear that we do not intend to study in any detail the efficiency of financial intermediation in Brazil or the problem of administered interest rates. Our analysis assumes as given the fact of administered interest rates and a policy of specialization that compartmentalized financial markets. The results of these policies were two-fold. For the first time real interest rates, which had been typically negative, became positive, a fact that can be considered a net benefit to the financial system. On the other hand, the frequent complaint that surplus funds (savings) exist in certain financial markets while shortages characterize other markets suggests that many market imperfections exist in the allocation of savings into investment in the segmented financial structure. In the spirit of the theory of the second best, the mere expansion and diversification of a financial system that at the same time includes many deliberately induced distortions does not necessarily lead to a net improvement in economic efficiency.
27. It should be noted here that personal savings is estimated as a residual in the national accounts and is independent of the type of asset being bought (i.e., whether an indexed savings instrument in the official credit market or an unofficial type of asset in the parallel market). If we add to this the fact that private savings did not increase since 1965, we can conclude that the "substitution effect" referred to earlier must have been substantial between the formal and informal credit markets.
28. Government bonds (ORTN'S) were in fact the first savings assets that were indexed for inflation in 1965. Thus, bonds set the precedent for the indexation of other savings instruments in both the private and the public financial markets. Of all the financial data recorded in table 3, government bonds must be analyzed with caution. The government frequently issues bonds as a means of transferring resources among various public sector entities. For example, if the national trust funds in the Social Integration Program (PIS) enjoy a surplus cash situation (contributions exceeding obligations), as is the case currently, this fund buys government bonds and as a result transfers resources to other sectors of the government. Thus, it is clear we cannot work with the gross balance of government bond sales since there is considerable double counting in this total. The data in table 3 (column 6) only refer to government bonds held by private individuals excluding all intra-public-sector purchases as well as those purchased by financial intermediaries. See Affonso C. Pastore et al., "Reflections about the Brazilian Experience on Indexation" (Paper presented at the NBER/IPE Seminar on Indexation, Universidade de São Paulo, 1975).

    Given the fact that, prior to 1964, government debt management had been far from exemplary, indexation and a real rate of return were insufficient incentives to promote initially a large voluntary purchase of government bonds. Compulsory subscription by government entities and tax credit-induced purchases by firms and individuals were important factors in the rise of bond sales in the middle to late sixties. See Keith Rosenn, "Adaptations of the Brazilian Income Tax to Inflation," *Stanford Law Review* 21, no. 1 (Nov. 1968):94–96. Since 1970 voluntary purchases have become more important.
29. The stock price index tabulated in table 5 comes from research currently underway at the University of São Paulo. See Emilio Alfieri, "Analise da Bolsa de Valores como Intermediario Financeiro 1968/74," Instituto de Pesquisas Economicas (IPE), Universidade de São Paulo (mimeo., 1976). We thank the author for allowing us to use his material.
30. On this point, see Patrick and Wai, "Stock and Bond Issues," and *The Development of the Capital Markets in Brazil* (Rio de Janeiro: IBMEC, 1975). For an excellent review of the early development of the capital market institutions in Brazil, see David M. Trubeck, "Law Planning, and the Development of the Brazilian Capital Market," *The Bulletin*, New York University, School of Business Administration, nos. 72–73 (Apr. 1971).
31. To take advantage of these tax credits firms had to sell new shares directly to the pub-

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lic and have these new underwritings registered through the Central Bank. Firms also distribute new shares (*bonificações*) to current shareholders in place of dividends. This can be done in two ways: through incorporation into the capital reserves of the firm or through an indexed revaluation of fixed assets. These new shares are added to the new underwritings to show the variation in the supply of stocks in table 5.

32. See note 19.
33. Not all "open capital" (*capital aberto*) corporations are listed on the stock market and not all the stocks on the stock market are open capital corporations. Nevertheless there is a strong overlap between the two. There is a consensus among market specialists that the behavior of open capital underwritings is a good proxy for the behavior of the stock market in capturing private savings.
34. Among the top 20 financeiras, independents held 50 percent of total assets in 1973 but only 42 percent in 1974, showing that the large commercial bank conglomerates were increasing their share in the consumer finance market. Among the top 20 *companhias de credito imobiliario* the total assets of independents declined from 61 to 58 percent from 1973 to 1974. Finally, among the top 20 investment banks, independents held only 31 and 23 percent of total assets in 1973 and 1974, respectively. Conglomerates increased their share significantly. In all segments of these three financial markets the largest five commercial banks (Bradesco, Itau, Real, Nacional, and Uniao de Bancos) in general controlled the largest "specialized" financial institutions. See *Visão*, Edição Financeira (28 de Abril de 1975). One of the reasons for the tacit official approval of this conglomerate growth is the feeling that a small number of large, strong local banks can compete more effectively for external capital from the Eurodollar and other foreign markets than could a larger number of smaller banks.
35. Until 1965 rents were frozen, pegged to the nominal value of the original contract with no indexing for inflation. As a result, real rents declined and housing investments were discouraged. In the post-1965 period rent readjustments were permitted with indexing, thereby creating a positive stimulus for housing construction. For a discussion of this issue see Keith Rosenn, "Controlled Rents and Uncontrolled Inflation: The Brazilian Dilemma," *The American Journal of Comparative Law* 17, no. 2 (1969).
36. Government savings banks had a tradition of accepting small savings accounts and, in addition, were more secure against the threat of bankruptcies than private banks.
37. There are no official data on defaults or evictions. Newspapers in recent years, however, have emphasized the default problem. For an excellent review of the BNH system using a flow-of-funds approach, see Clark W. Reynolds and Robert T. Carpenter, "Housing Finance in Brazil: Toward a New Distribution of Wealth" in *Latin American Urban Research* 5, edited by Wayne E. Cornelius and Felicity M. Trueblood (Beverly Hills, Calif.: Sage Publications, 1975).
38. Here it is important to remember that indexed returns for private savings accounts are in effect guaranteed by the government through the BNH. If a private savings and loan association has idle balances (and thus cannot pay the indexed readjustment on its liabilities), it simply redeposits these balances in the BNH who will in turn pay the relevant monetary correction for inflation plus a positive yield. Thus private savings institutions have their risks reduced significantly by state intervention guaranteeing indexation for inflation plus a yield.
39. José Roberto Mendonça de Barros, "The Social Integration Program: A Brazilian Attempt at Income Distribution," Discussion Paper, Instituto de Pesquisas Econômicas, Universidade de São Paulo (mimeo., 1974).
40. Through May 1975, PIS and PASEP funds amounted to 22.5 billion cruzeiros, while indexed exchange bills of the private sector amounted to 50 billion cruzeiros and indexed time deposits 27.7 billion cruzeiros. Data on PIS resources and PASEP investment application data from 1971 onwards can be drawn from *Boletims* and *Relatorios Annuais*, Banco Central do Brasil, 1972–1976.
41. Affonso C. Pastore and José Roberto Mendonça de Barros, "O Programa de Integracao Social e a Mobilizacao de Recursos paro o Desenvolvimento," *Estudos Econômicos* 2, no. 4 (1972).

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42. Lafer, *O Sistema*.
43. See Pastore et al., "Reflections," and Lafer, *O Sistema*.
44. Pastore et al., "Reflections."
45. See for example *Farm Growth in Brazil*, Report to AID by the Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus (1975), chap. 10; Dale W. Adams et al., "Is Inexpensive Credit a Bargain for Small Farmers? Recent Brazilian Experience," *Inter-American Economic Affairs* 26, no. 1 (Summer 1972); and Dale W. Adams and Joseph L. Tommy, "Financing Small Farmers: The Brazilian Experience 1965–1969," *Agricultural Finance Review* 35 (Oct. 1974).

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