16
DISCUSSION PAPER
Originally published by Ipea in December 1987 as
number 129 of the series Texto para Discussão.

INDUSTRIAL POLICIES AND MULTINATIONAL ENTERPRISES IN LATIN AMERICA

Helson C. Braga
Virene Matesco

16

DISCUSSION PAPER

Originally published by Ipea in December 1987 as
number 129 of the series Texto para Discussão.

Brasília, January 2015

INDUSTRIAL POLICIES AND MULTINATIONAL ENTERPRISES IN LATIN AMERICA

Helson C. Braga
Virene Matesco

Federal Government of Brazil

Secretariat of Strategic Affairs of the Presidency of the Republic
Minister Roberto Mangabeira Unger

A public foundation affiliated to the Secretariat of Strategic Affairs of the Presidency of the Republic, Ipea provides technical and institutional support to government actions – enabling the formulation of numerous public policies and programs for Brazilian development – and makes research and studies conducted by its staff available to society.

President
Sergei Suarez Dillon Soares

Director of Institutional Development
Luiz Cezar Loureiro de Azeredo

Director of Studies and Policies of the State, Institutions and Democracy
Daniel Ricardo de Castro Cerqueira

Director of Macroeconomic Studies and Policies
Cláudio Hamilton Matos dos Santos

Director of Regional, Urban and Environmental Studies and Policies
Rogério Boueri Miranda

Director of Sectoral Studies and Policies, Innovation, Regulation and Infrastructure
Fernanda De Negri

Director of Social Studies and Policies, Deputy
Carlos Henrique Leite Corseuil

Director of International Studies, Political and Economic Relations
Renato Coelho Baumann das Neves

Chief of Staff
Ruy Silva Pessoa

Chief Press and Communications Officer
João Cláudio Garcia Rodrigues Lima

URL: http://www.ipea.gov.br
Ombudsman: http://www.ipea.gov.br/ouvidoria

DISCUSSION PAPER

A publication to disseminate the findings of research directly or indirectly conducted by the Institute for Applied Economic Research (Ipea). Due to their relevance, they provide information to specialists and encourage contributions.

© Institute for Applied Economic Research – **ipea** 2015

Discussion paper / Institute for Applied Economic

Research.- Brasília : Rio de Janeiro : Ipea, 1990-

ISSN 1415-4765

1. Brazil. 2. Economic Aspects. 3. Social Aspects. I. Institute for Applied Economic Research.

CDD 330.908

The authors are exclusively and entirely responsible for the opinions expressed in this volume. These do not necessarily reflect the views of the Institute for Applied Economic Research or of the Secretariat of Strategic Affairs of the Presidency of the Republic.

Reproduction of this text and the data it contains is allowed as long as the source is cited. Reproductions for commercial purposes are prohibited.

Tiragem: 100 exemplares

Trabalho concluído em: Dezembro de 1987

Instituto de Pesquisas do IPEA
Instituto de Planejamento Econômico e Social
Avenida Presidente Antonio Carlos, 51/13º/17º andares
20 020 Rio de Janeiro RJ

Este trabalho é de inteira e exclusiva responsabilidade de seu autor. As opiniões nele emitidas não exprimem, necessariamente, o ponto de vista da Secretaria de Planejamento da Presidência da República.

INDUSTRIAL POLICIES AND MULTINATIONAL ENTERPRISES IN LATIN AMERICA

Helson C. Braga*

Virene Matesco**

1 - INTRODUCTION

The development strategies put into effect in the Latin American countries in the post-war era have aimed fundamentally at establishing and expanding the industrial base. The most immediate determinant factor was the need to recover the capacity to import, seriously impaired by successive foreign exchange crises. From the theoretical point of view, however, the process of industrialization started out as an elegant justification for altering the distribution of gains from international trade and technological progress, which the prevailing division of labour between central and peripheral economies biased in favour of the former ones.

It has become common in the literature on the subject to consider the process of industrialization as having two distinct phases: 1) import-substituting industrialization phase (ISI) and 2) export-promotion (EP). Each phase involved different policy tools and distinctly different outcomes. In both phases the multinational corporations exercised an extremely important

---

*Institute of Economic and Social Planning (IPEA) and Federal University of Rio de Janeiro, Brazil.

**Institute of Economic and Social Planning (IPEA) and Santa Ursula University, Brazil.

The authors wish to thank Ben Clements, Daniel van den Bulcke, Gerard Helleiner, Marcio Ronci, Richard Newfarmer, Sanjaya Lall and Sylvain Plasschaert for their valuable comments on a previous version of this work.

role, attracted by various incentives, some of which were aimed directly at them.

The purpose of this paper is basically to examine the role of the multinational corporation in these two distinct stages of industrial growth in Latin America (Section 3), as well as in the next stage of this process which is presented somewhat speculatively in Section 5. Section 2 is introduced in order to establish the concept of industrial policy more clearly, in order to facilitate the analysis. Section 4, in turn, dicusses the main dilemmas of industrial policy, highlighting the nature and difficulties of making the different objectives normally atributed to this policy compatible in the context of a developing country.

Although in various aspects the focus of attention is Latin America as a whole, the bulk of the empirical evidence relates to the major countries in the region, Brazil in particular.

2 - THE MEANING OF INDUSTRIAL POLICY

Industrial policy means differente things to different groups of people. To one, it means economic planning; to another, the allocation of capital to priority industrial sectors; to a third, it becomes confused with protection against foreign competition; and so on.[1/] In general, when the perception (on the part of each group) of the industrial policy being used does not conform to their point of view or their interests, the most common reaction is to deny the existence of an industrial policy.

Naturally, much of the difficulty in defining the meaning of industrial policy stems from the fact that there is no clear separation between its objectives and instruments and those of overall economic policy itself. In fact, as will be seen later, one cannot think of industrial policy separate from overall economic policy, or from society's decision concerning certain questions that go beyond the strictly economic domain.

Besides this, industrial policy may:(1) exhibit different degrees of explicitness, both in terms of objectives and its instruments (some countries do not have an explicit policy for the industrial sector and simply attribute the role of creating propitious conditions for industrial development to overal economic policy); (2) differ in scope (specific programmes for technological development, industrial decentralization, the role reserved for foreign capital, etc.); and (3) utilize different institutional apparatuses (the existence of an organization exclusively for carrying out industrial policy or

---

[1/] On the taxonomy of industrial policy, see Adams and Bollino (1983) and Johnson (1983).

if the responsibility falls to various organizations, with different levels of interaction between them).

A extremely useful way of understanding industrial policy is to consider it as "a focus of attention of overall economic policy on a set of objectives related to industrial activity and development" [OECD (1975), p. 8]. In most countries, the basic objectives attributed to industrial policy are the growth and efficiency of the sector. However, these objectives are almost always implemented so as to make them compatible with many other economic and non-economic objectives. Among these objectives, one can mention: overall economic growth, improvement in the balance of payments, job creation, personal and regional income distribution, support for small and medium-sized firms, consumer protection, the combat of unfair competition, etc. It is exactly the explicit consideration of these various aspects as objectives of industrial policy which delineates their range of action and their scope, as mentioned above.

The emphasis placed on each objective and the specific content of each policy goal in an industrial policy vary between countries and according to time, having been determined mainly by changes taking place in the international economy.

In most developed countries, the emphasis on post-war economic reconstruction has evolved into the current concern for promoting industrial restructuring (encouraging or reallocating factors from uncompetitive industries to high productivity industries) and for reducing the cost of this process of adjustment, brought about by the emergence of more efficient producers in the international market.[2/]

[2/] See, for example, Warnecke (1978), Bhagwati (1982), Arndt (1983), and Ballance and Sinclair (1983).

In the small group of developing countries which, like Brazil, Argentina and Mexico, have constructed a broad, diversified industrial base in a generation span the desire for economic independence (or at least the desire to reduce the vulnerability of their economies to fluctuations in world demand for their primary export products) represented a basic ingredient for using industrialization as a development strategy.

The main instruments employed to promote industrialization have been tariffs, quantitative restrictions, fiscal and credit incentives for capital, and direct State intervention in both erecting the economic infrastructure and in producing of goods and services. Besides these instruments of a general character, one can also find a very wide variety of more specific programmes, such as those directed at particular industrial sectors, at regional development, of support to small and medium-sized companies, etc.

3 - INDUSTRIAL STRATEGIES IN LATIN AMERICA AND THE ROLE OF THE MULTINATIONAL CORPORATIONS

The industrialization process of the developing countries and of Latin America in particular shows two clearly distinct phases, which are customarily called import-substituting industrialization (ISI), and export-orientated industrialization (EOI) or export promotion (EP). Although, chronologically speaking, these phases did not coincide in all the developing countries, at least in the more advanced countries in the group the ISI phase runs from the post-war period up till the mid-sixties, and the EOI from then on.[3/]

By and large, these stages differ from each other in terms of the policy instruments utilized, their economic implications and also the role played by the multinational corporations. Only the latter will be dealt with here.

Although the efficiency of the instruments used to attract foreign capital is still open to question[4/], the Latin American countries employed to a greater or lesser degree: (a) tariff protection, and/or exchange controls; (b) special preference for companies (local and foreign) importing capital goods; (c) differentiated exchange rates for industries importing raw-materials and intermediary goods; and (d) subsidized loans for the construction of infrastructure necessary for industry. However, it has been difficult to isolate the effects of the size of the domestic market, the

[3/] An excellent retrospective history of this process in Latin America can be found in Bianchi (1969). See also the article by Jenkins, in this volume.

[4/] See, for example, Balasubramanyam (1984) and Guisinger (1987).

growth potential, political stability and availability of natural resources and labour as factors of attraction for foreign capital. Given all these factors, fiscal and credit incentives may have helped to induce foreign companies to invest in these protected markets [Balasubramanyam (1984)].

The net flow of direct investment for the industrial sector was at an average annual rate of US$ 2 billion during the fifties and beginning of the sixties, providing about 10% of national savings in the Latin American countries.

Foreign investments in this phase came basically from the United States and Great Britain in the Argentinian case (representing about 33 and 23%, respectively, in 1955) and the United States and Canada in the Brazilian case (36 and 17%, respectively, in 1964).

Foreign companies had considerable importance in this phase. Morley and Smith (1970) estimated that in the 1949-72 period, 33.5% of the growth of the total industrial production of Brazil and 42% of the growth in the import-substituting industries were accounted for by these companies. A similar phenomenon ocurred in Argentina: in the sixties foreign companies accounted for more than 30% of industrial production.

When one analyses the contribution of multinational corporations, disaggregated at the level of goods produced, the dominance in certain basic sectors becomes very clear. In Argentina, for example, more than 65% of foreign investments in 1940 and in 1955 were in the capital and consumer goods sector.

The ISI strategy gave great impetus to the Latin American economies: the rate of growth in the industrial sector

in the region was almost 7% in the 1955-60 period. The growth in industrial employment, in turn, was 3.0% in the 1950-70 period.

Despite the initial success of the import-substitution strategy, it eventually ran into difficulties in the 1960s. Various factors are cited for its decline such as the neglect of the agricultural sector and exports and increased dependence on imports of intermediary and capital goods. In Argentina and in Brazil, 90% of exports were still comprised of traditional agricultural products and in Mexico 75% of export were accounted for by just a handful of products.

The ISI strategy drastically reduced the import coefficient. It also resulted, however, in a substantial change in the compostion of imports. A more than proportional increase of new import requirements consisted of intermediary goods: raw-materials, semi-finished products and capital goods not produced internally. In the literature on the subject, various other arguments are put forward to explain the exhaustion of the ISI process. The main one is that "protection was overdone and led to an inefficient allocation of resources due to distortions in factor and product markets" [Schmitz (1984)].

Despite the impetus given by ISI, it seemed clear at the start of the sixties that the Latin American countries should reformulate their economic policies to substantially expand their export revenues and thus guarantee the imports which were indispensable for continued economic growth.

To implement the new strategy (of EOI) a generous system of fiscal and credit incentives for exports was introduced which was exploited more intensely by the multinationals than

by local firms.[5] In Brazil, for example, as a way of attracting foreign investment, the currency was devalued significantly and restrictions on the remittance of profits were eliminated. These rose from US$ 22 million (average for 1962-64) to US$ 73 million (1965-67 average). The EOI strategy provided a strong attraction for foreign companies to move into the region, above all in the industrial sector. The following table shows that more than 60% of foreign investments were allocated to the industrial sectors of countries like Mexico, Brasil and Argentina in 1968.

TABLE 3.1

DIRECT FOREIGN INVESTMENT IN SELECTED LATIN AMERICAN COUNTRIES BY INDUSTRIAL SECTOR (1968)

(In percentages)

COUNTRIES	SECTORAL STRUCTURE BY COUNTRY						
	Total	Miner-als	Oil	Manufacturing	Commerce	Publics Services	Others
Latin America	100	13	27	33	6	11	10
Mexico	100	8	3	68	2	12	7
Argentina	100	*	*	64	*	5	31
Brazil	100	5	6	69	2	13	5
Chile	100	61	*	7	*	4	28

SOURCE: Survey of Current Business (1969).

*Included in other industries.

[5] Evidence of this can be found for the Brazilian case in Braga (1981) and in Baumann and Braga (1986).

During the seventies, Latin America as a whole received a considerable influx of foreign investments, reaching an annual average of more than US$ 4 billion, of which almost 50% were destined for the Brazilian market.

It is interesting to note, furthermore, that the contribution from multinational companies to the production of the different types of industrial goods is very similar in countries like Argentina, Mexico and Brazil. Table 3.2 shows that more than 30% of foreign investments were destined to the production of consumer durables, followed by capital goods.

TABLE 3.2

ARGENTINA, BRAZIL AND MEXICO - SHARE OF MULTINATIONAL COMPANIES IN INDUSTRIAL PRODUCTION BY CATEGORY OF USE

(In percentages)

Goods	Argentina (1973)	Brazil (1977)	Mexico (1970)
Non-durable Consumer Goods	23	16	30
Intermediary Goods	31	35	32
Consumer Durables	59	56	62
Capital Goods	32	46	35
Total	31	32	35

Source: Argentina and Brazil: CEPAL (1983); Mexico: Fajnzylber and Martinez-Tarragõ (1976).

One of the basic characteristics of the EOI strategy, besides diversifying exports, was to conquer new international markets. At the beginning of the sixties, export goods coming from Latin America consisted essentially of traditional basic products, of which more than a half were destined to the USA and about 30% to Europe. By the end of the seventies there had been a considerable modification in the breakdown of export goods: manufactured goods had grown in relative importance and were now marketed in other "non-traditional" areas, such as Japan and the developing countries of the region themselves.

In this respect the multinational corporations made a substantial contribution, which was aided by their well-known advantages of greater familiarity and close ties with foreign markets. Nayyar (1978) estimated that these companies were responsible for between 25 and 30% of manufactured exports in Mexico (1970) and 43% in Brazil (1969). Lall and Streeten (1980) puts the figure even higher: Mexico 34% (1974) and Brazil 51% (1973).

Certain official incentives for exporting manufactured goods, though extended to domestic companies as well as the multinationals, were particularly directed to the latter. This was the case of the BEFIEX system in Brazil, which created fiscal incentives and exempted imports of capital goods from the general requirement of the non-existence of similar domestic products. The basic prerequisite for these benefits was the company's commitment to reach a certain minimum amount of exports during a certain period of time, usually 10 years [see Braga and Matesco (1987)].

One can see, therefore, that throughout the two phases of industrial growth of Latin America under consideration the multinational corporations benefitted from the overall

system of incentives created by the government and also from others specifically (or mainly) directed at them.

Parallel to these incentives to foreign capital inflows, the various countries established complex systems of regulations and controls of the multinational companies with the aim of not only preserving their economic sovereignity but also obtaining the maximum possible benefit from multinational companies in the form of technology, capital and know-how. As a result, this set of incentives and disincentives has proved to be ambivalent.

Various authors have suggested that the policies for influencing foreign capital have been largely ineffective.[6/] Far more important are factors like market size, growth potential, political stability and availability of infrastructure facilities. Bhagwati (1978, ch. 8) suggested that, making adjustments for differences between countries for these factors, both the magnitude of foreign capital inflow and its efficacy in promoting economic growth would be greater over the long run in countries pursuing EOI strategies than in countries pursuing ISI strategies. The reason is that the incentives in the latter (tariffs and quotas) are likely to be "artificial" and limited. Certain evidence supporting this hypothesis has been found by Balasubramanyam (1984).

In any case, direct foreign investment provided a major impetus for industrial growth in Latin America and was the principal source of foreign capital until the mid-seventies. In the 1960s, in fact, direct foreign investment accounted for

[6/] See, for instance, Guisinger (1987) and Balasubramanyam (1984).

some 30% of the total flow of external financial resources to Latin America, while bank loans and bonds provided only 10%. In the 1970s, however, banks and bondholders were responsible for 57% of this flow, while the multinationals' share had dropped to about 20% [see Frieden (1981)]. Since 1982 the place of the multinational corporation as the main provider of foreign capital has been taken by international banks.

With the crisis of the international financial system since 1982, and the drastic reduction of voluntary loans to the LDCs, onde might think that the multinationals would come back and occupy their old position. What can be seen, however, at least in Brazil, is a trend towards capital repatriation, which may be associated with both internal factors (political and economic) and external factors such as, for example, the changes in tax legislation in the USA and the greater dynamism which the economies of Southeast Asia are experiencing. This is a question of fundamental importance which merits a specific study in itself.

4 - THE DILEMMAS OF INDUSTRIAL POLICY

The fact that industrial policy seeks multiple and not necessarily compatible objectives simultaneously, makes it necessary to establish not only an order of priority between these aims, but also a consensus about the extent to which some objetives can be sacrificed for the sake of achieving others.

The most serious problem of industrial policy in Latin American countries is related to the level of industrial efficiency. In much of Latin America the industrial sector is today extremely diversified, though with a low level of productive efficiency.[7/] Even taking into account the comparative advantages of the various countries, they should be evaluated more properly in a dynamic sense (over time, certain industries manage to become internationally competitive). Unfortunately, however, the fact is that a sizeable part of Latin American industry has little likelihood (or, more realistically, no likelihood) of being able to do without the protection that trade restrictions provide.

Thus, a certain degree of industrial inefficiency seems simply inevitable. On the other hand, international competition and the rapid technological development of the last two decades do not allow an attitude of excessive tolerance towards the inefficiency of the productive system, as this risks a widening the gap which separates these countries from the developed world. It has to be accepted, therefore, as natural that enterprises that cannot stand up to competitive pressure will disappear.

[7/] See, for example, Braga and Rossi (1986) for the Brazilian case, Corbo and de Melo (1983) for Chile, and Delfino (1986) for Argentina.

Obviously the inefficiency of today is closely linked to historic conditions themselves that have accompanied the establishment of the industrial base. Protected by high tariff barriers and restricted by an internal market of limited size, many industries became extremely concentrated. As a consequence, not only was the possibility of exploiting economies of scale seriously reduced but also conditions were created for static allocative inefficiency to become widespread (prices above long run average costs).

Protection against external competition in the initial stage of industrial development enjoys widespread support among development economists. The consensus among most economists, however, is that there should be a gradual reduction of protection as an industry matures. At the end of several decades of industrialization, the protectionist argument can no longer justify the current levels of tariff protection in Latin America, particularly when one takes into account that the most protected and most concentrated industries have a very strong multinational presence.

The most relevant concept of efficiency, above all in the context of a developing country, is that of dynamic efficiency in the Schumpeterian sense. That is to say, it is most important to consider the efficiency gains brought about by the introduction of new productive processes and improvements in technology. Promoting such technological progress is not, unfortunately, consistent with allocative efficiency. Research and development and technological progress principally take place in large companies and highly concentrated industries [see Galbraith (1950)]. Efficiency also requires large size so as to obtain economies of scale. Without these economies of scale, domestic firms are unable to compete in the world dominated by multinational corporations. Thus, althought concentration contributes to static inefficiency, it aids dynamic efficiency by creating large firms. Only large firms are capable of achieving economies of scale and conducting the research and development necessary to bring about technological progress.

The vital need for increasing industrial efficiency clashes, in turn, with respected and well established principles that many policy markers have used to industrial policy. The first and most obvious of the objectives adversely affected by this emphasis on efficiency is the level of employment. The industrial revolution underway in the developed centre, where the computer is the most visible part of a process of growing automation, is highly labour-saving. Besides this, international evidence suggests the existence of only a small range of technological flexibility in the adaptation of the productive processes to fit the varying resources of different countries [see Morawetz (1977)]. Thus, there remains little room for labour-intensive technologies designed to take advantage of the abundant supply of this factor in the developing countries. As the productive efficiency of various industrial sectors will be associated with the use of these modern techniques it is easy to perceive the potential conflict between efficiency and employment in the industrial sector.

The Latin American and world experiences show an increasing share of industry in a country's GDP and decreasing share in employment [see Sen (1980)]. This fact suggests that the objective of maximum labour absorption should not be seen as a goal to be imposed upon every branch of industry. For some industries technological development points in the direction of reduced employment. The limited contribution of some industries to job creation simply has to be accepted as an inevitable counterpart of greater productive efficiency. This does not mean excluding employment as one of the objectives of industrial policy; rather the evidence suggests that technological progress should not be sacrificed for productive efficiency.

The third important conflict is between importing technology or concentrating efforts on developing one's own technology.[8/] The existence of a bank of technological know-how

---

[8/] See, in this respect, the collected writings of Street and James (1979) and Fransman and King (1984).

available on the international market, at prices certainly below the cost of creating similar technologies, should be taken advantage of. On the other hand, due to a series of factors, such as 1) the growing cost of payments abroad, 2) a permanent lag in relation to the innovating centres and 3) the possibility of the supply of technology being interrupted when its use begins to conflict with the commercial interests of the suppliers, no country can accept complete technological dependence on foreign countries. Domestic efforts are also justified in function of the multiplier effect of the benefits of this type of investment.

Another widely discussed dilemma which is often misunderstood concerns the priority that should be given to the internal market vis-à-vis the external market. As a general rule, those who believe one market flourishes at the expense of another not only omit the obvious complementarity between the two markets, but are also far from explicit as to the way of carrying out such a change of emphasis from the external market toward the internal.[9/] More conservative economists, however, tend to minimize the seriousness of the conflicts, and emphasize the positive effect of exports on internal income and the internal market, thereby denying the need for a reorientation in favour of the domestic market.

In fact, what really happens is that, firstly, the emphasis on exports is more and more linked to the balance of payments crisis, having little to do with giving impetus to the internal market (which is only benefitted as a by-product); secondly, giving priority to the domestic market is less a question of benefiting certain sectors than changing the distribution of income.

[9/] See, for example, Furtado (1982, Chap. II).

In most countries, one can see today a growing concern with problems arising from regional imbalances - in terms of the unequal distribution of industrial activity, income, etc. - which go together with economic development. The origin of such inequalities lies basically in climatic and geographic factors, as well as the relative endowment of natural resources [see Datta-Chaudhuri (1980)].

Such disparities may also be aggravated by the very dynamics of economic development. Regions which are especially endowed with these initial factors rapidly build a solid and diversified economic base, which begins to exert a power of attraction on resources (human and capital) from more depressed areas. This process of relative impoverishment would in itself justify the existence of regional policies, in strictly distributive terms, on the lines of what was done in the Northeast of Brazil.

As far as the unequal distribution of industrial activity is concerned, the problem is particularly acute in countries with large territories, where the population and industrial activity are widely dispersed. The fundamental reason is that the agglomeration offers considerable advantages for establishing transport, communications, power and urban services which make up the infrastructure indispensable for the development of productive activities.

The agglomeration forces acting on industrial development lead to the formation of large cities which attract (and make viable) new productive undertakings. The expansion of employment opportunities encourages migratory flows from the rural areas. The high rate of growth and the unplanned nature of these cities creates as a counterpart congestion and pollution, exacerbating the demands on basic public services. Given the lack of resources, these demands on public services are rarely met. In this sense, the developing countries are repeating the same disastrous experience of the developed

countries (DCs), where Japan provides the most shocking example. Beyond this, the tendency towards industrial agglomeration is more intense in the developing countries, given the relative lack of basic infrastructure as compared with the DCs.

Besides the (unresolved) question of defining what the correct size of a city should be and the adequate standard of urbanization for each economy, these considerations raise a more concrete problem for the strategy of industrial development in a developing country: should the proliferation of development poles be encouraged or should industrial development be concentrated in a relatively small number of large urban centres?

In view of the disproportionate pressure on urban infrastructure needs and the shortage of resources, it seems intuitively clear that some type of control and restraint on the expansion of the large cities should be employed. On the other hand, the dispersal of resources in indiscriminately expanding the basic social capital required by the excessive decentralization of industrial activity should not be tolerated. Besides this, in countries with a federative organization, there are implications from the distribution of political power that cannot be ignored. Therefore, the question of the decentralization of industrial activity is a question with some technical content, but is essentially political.

Perhaps the single most important question for defining the new direction to be taken by Latin American industry - as, indeed, by the whole economy - is that of the role played by the State. It must be stressed that this question, even more than those dealt with previously, merits a much deeper treatment than that accorded here.

The most striking peculiarity of the State's enormous participation in Latin American economies is that it is manifested for the most part in activities typical of the private sector. It is not only the lower efficiency in

comparison with private companies which is worrisome. The same logic which leads to the slackening of efficiency (where inefficiency is not punished by bankruptcy) reduces the sensitivity of state companies to the vicissitudes of economic cycles.

Largely as a consequence of the extension of the functions of the State in the productive, financial and regulatory spheres, the institutional organization of economic policy in these countries has become extremely complex. A considerable effort needs to be made to simplify the mechanisms of intervention. This is especially needed in light of the disorganized proliferation and continual changes in state controls which prevent a clear view of relative prices which in turn generates uncertainty. It is essential that industrial policy should be clearly perceived by economic agents. Such a simplification might possibly involve a reduction in the role played by the State in the economy (which may be desirable for other reasons), but it is fundamental to understand that this would be carried out in the name of rationality and efficiency, and not because of any prejudice related to the scale of government action.

5 - NEW PERSPECTIVES FOR THE INDUSTRIALIZATION OF LATIN AMERICA

The Latin American countries with relatively large domestic markets have managed, in the space of one generation, to construct wide and diversified industrial bases, founded on ISI and EOI strategies. From the quantitative viewpoint, the industrial development of these countries has been a sucess. The great challenge now is one of efficiency, and this requires industrial policies which are quite different and less obvious than those employed in previous stages.

In fact, during ISI industrial policy was quite clear and simple: it was sufficient to protect the domestic market against imports, with the State participating in the provision of economic infrastructure. When this strategy lost its dynamism at the start of the sixties - not only due to the decrease in opportunities for import substitution, but also through the unsatisfactory performance of exports - the answer was once again clear: fiscal and credit subsidies would have to be conceded in order to compensate for the anti-exports bias engendered by the previous strategy.

The seventies saw the return and the intensification of ISI in Brazil in the field of basic inputs and of capital goods as a response to the crisis generated by the rise in oil prices. During this period, the countries of the "South Cone" (Argentina, Chile and Uruguay) also implemented fairly extensive programmes to liberalize their economies using the exchange rate as the main tool. However, because of the inconsistency between the exchange rate policy and other macroeconomic policies, the stabilization attempts ended up creating a high rate of real appreciation, a sharp recession and a bankrupt financial sector [see Corbo (1986)].

The possibility of intensifying EOI through conventional instruments (fiscal and credit subsidies) is, in turn, very limited today as a consequence of the fairly widespread situation of financial disequilibrium of governments and the growing reaction of the principal commercial partners to these practices. In these circumstances, the success of continuing to expand exports - which will play a fundamental role whatever industrial strategy is adopted - will depend on the use of non-traditional instruments and on the erecting of a more dynamic and efficient institutional infrastructure.

As regards the non-conventional instruments, the most promising seems to be the model used by Korea to promote exports. This model consists essentially in the widespread use of the drawback system and of the pre-financing of exports in all operations which generate, directly or indirectly, value added exports. Unlike the Latin American model, in which these benefits are only available to final (direct) exporters, in Korea they are also extended to indirect exporters. That is, the benefits are available to domestic suppliers of raw materials and intermediary goods that are required in the stages of production which precede the final stage of export production.[10/]

The essence of the Korean model is to guarantee a "neutral status" (or one of free trade) to exporters (direct and indirect) which allows them to compete on equal terms with their competitors abroad. In practice, this means the automatic concession to exporters (direct and indirect) of: (a) import licences for raw materials and intermediary goods, and (b) access to preferencial credit to exporters. The instrument needed to bring the system into operation is the "domestic letter of credit", which is simply an extension, for operations

---

[10/] An excellent description of the Korea system can be found in Rhee (1985).

involving domestic suppliers, of the mode of payment most widely used in foreign trade. By using the domestic letter of credit, it is possible to ensure automatic availability of short-term export loans and free trade status to all firms that generate value added exports but do not export directly, i.e. indirect exporters.

The principal advantages of the Korean model can be summarized as follows [Rhee (1985)]:

a) it reduces the anti-export bias of the trade policy in a way that does not involve risks of retaliation (as occurs with export subsidies);

b) it separates the problem of liberalizing exports (which are effectively promoted) from that of liberalizing imports (which can be treated entirely independently);

c) it incorporates (as indirect exporters) the small and medium-sized firms into export activities, which are not in a position to participate in exports directly; and

d) it allows the country to exploit its comparative advantages in the international market, since its exporters will be on an equal footing with foreign competitors.

Despite these advantages, it is not likely that Latin American countries that decide to adopt this model will reproduce the success of Korea (and the other Asian NICs), which benefited from extremely favourable international market conditions that are tending to disappear [see Schmitz (1984)].

However, the fact that export firms (both direct and indirect ones) are no longer obliged to obtain their inputs

from inefficient local suppliers only solves part of the question. Korea has a very tight import control and foreign capital policy [see Stoever (1986) and Yong (1985)] which has only recently been relaxed as a result of U.S. pressure.[11/]

In Latin American countries with larger markets, the competitive pressure stemming from a lowering of import barriers is one of the basic ingredients making for higher levels of productive efficiency. The average levels of protection for industry in these countries are extremely high [see Braga _et al_. (1987)].

As far as productivity levels are concerned, the available evidence points to very unsatisfactory performances. R & D effort (development of new products and production processes) is also extremely limited [see Braga and Matesco (1986) for the Brazilian case].

In any case, policies that can be strongly recomended are those aiming at stimulating private investment and increasing productivity. Such policies might include: (a) reducing corporation taxes, especially in view of the fact that the United States recently introduced such a reduction; (b) the general adoption of depreciation, at present only permitted in special cases; (c) introducing investment tax credit for machinery and equipment, and (d) deducting, as an expense, some multiple of R & D expenditure for the purpose of income tax liabilities.

As for the treatment of foreign capital, Latin American legislations tend to be much less restrictive than Korea [see Stoever (1986) and Yong (1985)]. As this country has, even so, been receiving a more substantial inflow of capital, it may be concluded that the Latin American countries would not attract more investment from abroad simply making the legislation on foreign capital more liberal.

[11/] See _World Financial Markets_, January 1987.

Finally, the available evidence concerning the "new forms" of capital and technology transfer - which represented a shift away from the "old" package in which foreign firms were the majority share holders in their overseas investments and the sole source of foreign technology - is mixed, but in general suggests that it is not particularly important either in Korea or Latin American countries [see Hill and Johns (1985)].

6 - CONCLUDING REMARKS

The era in which government polices to stimulate industrial development in Latin America were marked by simplicity and obviousness is coming to an end. It is no longer sufficient or even possible just to protect industries against foreign competition or grant them subsidies to enable them to export their products. Domestic and external restrictions militate against the continuation of such practices.

The industrial policy for the second half of the eighties must lay its emphasis on the qualitative dimension of industrial growth, that is productive efficiency. The Korean strategy of export-led industrialization is a promising industrialization model, which could be adopted, with suitable changes, by Latin American countries.

The results obtained by the principal Latin American countries in the various phases of the industrialization process have had a lot to do with the role played by the multinationals. Although they are likely to occupy a strategic position in the economy of these countries, it can be seen today that they are tending to becomes less involved in the regional economy. Underlying this tendency may be disenchantment with these countries' growth prospects (as a result of their foreign debts and domestic disequilibrium), the changes recently introduced into tax regulations in the United States, and Southeast Asia's potentiality for growth.

BIBLIOGRAPHY

ADAMS, F. Gerard, and BOLLINO, C. Andrea, "Meaning of Industrial Policy", in Sven W. Arndt (ed.), Industrial Policy and International Competitiveness, Portfolio - International Economic Perspectives, vol. 11 (1983).

BALASUBRAMANYAM, Venkataraman N., "Incentives and Disincentives for Foreign Direct Investment in Less Developed Countries" Weltwirtschaftliches Archiv, vol. CXX, nº 4 (1984).

BALLANCE, Robert and SINCLAIR, Stuart, Collapse and Survival: Industry Strategies in a Changing World. London: George Allen & Unwin (1983).

BAUMANN, Renato and BRAGA, Helson C., O Sistema Brasileiro de Financiamento às Exportações. Rio: INPES/IPEA (1986).

BHAGWATI, Jagdish N., Anatomy and Consequences of Exchange Control Regimes, Studies in International Economic Relations, nº 10. New York: NBER (1978).

BHAGWATTI, Jadish N., Import Competition and Response. Chicago: The University of Chicago Press (1982).

BIANCHI, Andrés., "Notes on the Theory of Latin American Economic Development", Social and Economic Studies, nº 10 (1969).

BRAGA, Helson C., "Aspectos Distributivos do Esquema de Subsídios Fiscais à Exportação de Manufaturados" Pesquisa e Planejamento Econômico, vol. 11, nº 3 (Dec. 1981).

BRAGA, Helson C., and MATESCO, Virene, "Esforço Tecnológico na Indústria de Transformação: Indicadores e Análise de seus Fatores Determinantes", Discussion Paper nº 99 INPES/IPEA (1986).

BRAGA, Helson C., and ROSSI, José W., "Mensuração da Eficiência Técnica na Indústria Brasileira", Revista Brasileira de Economia, vol. 40, nº 1 (Jan./Mar. 1986).

BRAGA, Helson C., SANTIAGO, Gilda Maria C. and FERRO, Luiz Cesar M., "Proteção Efetiva no Brasil: Novas Estimativas a partir da Comparação de Preços", mimeo, INPES/IPEA (1987).

CEPAL, Las Empresas Transnacionales em la Argentina, Estudios y Informes de la CEPAL. Santiago, Chile: CEPAL, 1983.

CORBO, Vitorio, "Problems, Development Theory and Strategies in Latin America", mimeo, The World Bank (1986).

CORBO, Vitorio and de MELO, Jaime, "Measuning Technical Efficiency: A Comparison of Alternative Methodologies with Census Data", mimeo, The World Bank (1983).

DATTA-CHAUDHURI, Mrinal, "Infrastructure and Location", in John Cody, Helen Hughes and David Wall (eds.), Policies for Industrial Progress in Developing Countries. New York: Oxford University Press (1980).

DELFINO, José A., "Analisis Económico de la Tecnologia del Sector Manufacturero Argentino", Económica, nº 2-3 (1984).

FAJNZYLBER, Fernando and MARTINEZ-TARRAGÓ, Trinidad, Las Empresas Transnacionales: Expansión a Nível Mundial y Proyección en la Industria Mexicana. México: Fondo de Cultura Económica (1976).

FRANSMAN, Martin and KING, Kenneth (eds.), Technological Capability in the Third World. London: The Macmillan Press (1984).

FRIEDEN, Jeff, "Third World Indebted Industrialization: International Finance and State Capitalism in Mexico, Brazil, Algeria and South Korea", International Organization, vol. 35, nº 3 (Summer 1981).

FURTADO, Celso, A Nova Dependência - Dívida Externa e Monetarismo. Rio: Paz e Terra (1982).

GALBRAITH, John K., American Capitalism. Boston: Houghton Miflin (1950).

GUISINGER, Stephen, "Attracting and Controlling Foreign Investment", Economic Impact, nº 1 (1987).

HILL, Hall and JOHNS, Brian, "The Role of Direct Foreign Investment in Developing East Asian Countries", Weltwirtschaftliches Archiv, vol. 121, nº 2 (1985).

JOHNSON, Chalmers, "Introduction: The Idea of Industrial Policy", in S. W. Arndt, (ed.), op.cit.

LALL, Sanjaya & STREETEN, Paul, Foreign Investment, Transnationals and Developing Countries". London: MacMillan, (1980).

MORAWETZ, David, "Employment Implications of Industrialization in Developing Countries: A Survey", Survey of Applied Economics, vol. 2. London: Macmillan Press for the Royal Economic Society (1977).

MORLEY, Samuel and SMITH, Gordon W., "Import Substitution and Foreign Investment in Brazil", Rice University (1970).

NAYYAR, Deepak, "Transnational Corporations and Manufactured Exports from Poor Countries", Economic Journal, vol. 88 88 (Mar. 1978).

OECD, The Aims and Instruments of Industrial Policy - A Comparative Study. Paris: OECD (1975).

RHEE, Yung, W., Instruments for Export Policy and Administration. Washington: The World Bank (1985).

SCHMITZ, Hubert, "Industrialization Strategies in Less Developed Countries: Some Lessons of Historical Experience", Journal of Development Studies, vol. nº 21, nº 1 (1984/85).

SEN, Amartya, "Labor and Technology", in J. Cody, H. Hughes and D. Wall (eds.), op. cit.

STOEVER, William A., "Foreign Investment as an Aid in Moving from Least Developed to Newly Industrilizing: A Study in Korea", The Journal of Developing Areas, vol. 20 (Jan. 1986).

STREET, James and JAMES, Dilmus D. (eds.) Technological Progress in Latin America: The Prospects for Overcoming Dependency. Boulder, Colorado: Westview Press (1979).

WARNECKE, Steven J. (ed.), International Trade and Industrial Policies. New York: Holmes & Meier (1978).

YONG, Ahn, C., "Foreign Investment and Trade Promotion Schemes: Some Comparisons between Korea and Latin American Countries", mimeo, The World Bank (1986).

TEXTOS PARA DISCUSSÃO INTERNA

EDITADOS A PARTIR DE JANEIRO DE 1985

Nº 70 - "Projeções da População Total, Urbano-Rural e Econômicamente Ativa segundo Algumas Alternativas de Crescimento Demográfico", Maria Helena F.T. Henriques, Janeiro 1985, 56 p.

Nº 71 - "Crescimento Econômico e Oferta de Alimentos no Brasil", Gervásio Castro de Rezende, Janeiro 1985, 39 p.

Nº 72 - "A Política Agrícola e a Diminuição do Subsídio do Crédito Rural", Gervásio Castro de Rezende, Janeiro 1985, 23 p.

Nº 73 - "Tendências a Médio Prazo da Previdência Social Brasileira: Um Modelo de Simulação", Francisco E.B. de Oliveira, Kaizô Iwakami Beltrão, Maria Helena F.T. Henriques, Afonso Sant'Ana Bevilaqua, Alexandre Goretkin Neto, Janeiro 1985, 299 p.

Nº 74 - "Balanço de Pagamentos Brasileiro: Um Modelo de Simulação", Ajax Reynaldo Bello Moreira, Janeiro 1985, 77 p.

Nº 75 - "Interação entre Mercados de Trabalho e Razão entre Salários Rurais e Urbanos no Brasil", Gervásio Castro de Rezende, Março 1985, 35 p.

Nº 76 - "Considerações sobre uma Possível Reforma Tributária no Brasil", Cláudia Cunha Campos Eris, Março 1985, 29 p.

Nº 77 - "Migrações Internas e Pequena Produção Agrícola na Amazônia: Uma Análise da Política de Colonização do INCRA", Anna Luiza Ozorio de Almeida, Maio 1985, 97 p.

Nº 78 - "Estrutura Industrial e Exportação de Manufaturados: Brasil, 1978", Helson C. Braga e Edson P. Guimarães, Julho 1985, 29 p.

Nº 79 - "A Restrição Externa à Retomada do Crescimento:Avaliação e Recomendações de Política", Helson C. Braga, Setembro 1985, 42 p.

Nº 80 - "Foreign Direct Investment in Brazil: Its Role, Regulation and Performance", Helson C. Braga, Outubro 1985 , 41 p.

Nº 81 - "Déficit de "Caixa" do Governo Federal: Metodologia e Resultados em 1985", Carlos von Doellinger, Novembro 1985, 16 p.

Nº 82 - "Déficit e Dívida: Tendências e Implicações", Carlos von Doellinger, Novembro 1985, 12 p.

Nº 83 - "As Interligações Setoriais na Economia Brasileira em 1975", José W. Rossi, Maristela Sant'Anna e Samuel Sidsamer, Novembro 1985, 30 p.

Nº 84 - "Mensuração da Eficiência Produtiva na Indústria Brasileira: 1980", Helson C. Braga e José W. Rossi, Novembro 1985, 34 p.

Nº 85 - "Fundos Sociais", Fernando A. Rezende da Silva e Beatriz Azeredo da Silva, Janeiro 1986, 29 p.

Nº 86 - "Optimal Foreign Borrowing in a Multisector Dynamic Equilibrium Model: A Case Study for Brazil", Octávio A.F.Tourinho, Janeiro 1986, 47 p.

Nº 87 - "Proposta de Diretrizes Preliminares para uma Política de Abastecimento", Maria Beatriz de A. David, Março 1986, 44 p.

Nº 88 - "Os Impactos da Política de Comercialização Agrícola sobre a Produção e os Preços. Uma Análise da Literatura e Algumas Evidências Empíricas", Maria Beatriz de A. David e Luis Alberto de L.C. Ribeiro, Março 1986, 49 p.

Nº 89 - "Distribuição de Renda: 1970/1980", José W. Rossi, Maio 1986, 17 p.

Nº 90 - "Balança Comercial e Dinâmica da Desvalorização Cambial no Brasil, 1970/84", Helson C.Braga e José W.Rossi, Maio 1986, 20 p.

Nº 91 - "Algumas Considerações sobre os Efeitos da Reforma Monetária no Campo Social: Seguro-Desemprego e Previdência Social", Francisco E.B. de Oliveira, Kaizô Iwakami Beltrão e Marco Aurélio de Sá Ribeiro (estagiário), Maio 1986, 16 p.

Nº 92 - "Modelos de Previsão para Séries de Produção e Preços : Metodologia Bayesiana e Box-Jenkins para Séries Temporais", Gutemberg H. Brasil, Hélio S. Migon, Reinaldo C. Souza, Sérgio S. Portugal, Maio 1986, 63 p.

Nº 93 - "O Controle de Preços dos Alimentos e seus Efeitos sobre a Produção e o Abastecimento. Algumas Considerações para o Ano de 1986", Maria Beatriz de A. David, Junho 1986, 39 p.

Nº 94 - "Previsão da Inflação e Produção Industrial Pós-Choque via Análise de Intervenção", H.S. Migon e G.H. Brasil, Julho 1986, 18 p.

Nº 95 - "Exacerbação do Consumo e Salário Médio: Evidências sobre o Efeito-Sincronização", Ricardo Cicchelli Velloso, Setembro 1986, 20 p.

Nº 96 - "The Demand for Money in Brazil Revisited", José W.Rossi, Outubro 1986, 24 p.

Nº 97 - "O Programa de Estabilização Econômica e o Poder de Compra do Salário Mínimo", Daniel A.R. de Oliveira e Ricardo Cicchelli Velloso, Outubro 1986, 19 p.

Nº 98 - "Formação de Expectativas num Contexto de Inflação Baixa e Alta Incerteza", Fábio Giambiagi, Outubro 1986, 38 p.

Nº 99 - "Progresso Técnico na Indústria Brasileira: Indicadores e Análise de seus Fatores Determinantes", Helson C.Braga e Virene Matesco, Outubro 1986, 71 p.

Nº 100 - "As Migrações Internas e a Previdência Social", Maria Helena F.T. Henriques e Kaizô Iwakami Beltrão, Outubro 1986, 59 p.

Nº 101 - "Testing for First Order Serial Correlation in Temporally Aggregated Regression Models", Pedro L. Valls Pereira, Novembro 1986, 17 p.

Nº 102 - "Notas sobre as Estatísticas de Investimento no Brasil", Guilherme Gomes Dias, Dezembro 1986, 35 p.

Nº 103 - "A Dívida Pública no Brasil e a Aritmética da Instabilidade", José W. Rossi, Dezembro 1986, 12 p.

Nº 104 - "Estudos para a Reforma Tributária - Tomo 1: Proposta de Reforma do Sistema Tributário Brasileiro", Fernando A.Rezende da Silva, Março 1987, 63 p.

Nº 105 - "Estudos para a Reforma Tributária - Tomo 2: Tributação de Renda e do Patrimônio", Francisco de Paulo Correia Carneiro Giffoni e Luiz A. Villela, Fevereiro 1987, 67 p.

Nº 106 - "Estudos para a Reforma Tributária - Tomo 3: Tributação de Mercadorias e Serviços", Ricardo Varsano, Fevereiro 1987, 165 p.

Nº 107 - "Estudos para a Reforma Tributária - Tomo 4: Contribuições Sociais", Fernando A. Rezende da Silva e Beatriz A. Silva, Fevereiro 1987, 94 p.

Nº 108 - "Estudos para a Reforma Tributária - Tomo 5: Federalismo Fiscal", José Roberto Afonso e Thereza Lobo, Março 1987, 153 p.

Nº 109 - "A Aritmética da Escala Móvel: Uma Análise do Comportamento do Salário Real num Regime de Reajustes com Periodicidade Endógena", Fábio Giambiagi, Março 1987, 30 p.

Nº 110 - "Inflação, Preços Mínimos e Comercialização Agrícola: A Experiência dos Anos Oitenta", Gervásio Castro de Rezende, Abril 1987, 39 p.

Nº 111 - "A Política Salarial e a Crise Econômica", Fernando A.Rezende da Silva, Maio 1987, 32 p.

Nº 112 - "Surplus Labor and Industrialization", Kevin M. Murphy, Andrei Shleifer e Robert W. Vishny, Maio 1987, 19 p.

Nº 113 - "Um Modelo de Consistência Multissetorial para a Economia Brasileira", Márcio Gomes Pinto Garcia, Maio 1987, 42 p.

Nº 114 - "Endividamento Municipal: O Estado Atual das Dívidas das Capitais Estaduais", Thompson Almeida Andrade, Agosto 1987, 26 p.

Nº 115 - "Modelo de Equilíbrio Geral para o Brasil com Fluxos Reais e Financeiros Integrados", Marco Antonio Cesar Bonomo, Outubro 1987, 43 p.

Nº 116 - "Elasticidades de Engel no Brasil usando um Sistema de Equações com Especificação LOGIT", José W. Rossi e Cesar das Neves, Outubro 1987, 15 p.

Nº 117 - "Projeções do IPCA", Pedro L. Valls Pereira e Sergio S. Portugal, Outubro 1987, 36 p.

Nº 118 - "A Carteira de Trabalho e as Condições de Trabalho e Remuneração dos Chefes de Família no Brasil", Ricardo Paes de Barros e Simone Varandas, Outubro 1987, 28 p.

Nº 119 - "Perspectivas e Necessidades Educacionais da Mão-de-Obra", Manoel Augusto Costa, Outubro 1987, 16 p.

Nº 120 - "Modelo Multissetorial CEPAL/IPEA para o Brasil", Fábio Giambiagi, Guilherme Gomes Dias, Juan José Pereira e Márcio Gomes Pinto Garcia, Outubro 1987, 124 p.

Nº 121 - "A Reforma Fiscal no Processo de Elaboração da Nova Constituição", Fernando A. Rezende da Silva e José Roberto R. Afonso, Novembro 1987, 53 p.

Nº 122 - "Avaliação do Sistema Tributário Proposto no Projeto de Constituição", Ricardo Varsano, Novembro 1987, 35 p.

Nº 123 - "O Orçamento Brasileiro: seu Processo Atual e as Reformulações Propostas no Projeto Constitucional", Maria da Conceição Silva, Novembro 1987 (a ser publicado).

Nº 124 - "As Contribuições Sociais no Projeto de Constituição" , Beatriz Azeredo, Novembro 1987 (a ser publicado).

Nº 125 - "Endividamento Municipal: Análise da Situação Financeira de Quatro Capitais Estaduais (São Paulo, Rio de Janeiro, Belo Horizonte e Salvador)", Thompson A. Andrade, Novembro 1987, 33 p.

Nº 126 - "Ajuste Externo e Agricultura no Brasil: 1981/86", Gervásio Castro de Rezende, Dezembro 1987, 46 p.

Nº 127 - "Considerações sobre a Relação entre a Dívida Pública e a Inflação", José W. Rossi, Dezembro 1987, 09 p.

Nº 128 - "Estratégias de Desenvolvimento: América Latina vs.Leste Asiático", Armando Castelar Pinheiro, Dezembro 1987, 35 p.

O INPES edita ainda as seguintes publicações: Pesquisa e Planejamento Econômico (quadrimestral), desde 1971; Literatura Econômica (bimestral), desde 1977; Coleção Relatórios de Pesquisa; Série Textos para Discussão do Grupo de Energia (TDE); Séries Monográficas; Série PNPE e Série Estudos de Política Industrial e Comércio Exterior (EPICO).

Ipea – Institute for Applied Economic Research

PUBLISHING DEPARTMENT

Coordination
Cláudio Passos de Oliveira

Supervision
Everson da Silva Moura
Reginaldo da Silva Domingos

Typesetting
Bernar José Vieira
Cristiano Ferreira de Araújo
Daniella Silva Nogueira
Danilo Leite de Macedo Tavares
Diego André Souza Santos
Jeovah Herculano Szervinsk Junior
Leonardo Hideki Higa

Cover design
Luís Cláudio Cardoso da Silva

Graphic design
Renato Rodrigues Buenos

The manuscripts in languages other than Portuguese published herein have not been proofread.

Ipea Bookstore

SBS – Quadra 1 – Bloco J – Ed. BNDES, Térreo
70076-900 – Brasília – DF
Brazil
Tel.: + 55 (61) 3315 5336
E-mail: livraria@ipea.gov.br

Composed in Adobe Garamond 11/13.2 (text)
Frutiger 47 (headings, graphs and tables)
Brasília – DF – Brazil

Ipea's mission
Enhance public policies that are essential to Brazilian development by producing and disseminating knowledge and by advising the state in its strategic decisions.

ipea Institute for Applied Economic Research

Secretariat of Strategic Affairs