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# **Industrial policy in Brazil**

**Campinas**  
**Universidade Estadual de Campinas – UNICAMP**  
**Instituto de Economia – IE**  
**1997**

This book was printed under the auspices of the *Fundação de Amparo à Pesquisa do Estado de São Paulo* – FAPESP.



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*Centro de Documentação - CEDOC of the Instituto de Economia - UNICAMP*  
cataloging in publication data.

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Suzigan, Wilson

Industrial policy in Brazil/Wilson Suzigan and Annibal V. Villela.-  
Campinas, São Paulo, Brasil: UNICAMP.IE, 1997.

ISBN 85-86215-03-1

1. Industrial policy – Brazil. 2. Brazil – Economic policy.  
I. Villela, Annibal V. II. Título.

CDD 338.0981

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## Preface

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This book was originally written as a research report for the project Joint Study on Japanese Cooperation in Industrial Policy for Brazil, sponsored by the Institute of Developing Economies – IDE, Tokyo, June 1995–February 1996. The project was implemented under the Agreement on the Study on Japanese Cooperation in Industrial Policies for Developing Countries, commissioned by the Ministry of International Trade and Industry – MITI.

The report was published by IDE under the title “The Study on Japanese Cooperation in Industrial Policy for Developing Economies – Brazil”, Tokyo: IDE, March 1996.

This is an updated and revised version of that report. The updating included policy changes, data and information available up to September, 1996. The revision was devised to soften the original report style, suppress sections no longer relevant in the present version (as for example the suggestions to Japanese economic cooperation with industrial policy in Brazil), and to add comments on recent industrial policy measures. However, one of the limitations of the original report is still prevalent: due to the project’s short term and limited budget, no field research was carried out. The book is based on data and information from secondary sources.

The authors wish to express their gratitude to IDE officials, particularly during the Workshop Conference on Japanese Cooperation in Industrial Policy for Developing Countries, held in Tokyo, November 27–December 3, 1995. They also wish to acknowledge the research assistance by Fernando Sarti and João Paulo Garcia Leal, both from *Núcleo de Economia Industrial e da Tecnologia – NEIT, Instituto de Economia – IE, Universidade Estadual de Campinas – UNICAMP*. Fernando Sarti is also the author of an appendix on MERCOSUR.

Computer and secretarial assistance by Pedro Antonio Biffi is gratefully acknowledged. Rosângela de Oliveira Araújo, Susete Regina

Caçõ Ribeiro and Cláudia Di Donato Salvador also helped in earlier phases of the project.

Finally, the authors are specially thankful to Heloísa A. Villela, who helped with text revision; to FAPESP - *Fundação de Amparo à Pesquisa do Estado de São Paulo*, for financial support to publish this book, and to Neide Pereira Baldovinotti and Célia Maria Passarelli Quitério, for editing the text for publication.

Campinas, December 1996.

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## **Introduction**

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Ever since the end of the 1970s Brazilian economic development has been faltering. From 1980 to 1994, GDP per capita was virtually stagnant, with negative growth rates in seven out of the fifteen years of the period. Manufacturing industry was the villain of this sad story: its output in 1993 was still below that of 1980. Only in 1994 did manufacturing output surpass the 1980 mark, after thirteen years of drifting.

Most analysts have pointed out as main causes for this slack performance: the difficulties associated with political transition to democracy after so many years of authoritarian rule; the end of the development model in which the State was leader and supporter; the crisis in the international economy; the ensuing domestic macroeconomic instability with inflation rates on the verge of hyper-inflation; the emergence of new industrial technology and organization paradigms to which the country could not engage, having not even fully developed the industries of the previous paradigm, etc. All these causes are relevant. But the lacking or absent, or even negative, industrial policies of the eighties is certainly another – if not more important – cause usually mentioned in the literature on the so-called “lost decade” (in an extended definition of decade, of course).

In fact, industrial policy became an article of faith in recent Brazilian economic development debate. Those (in government or not) who are in favor of industrial policy act like religious missionaries who know “the word”, and those who are against it refer to the subject as extravagant ideas of exquisite people. In between there are many who simply do not have an interest in the subject, or find it irrelevant (or else, think they know better).

This volume focuses on industrial policy issues of recent Brazilian economic development. The ultimate objective is to suggest

policy guidelines and recommendations in this policy area. The volume is organized as follows.

Chapter 1 presents a succinct discussion of the concept of industrial policy, its theoretical foundations and the approach adopted in the study. This was considered an indispensable preliminary step in view of the strong controversies concerning the scope of industrial policy and its foundations in conventional and alternative approaches to economic theory.

Chapter 2 briefly reviews Brazilian historical practice of industrial policy and the corresponding effort of institution building from the 1930s to the 1970s. It argues that, although the established practice of industrial policy and the respective institutional organization succeeded in structuring the Brazilian industry, converging to the prevailing international patterns of industrial and technological development, they showed themselves not functional in catching up with the structural changes and the new technologies of the 1980s. Together with the political inertia, they hindered the necessary changes at the beginning of the 1980s.

Chapters 3 to 5, deal with the 1980s. This is not a methodological trick or a calendar-based periodization of the study. In fact the 1980s can be characterized as a turning point, unfortunately to worse, as far as Brazilian industrial development is concerned. In contrast with the historical experience up to the end of the 1970s, no industrial policy was implemented in the eighties. Severe macroeconomic instability and rising inflation rates led to macroeconomic adjustment programs and stabilization plans that almost entirely precluded industrial policy. Or worse, an implicit negative industrial policy resulted from the macroeconomic adjustment measures affecting industry in the first years of the decade (Chapter 3). In the second half-decade of the 1980s, despite the predominance of anti-inflationary measures and stabilization plans, an important debate on industrial policy took place and a few industrial policy actions were carried out, laying the bases for the industrial and trade policy reforms of the 1990s (Chapter 4). Finally, at the end of the

decade a new industrial policy was announced (but only partially implemented) and a tariff reform was carried out (Chapter 5).

Chapters 6 to 8 discuss the marked changes in industrial policies in the 1990s, in a context of severe macroeconomic instability and new stabilization plans. At first, together with the first stabilization plan of Collor administration, a radical industrial and trade policy reform was launched. The prevailing system of protection and incentive was dismantled, opening the economy and eliminating subsidies to domestic activities; new programs to stimulate industrial competitiveness, productivity, quality control and technological capability were established; a new institutional organization was introduced; the targeting of industries was abandoned, and greater emphasis was given to competition, deregulation and privatization policies. But the counterpart of financing, science and technology development support, R & D incentives, infrastructure investments, etc. were all late and insufficient or absent (Chapter 6). Subsequently, upon the impeachment of Collor and inflation upsurging, a new stabilization plan was elaborated and gradually implemented. The process of liberalization (trade, financial and other) was furthered as part of the stabilization plan, and industrial policy actions were minimal. Sectoral and R&D incentives were regulated and competition policies were defined by specific legislation (Chapter 7). As the Real plan was launched, trade liberalization was accelerated. Trade deficits ensued and new trade and industrial policy measures were taken to raise specific tariff duties, stimulate exports and sectoral investments, and regulate unfair trade practices (Chapter 8).

Finally, general conclusions and policy recommendations close the study.

Complementing this volume, three appendices are included. The first one discusses the effects of trade liberalization and industrial policy measures on the automobile industry, the second summarizes the MERCOSUR agreements from its inception to the present, and the last appendix contains the basic data supporting the discussions of Chapters 3 through 8.



# 1

## **Analytical framework of the study**

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### **Introduction**

This Chapter aims at explaining the approach adopted in the study. This is necessary in view of the strong controversies in the literature regarding both the definition (or scope) and the theoretical foundations of industrial policy. We proceed by, first, discussing very briefly (and certainly not exhaustively) the definition of industrial policy; second, summarizing the theoretical arguments for industrial policy in both the mainstream economics and the neoschumpeterian/evolutionary approach, and finally by explaining in some detail the approach favored by the present study.

### **1.1 Definition of industrial policy**

To define industrial policy is not a trivial task. Adams & Bollino (1983), writing on the meaning of industrial policy, recognized that “...there is not general agreement about the range of policy tools that it comprises”. We do not intend to deal with this problem; other authors have already undertaken the task.<sup>1</sup>

Our aim is simply to sum up the main points of the debate regarding the scope of industrial policy by highlighting the opposing views of two groups of authors. First, those who view industrial policy in

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(1) Chang (1994) is perhaps the best reference. But see also Johnson (1982; 1984), based on the Japanese experience, and Norton (1986) for an American perspective. An excellent summary of Japanese literature on the definition of industrial policy can be found in Kagami (1995).

strict sense as market-oriented policy measures to correct market failures or to enhance market operation, and second, those who define industrial policy in wide sense as including not only industry-specific policy measures but also other, more general (macroeconomic and other) policy measures which affect industrial performance (growth, productivity and competitiveness). In both cases, policy measures may be of a horizontal nature (aimed at promoting industry generally) or targeted to specific industries, products and technologies. However, targeting is considered undesirable for directly interfering with the market process. These two kinds of policy measures usually overlap and should not be associated with simple protectionist or subsidizing practices (OECD, 1992:13-4).

Authors in the first group include, among others, Chang (1994); Itoh et al. (1991) and Krugman (1993). Chang, to begin with, suggests that we should not overload the concept of industrial policy by “including in it everything that is good for industrial development”. He proposes “to define industrial policy as a policy aimed at **particular industries** (and firms as their components) to achieve the outcomes that are **perceived by the state to be efficient for the economy as a whole**” (Chang, 1994:60. Emphases in the original). According to the same author, this definition corresponds to the so called “selective industrial policy”.

Itoh et al., on the same lines, state that “industrial policy is defined, for our purposes, as a policy which affects the economic welfare of a country by intervening in the allocation of resources **between industries** (or sectors), or in industrial organization of **specific industries** (or sectors)”. (Itoh et al., 1991: 4. Our emphases). In this sense, according to the same authors, industrial policies can be summed up in four groups of measures: (1) those affecting the industrial structure (protection to emerging industries or assistance to shift resources away from declining industries); (2) those designed to correct market failures associated with technology development and imperfect information; (3) those which intervene directly in either the competitive structure of industries or in the allocation of resources with a view to raising economic welfare, and (4) those based on political demands rather than economic considerations (restrictions or agreements to deal with trade frictions, for example). They do not deal explicitly with macroeconomic policies, nor with policies

designed to improve income distribution, pollution control, regional development, small- and medium-sized businesses, etc., although they recognize that these policies “are often included under the umbrella head of industrial policies” (p. 5).

Krugman (1993), in turn, singles out one specific kind of market failure – external economies ( technological or pecuniary, associated with market-size effects) – and sees a case for industrial policy in targeting industries that generate such external economies at regional or local levels. His analysis suggests a criterion for industrial policy: “an industry is a likely candidate for special attention – call it a ‘strategic’ industry – if it seems that the industry’s success is largely a social construction - that individual firms do not stand or fall on their own efforts, but depend on the mutually reinforcing effects of each other’s success. This is just a non-technical way of saying that positive external economies are the key, but putting it this way may help to make the idea seem less abstract.” (Krugman, 1993:176). The best evidence to support this view, according to Krugman, “will come from geographic clustering. And such geographical clusters will in fact help us to define what is an industry. Simply observing a cluster is not, however, enough: we must then ask why the industry is clustered, and make a judgement about whether the external economies, technological or market-size in nature, are sufficiently important to warrant government support” (p. 176-7). Thus, in Krugman’s approach industrial policy is restricted to targeting and it essentially endorses competitive advantages related to technological or pecuniary external economies in identified geographical clusters.<sup>2</sup> In other words: look at the map, identify industrial concentrations and support industries that generate such external economies.

The second group of authors include, for example, Johnson (1984); Corden (1980) and Adams & Bollino (1983). To Johnson (p.8) “...industrial policy means the initiation and coordination of governmental activities to leverage upward the productivity and competitiveness of the whole economy and of particular industries in it. Above all, positive

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(2) The resemblance to Porter’s (1990) approach is quite evident, and this is pointed out by Krugman himself: “indeed, Porter’s analysis of international competition is largely a discussion of the importance of geographically restricted external economies” (p. 177).

industrial policy means the infusion of goal-oriented, strategic thinking into public economic policy. It is the attempt by government to move beyond the broad aggregate and environmental concerns of monetary and fiscal policy of the market system.” After arguing about the limits of the market mechanism to accomplish changes in the industrial structure, Johnson states that industrial policy is a logical outgrowth of the classical or static notion of comparative advantage. “The newer dynamic concept of comparative advantage replaces the classical criteria with such elements as human creative power, foresight, a highly educated work force, organizational talent, the ability to choose, and the ability to adapt. Moreover, these attributes are not conceived of as natural endowments but as qualities achieved through public policies such as education, organized research, and investment in social overhead capital” (p.8).

Elaborating on this broad, dynamic concept of industrial policy, Johnson (p.9) states that: “With regard to facilitating growth, industrial policy has its own macro and micro aspects. At the macro level it provides governmental incentives for private saving, investment, research and development, cost-cutting, quality control, maintenance of competition, and improvements in labor-management relations. At the micro level it seeks on the one hand to identify those technologies that will be needed by industry in twenty to thirty years and to facilitate their development, and on the other hand to anticipate those technologies that will decline in importance and to assist in their orderly retreat or to support them as a matter of social necessity (...). Macro- and micro-industrial policies are both important, but the micro aspect – so-called “industrial targeting” – has often been stressed to the exclusion of the first, even though targeting cannot succeed without favorable macro conditions and is best evaluated as a matter of batting averages, not in terms of absolute successes or failures”.

Corden (1980), discussing the relationships between macroeconomic and industrial policies, seems to favor an approach similar to Johnson’s. Concluding his analysis, Corden states that (p.182-3): “The term ‘industrial policy’ turns out to some extent to be a euphemism for defensive protection - for policies that shelter industries or regions from adverse changes. It seems to me desirable that, in general,



industrial policy in its broad sense should be focused on the longer run – perhaps on ‘leaning against the wind’ a little when big changes are under way, but otherwise to encourage positive adjustment to fundamental changes. There are few, if any, arguments for protection that can stand up as long-term arguments from a national efficiency point of view. Mostly the best industrial policy may be to provide an adequate infra-structure, some limits on the powers of monopolies and cartels, an education system that helps to generate the human capital for industrial success, indicative guidance about industrial prospects (without compulsion or subsidies), stability and simplicity in the system of taxation, a free and flexible capital market and a steady movement toward zero sectional protection, whether direct or indirect (...).’

Adams & Bollino (1983), who deal specifically with the meaning of industrial policy, state very clearly the scope of industrial policy in their definition: “Our concept of IP (industrial policy) is broad. IP has been defined to include only policies aimed at specific industries. Diverse approaches, however - some industry-specific and others in general - can be used to improve growth and the competitive performance of the (...) economy. (...) The strategy of selecting particular fields for public subsidy obviously must be industry-specific. Aid to declining industries or transitional assistance will generally be directed toward specific industries or even specific firms, but nonspecific IPs are also possible. Policies to improve the operation of the market – investments in infrastructure, contributions toward research and development spending, tax incentives, across-the-board tariff measures, for example – can be quite general. But these policies are likely to have industry-specific (and often region-specific) impact even when they are framed in nonspecific terms” (p 13-4).

The two different views on the scope of industrial policy, discussed above, can be associated to equally different analytical foundations. This is done in the next section without implying, of course, that the authors in each group are, or had the intention to be, affiliated to the different schools of thought.

## **1.2 Analytical foundations of industrial policy – a brief appraisal**

The debate on the theoretical foundations of industrial policy is the object of a large body of literature, including traditional theories of state intervention, the new institutionalist theory of state intervention, and the political economy of industrial policy.<sup>3</sup> A review of this literature is beyond the scope of this volume. Our aim in this section is simply to sum up the basic assumptions supporting industrial policies from the point of view of both the neoclassical theory and the neoschumpeterian/evolutionary approach. The two definitions of industrial policy discussed above correspond roughly to these approaches.

In the first approach government intervention is passive and focused on correcting market failures. Taking into account the basic assumptions of the neoclassical model (see Table 1.1), such intervention “...is economically advisable when it is capable of moving an economy away from a situation in which resources are sub-optimally (inefficiently) allocated to another in which resources would be used at their best, so that the average real income would be the highest possible (given the techno-economic constraints). This result will always prevail whenever the cost of intervention is inferior to the benefits it produces” (Villela & Correa, 1995:35-6, our translation).

Market failures or limitations are very frequent. In fact, they are “...exceedingly more frequent than the situation assumed by the ideal model” (Possas, 1995:6, our translation). According to F. Goto and K. Irie, cited in Kagami (1995) “...market limitations are classified as follows:

- Market failures as cited in ‘traditional’ welfare economics
  - economies of scale
  - externalities
  - public goods
  - dynamic factors
  - uncertainty
  - difficulties in the movement of factors of production

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(3) For an excellent survey and discussion of this literature, see Chang (1994, Chapters 1 to 3).

- Market failures added by the recent development in applied microeconomic theory
  - Marshallian externality effects (network effects, imperfect information, etc.)
  - excessive competition (excessive investment, optimum number of firms in an oligopolistic competition, etc.)
- Other types of market imperfections
  - unequal distribution of income (domestically and internationally)
  - issues which supplement macroeconomic policies” (Kagami, 1995: 120).<sup>4</sup>

As Possas (1995:6) states, “If the (conventional) theory always finds ‘failures’, in general significant, in the application of its ideal model, would it not be the case to reckon that the failure is of the model itself? How to evaluate the allocative efficiency, via prices, of markets in which prices perform – may be with a relative efficiency – other functions?” (our translation).

Besides, government intervention is also subject to failures. The so-called government-failure literature argues that “the state may fail to achieve its objectives” since it “...may be able to collect and process all the information relevant for the correction of market failures only at costs that are greater than the benefits from such correction” (Chang, 1994:25). It also argues that, by causing rent-seeking, “...state intervention creates additional ‘wastes’ that may more than offset the benefits it produces” (Chang, 1994). This ultra-conservative arguments, however, are contested by the new institutionalist theory of state intervention, showing that the information problem is not government-specific, rather it is faced by all economic agents, and that rent-seeking is necessary since “...there is a need for restrictive practices (which create rents), in order to achieve innovation and long-term investment, which are the causes of dynamic growth of the economy (...) innovation is rent-seeking par excellence” (p.44).

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(4) See Kagami (1995:120-22) for a characterization of the various market failures. See also Chang (1994:7-12) for a detailed discussion of three groups of arguments in the market-failure tradition: public goods, non-competitive markets and externalities.

Table 1.1  
Basic assumptions of neoclassical (market failures)  
approach and of neoschumpeterian/evolutionary approach

Neo classical (market failures) <sup>1</sup>	Neoschumpeterian/evolutionary
Comparative static analysis  Government intervention shifts the economy from a sub-optimal equilibrium path to another, Pareto-efficient Representative agent/substantive rationality or maximizing behavior Market structures are given  Static comparative advantages Knowledge is a public good Industrial policy is passive, aimed at correcting market failures	Dynamic analysis of markets and institutions (lato sensu, including public policies) Government intervention aims at economic environment (market as a selective environment)  Bounded (procedural) rationality.  Market structures evolve interacting with the environment (competition) and with firms' strategies; evolutionary process in which the market is the arena and the way to techno-economic change, and the firm is the basic unit in the process of competition. Dynamic (or acquired) comparative advantages. Knowledge is tacit and specific (idiosyncratic) Industrial policy is active and aims at systemic competitiveness by creating a competitive environment, coordinating government policies and firms' strategies, promoting productive and technological capabilities, and stimulating cooperation and strategic alliances.

<sup>(1)</sup> The characterization of the neoclassical approach here presented is admittedly too stereotyped. It does not take into account the recent contributions by the so-called "new endogenous growth theories", in which dynamic analysis and partial appropriability of knowledge are introduced. However, it should be noted that this neoclassical stereotype is still representative of the present state of arts as far as the literature on industrial policy is concerned.

Source: Authors' elaboration, based on information from Villela & Correa (1995); Possas (1995); Dosi (1988) and Nelson & Winter (1982).

From the point of view of the emerging neoschumpeterian/evolutionary approach, on the other hand, government intervention is active and broad-based (see Table 1.1). Competitiveness is seen as systemic by nature. So, industrial policy deals with the economic system as a whole, seeking to create a competitive environment<sup>5</sup> and to provide positive externalities and institutions lato sensu (including policies) which favor competitiveness.

(5) See Nelson & Winter (1982: 229-30) on this concept.

Rejecting the neoclassical assumptions of market equilibrium and of substantive rationality (or maximizing behavior) of the agents,<sup>6</sup> the neoschumpeterian/evolutionary approach assumes bounded (or procedural) rationality and disequilibrium as the basic characteristics of markets in an evolutionary process. Competition is the basic process, the market is the locus of competition and the vehicle of techno-economic changes, and the firm is the main agent. The most important relationships are those between competition and the competitive environment, and between competition and firm strategy.

The following quotation from Possas (1995:2) seems appropriate: “If the locus of competition is, by definition, the market, its agent is, naturally, the **firm**, by their formulation and implementation of competitive strategies. However, as competitiveness presupposes innovative capacity (*lato sensu*), the specific conditions (technological, productive and market) of the respective industry and of the **competitive environment** in a broader sense (physical, social and techno-scientific externalities; institutional conditions; regulatory framework) are decisive for the firms to develop their competitive potential, naturally differentiated and asymmetric. Thus, the emphasis on **systemic** factors conditioning competitiveness – without neglecting the factors internal to the firm and the sectoral ones – will be demonstrating, in this approach, the acknowledgement of the importance of constituting and maintaining a **competitive economic environment**, that is, an environment that favors the continuous exercise of **competitive pressures** on firms, whatever the prevailing market structures (oligopolistic or not). In this perspective, competitiveness cannot be built up by trying to reduce industrial concentration, as did former anti-trust policies, or by weakening the market power of oligopolistic firms, in the hypothetical search to increase the contestability of their position, but by exploring to the utmost degree the innovative potential, differentiated, that this power (including

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(6) See Possas (1995) for a detailed discussion. The following summary is based on the same author.

financial power) confers to those firms” (emphases in the original; our translation).<sup>7</sup>

Historical evidence seems to confirm the relevance of the neoschumpeterian/evolutionary approach. Dosi; Pavitt & Soete, for example, in their major work on “The economics of technical change and international trade (1990)”, state that “...all countries affect, through their policies, the economic signals, the capabilities of agents, the environmental incentives and the context conditions. What appear to differ significantly across countries are the institutional arrangements and underlying philosophy of intervention”.

“Regarding the latter, one can identify two extreme archetypes. The first is characterised by a ‘liberal’ view of public policies, more or less loosely underpinned by neo-classical economics. Typically, intervention is justified on three grounds here, namely a regulatory level (anti-trust laws, etc.); the correction of assumed ‘distortions’ of market mechanisms (e. g. ‘unfair’ competition from abroad, etc.); and the existence of ‘market failures’ (e. g. R & D support, etc.). (...) This view appears to characterise, to different degrees, the United States and a limited number of European countries (above all, the United Kingdom). At the opposite extreme, there is an ‘instrumentalist’ view of market processes, to which one does not attach any optimality feature: markets are simply viewed in relation to their (varying) effectiveness in pursuing exogenously defined objectives (e.g. the technological modernisation of a country, income growth, national power, etc.). As a consequence, policy instruments are also chosen without much respect for the short-term prescriptions of economic theory. This view appears to characterise Japan, possibly France, and certainly pre-War Germany” (Dosi; Pavitt & Soete, 1990:258).

Moreover, we agree with Chang (1994) in considering industrial policy “...along with the market, the firm and other economic institutions (...) as an important device of coordination (...) the state may resolve the

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(7) Although a theory of industrial policy in the neoschumpeterian/evolutionary perspective is not yet fully developed, major efforts in that direction have been made by Dosi (1988); Geribadze (1993) and Possas (1995).

coordination problem at a lower cost than the market (and other economic institutions) and thus reduce transaction costs, which are the costs of coordination, in the economy. Institution of an effective property-rights system, macroeconomic stabilisation, organising society into large groups, promoting national ideologies, and coordinating complementary investment decisions are examples of such a role. This type of intervention is particularly attractive because it is relatively cheap compared with other types, which may indeed incur large transaction costs (for example central planning)” (Chang, 1994:53-4).

This seems paradoxical since Chang defines industrial policy in a restricted way, as discussed above. But his analysis is akin to the neoschumpeterian/evolutionary approach, particularly when he considers industrial policy also as a device to promote technical change. In his words: “When we take the issue of technical change into account, industrial policy also emerges as a superior way to promote it. Industrial policy does not kill off the profit motive – which is the most important, if not the only, driving force behind technical progress – as central planning would, and, through the socialisation of risk, it can promote changes that are additional to what the market can produce on its own” (Chang, 1994:89).

Finally, in the next section we explain the details of the approach adopted in this study.

### **1.3 Approach adopted in the study**

The analytical framework of the study can be visualized with the help of Figure 1.1. Five policy areas and their relationships are considered: (1) industrial policy guidelines and specific programs; (2) the relationships between industrial policy and macroeconomic policy; (3) the auxiliary trade, financing, promotion and competition/regulation policies; (4) infrastructure, science and technology, and education/human resources policies, and (5) targeting policies. Additionally, some domestic and international constraints are taken into account.

The statement of industrial policy guidelines is at the heart of the scheme. These guidelines are essential for political and economic **coordination** of government policies and of these policies with firms' strategies and workers participation. The institutional organization plays a key role in formulating the guidelines and specific programs or measures, as well as in policy implementation.

The relationships between macroeconomic and industrial policies are certainly the most important. They operate on both ways, of course. On the one hand, macroeconomic policy affects industrial policy by determining relative prices (tradables/non-tradables) through the exchange rate, by influencing the level of investments via interest rate, and by signalling macroeconomic stability and the state's fiscal capacity for implementing incentive policies and investing in infrastructure, science and technology, and education. On the other hand, a successful industrial policy strategy may help macroeconomic policy by increasing productive efficiency and total factor productivity in the economy.

The second most important set of policies for implementing the industrial policy strategy is the one at the right of Figure 1.1, comprising trade policy, financing, incentive policies and competition/regulation policies. Trade and competition/regulation policies help create the competitive environment in which firms will be under permanent competitive pressure. Together with the incentive and financing policies, they stimulate technological change and the upgrading of industrial structure, interacting with firms' strategies. The instruments in each one of the four policies in this set are shown in Table 1.2. They are well known and widely used, deserving no further discussion. It should be emphasized, however, that trade, incentive and financing policies must be consistent with macroeconomic policy.

Investment policies in physical infrastructure, science and technology policy and infrastructure, and the basic education and human resources qualification system (left side of Figure 1.1) are also of key importance for the industrial policy strategy. They generate positive externalities which contribute as general factors determining the so-called systemic competitiveness (see Table 1.3 for details).



Figure 1.1 - Analytical framework of the study

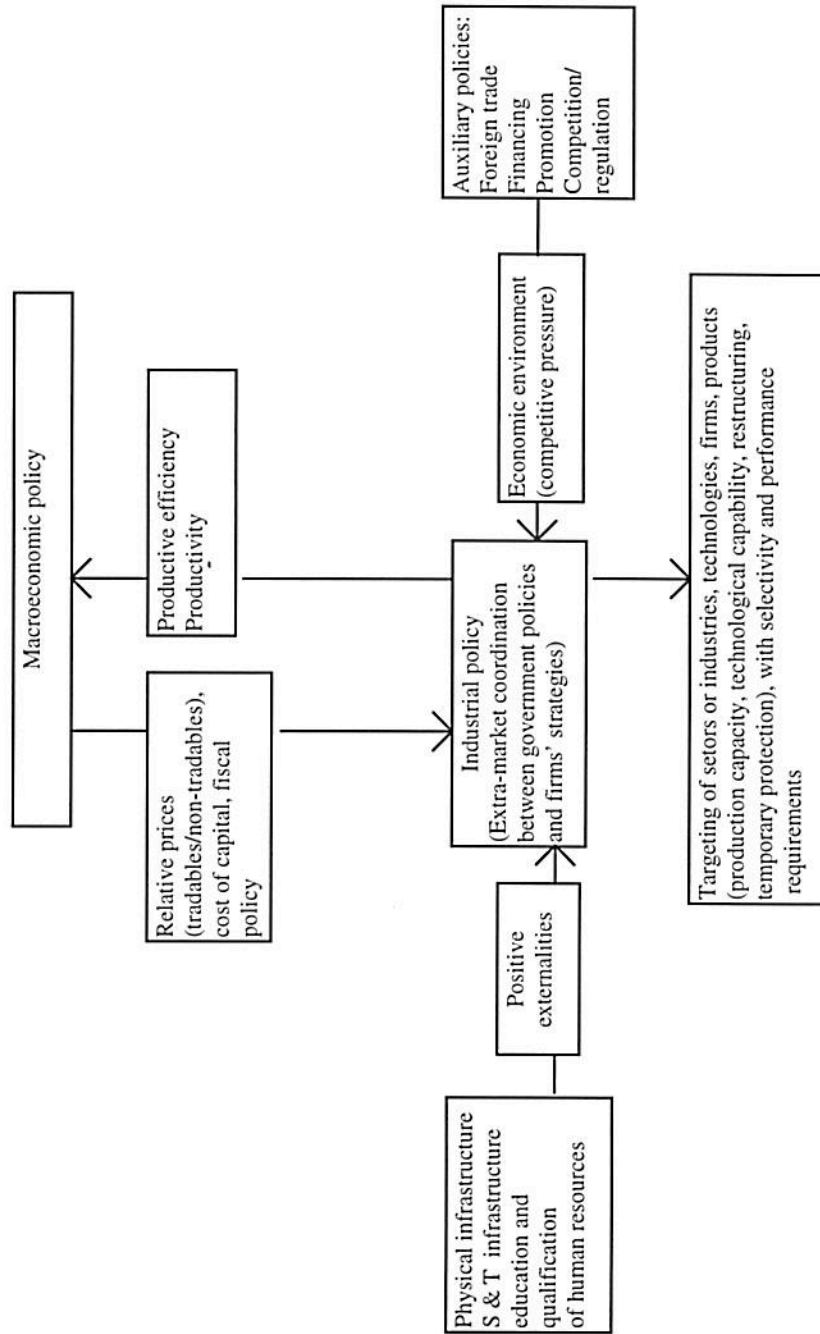


Table 1.2  
Auxiliary policies and their instruments

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<b>1. Trade policy</b>
<ul style="list-style-type: none"> <li>• Tariff</li> <li>• Non-tariff barriers</li> <li>• Export incentives</li> <li>• Production subsidies</li> <li>• Export financing and credit insurance</li> <li>• Import financing</li> <li>• Unfair trade legislation</li> </ul>
<b>2. Financing</b>
<ul style="list-style-type: none"> <li>• Long-term investment credit</li> <li>• R&amp;D and technology development financing</li> </ul>
<b>3. Promotion policies (fiscal incentives and other)</b>
<ul style="list-style-type: none"> <li>• Investment incentives</li> <li>• R&amp;D and technology development incentives</li> <li>• Regional development incentives</li> <li>• Support to micro/small and medium sized business firms</li> </ul>
<b>4. Competition/regulation policies</b>
<ul style="list-style-type: none"> <li>• Anti-trust legislation</li> <li>• Intellectual property rights legislation</li> <li>• Foreign direct investment regulation</li> <li>• Technology transfer regulation</li> <li>• Labor market regulation</li> <li>• Privatization program</li> <li>• Regulation of Public Services Concessions</li> <li>• Consumer rights protection legislation</li> <li>• Environmental protection legislation</li> </ul>

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Source: Authors' elaboration.

Table 1.3  
General determinants of systemic competitiveness

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<b>1. Physical infrastructure</b>
<ul style="list-style-type: none"> <li>• Energy generation and distribution</li> <li>• Transportation</li> <li>• Warehousing and port facilities</li> <li>• Telecommunications</li> </ul>
<b>2. Science and Technology infrastructure</b>
<ul style="list-style-type: none"> <li>• Universities</li> <li>• Research institutes and technology centers</li> <li>• Technical norms and standards</li> </ul>
<b>3. Education and qualification of human resources</b>

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Source: Authors' elaboration.

Targeting is the last, but not the least important, component of industrial policy strategy. The emphasis in the general determinants of competitiveness and in (horizontal) competition policies does not preclude the important micro dimension of industrial policy, namely the targeting of specific industries, technologies, products or even firms, aiming at creating production capacity, facilitating restructuring, or stimulating technological capability. This could take the form of temporary protection, but selectivity and performance requirements are essential.

Finally, some constraints are imposed by structural conditions in the domestic economy as well as by international trends and regulations, which must necessarily be taken into account. Having in mind the Brazilian economy and society at present, and its international relationships, we would like to mention some of these constraints.

Firstly, regarding the domestic market, the inequitable income distribution, regional development imbalances and rising unemployment are the most important constraints. With respect to income distribution, Brazil is one of the most unequal societies in the modern world. Its improvement is first of all a question of political will. If this was the case, the design of an industrial policy strategy would be strongly influenced. However, this is unlikely in the present circumstances and industrial policy will continue to be constrained by this structural characteristic. Imbalances in regional development, on the other hand, require explicit treatment by national industrial policy. State governments and regional development agencies have been trying independently to compensate for these imbalances by implementing incentive policies of their own, causing rent seeking and the so-called *guerra fiscal* (literally, fiscal war, but meaning state governments' struggle for investments by offering fiscal incentives and other benefits to firms). The increase in unemployment, in turn, seems unavoidable, given restructuring and the introduction of new technologies and new forms of work organization. In this sense, industrial policy should be complemented by a broader employment policy.

Secondly, international trends and regulations also constrain industrial policy. We refer to: (1) The globalization of both production and financing, with concomitant expansion of foreign direct investments, global networks, firms' cooperation, and strategic technological alliances; (2) diffusion of the new technological and organizational paradigms; (3) the multilateral agreements of the World Trade Organization, which superseded GATT/Uruguay Round, concluded in 1994; (4) new forms of protection, particularly non-tariff barriers related to sanitary, technical and environmental regulations, and (5) the preferential agreements of regional economic integration blocs, as for example MERCOSUR (Argentina, Brazil, Uruguay and Paraguay). All these trends and regulations seriously constrain national industrial policy efforts.

## 2

# Historical experience of industrial policy in Brazil

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### Introduction

The debate on the recent industrial development in Brazil has emphasized the absence of industrial policy in the eighties as an important cause of the loss of dynamism and of the increasing technological lag of industry from the 1980s onwards, in contrast to what occurred in the previous period. In view of this debate, the objective of this Chapter is to summarize the practice of industrial policy and the corresponding effort of **institution building** in the period between the 1930 and 1970 decades, placing them in a historical perspective. The argument is that, although that practice had been successful in the structuring of industry into a process of convergence towards the international industrial and technological pattern, the traditional industrial policy and the institutional organization that were built up to the end of the seventies showed themselves not functional in **catching up** with the new technologies of the eighties.

The discussion is organized in three steps. First, through a horizontal analytical view in terms of the various components of the industrial policy, the evolution of each one of these components is discussed throughout the period from the thirties to the seventies as a whole. Then, through a vertical analytical view, two subperiods are selected as those in which there occurred the closest approximation to the practice of industrial policy in a broad meaning – the *Plano de Metas* (Targets Plan) of Kubitschek administration (1956-1961), and the II

National Development Plan (1974-1979). Finally, in the conclusion, the central argument is taken up again pointing to the possible causes of the political and industrial policy inertia which led to a sort of normative and institutional **lock in** which hindered the necessary changes at the beginning of the eighties.

### **2.1 The practice of industrial policy and the institutional organization formed between the thirties and the seventies**

The table attached to this Chapter summarizes the historical experience of industrial policy in Brazil between the thirties and the end of the seventies. It can be affirmed that prior to the thirties there was no systematic preoccupation of the economic policy with the promotion of industrial development. Nevertheless, this does not mean that there were not initiatives, though sparse and not always consistent, with a view to protecting domestic industrial activity and developing certain industries, mainly in the period between World War I and the end of the twenties (see Versiani, 1987).

A more persistent and increasingly articulated action, deliberated and comprehensive aiming at the industrialization begins in fact in the thirties. But only in the second half of the fifties it reached a degree of coordination (political and of economic agents, institutions, instruments and auxiliary policies) which approaches to a *lato sensu* industrial policy.

Certainly the table is neither exhaustive nor complete, and there is not any intention to discuss it in detail. Besides, this has already been done by the authors referred to in the sources of the table. In this section the idea is to bring out the general lines of evolution of this historical experience in order to characterize the learning process and the sedimentation of a practice of industrial policy of which it was difficult to move away in the eighties. The method is to undertake a horizontal reading of the table, showing in general lines how each element of industrial policy evolved over time. Later on, in the next section, (a

vertical reading of the table) the two more relevant periods are examined from the standpoint of the industrial policy approach here adopted.<sup>8</sup>

(1) Planning, strategy, coordination. The first attempts at planning industrial development within the framework of national economic plans took place in the thirties and forties, but with little practical effect. The planning agencies established in these periods had more characteristics of study centres and forums for debate than of planning itself. The *Plano Salte* itself did not have sufficient means for its implementation (Draibe, 1985:155-6).

As of the fifties, especially in the second Vargas administration, there began the creation of an institutional planning basis. Starting from diagnoses of structural problems elaborated by the CMBEU and, subsequently, by the Joint Group CEPAL/BNDE, the Industrial Development Commission – CDI prepared a General Industrialization Program – PGI, which was not formalized. The *locus* of coordination was the Economic Advisory Staff of the Presidency of the Republic.

Starting from that initial basis – institutional and of diagnoses – the Plan of Targets of Kubitschek administration was drafted, the first effective experience of industrial development planning as the central element of a comprehensive strategy of economic development. The plan coordinated a program of public and private (national and foreign) investments organized around a set of specific targets under the responsibility of Executive Groups, which would be coordinated by a Development Council. This one, however, was little effective (see later).

In the sixties, with the economic crisis at the beginning of the decade and subsequent political crisis, and the advent of the authoritarian regime and the implementation of constitutional reforms, industrial development planning was abandoned. The national economic plans assumed the predominant characteristic of stabilization plans, and the economic coordination began to be exercised by the National Monetary Council – CMN.

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(8) The acronyms used in the text and in the Summary table are explained at the end of this volume

In the years 1968-73, known as the years of the “Brazilian economic miracle”, there was again a preoccupation with the planning of economic development in general, including formal plans, thereupon institutionalized (the National Development Plans – PND). But the hegemony of the CMN in the command and economic coordination gave more emphasis to the macroeconomic strategy than to any project of industrial/technological development.

With the implementation of the II PND, however, there occurred a second effective experience of industrial development planning within the framework of an indicative plan. Under the command and coordination of the Council for Economic Development, chaired by the President of the Republic himself, a new set of public and private investments was gathered in industry and in the economic, social and science and technology infrastructure.

(2) Directives, objectives, institutional organization. The formal definition of directives and objectives of industrial policy was made for the first time in the Targets Plan. But this plan, in fact, benefited itself from the past work of CDI, the first specific institution of industrial policy in the country. The CDI elaborated in 1952 a “classification of industrial activities and of preferential productive groups in the country” (Draibe, 1985:237), as an expansion of the PGI. Such a classification was partly based on recommendations of CMBEU, and partly on work of the Economic Advisory Staff of the Presidency and of the CDI itself. But they did not reach the implementation stage, except for two subcommissions of CDI created in 1952 to stimulate the development of the automotive and electrical material industries (Leopoldi, 1994:8-9).

In the Targets Plan, the directives and objectives were indicated by the plan and implemented by Executive Groups, which were established for that purpose (the CDI was abolished at the same time). Some of these executive groups were created from the subcommissions of the CDI, as was the case of the two mentioned before. Other institutions, with jurisdiction on important areas of industrial policy, arose in this period, as for example the CACEX (which replaced the former CEXIM), in the Banco do Brasil, and the CPA–Council for Customs Duties Policy.



In the sixties the executive groups, after a period of weakening, were regrouped in a new CDI (afterwards transformed into the Council of Industrial Development). This one would be, till 1979, the institution charged with the formulation of directives and objectives, setting of priorities and management of fiscal incentives to industrial projects. Simultaneously, the institutional framework was expanded in order to include sectoral, regional, technological, and other institutions for the execution of specific programs.

(3) Targeting of sectors, industries or technologies. The practice of setting sectoral targets was also formalized only with the Targets Plan. But since the thirties a few sectors or industries were the aim of specific actions with a view to their development. In general, the targets in the thirties and forties were industries producing basic inputs (steel making, pulp and paper, iron ore, alkalies); as of the fifties other industries were also included: heavy chemicals, heavy mechanical and electrical machinery, transportation material and shipbuilding. Yet, it was only with the Targets Plan that these industries started to be formally aims of sectoral policies implemented by the executive groups. Subsequently, after a period of abandonment of sectoral goals, in the seventies sectoral targets were again set, especially during the II PND, which amplified the spectrum of sectors in order to include other basic inputs producing industries (petrochemicals, non-ferrous metals), capital goods and high tech industries (telecommunications, aircraft, weapons, nuclear energy, informatics).

(4) Instruments and auxiliary policies. These instruments and policies were grouped in four categories or areas: foreign trade policies, financing, promotion incentives and competition/regulation policies. Until the middle of the fifties there was not any coordination or articulation of these instruments and policies. Protection to industry in the domestic market was increasingly based on administrative controls of the foreign exchange market and non-tariff barriers to imports, as the customs duties had their rates eroded by inflation. Practically there were no incentives to exports (or subsidies to production) of manufactured products. The private financial system did not supply long term credit for investments; the Banco do Brasil through the CREA, predominantly

financed agriculture, and the BNDE, created in 1952, initially concentrated on financing infrastructure projects. There was neither a system of incentives nor development policies. The regulation/competition policies, on the other hand, have strong roots in this period, with the beginning of controls on direct foreign investment (mostly profit remittances), prices, interest and public services rates, as well as regulation of the labor market.

After the middle of the fifties there arises a strong system of foreign exchange, tariff and non-tariff protection, and of incentive to export. This system evolved till the end of the seventies in order to: (1) make protection more and more discretionary through non-tariff barriers, relinquishing customs duties (despite of their high rates), and (2) increasingly subsidize exports of manufactured products. Simultaneously, sources of financing began to diversify, particularly after the introduction of indexation, with the diversification of the BNDE operations, development of regional and state banks, creation of special financing funds and of instruments for raising resources abroad, and financing of exports. Development policies began to be systematized, especially: (1) incentives to investment and regional development, which evolved in the seventies to an ample system of subsidy to the formation of industrial capital; (2) incentives to small and medium firms, and (3) inducement to technological development in a context of indicative plans and specific institutional organization which were sprouting as an embryo of the national system of scientific and technological development (SNDCT). Finally, the instruments and policies of regulation/competition were expanded and strengthened, mainly as regards investment licensing, price controls and regulation of the labor market.

To sum up, the instruments and auxiliary policies gave to the industrial policy of the whole period until 1979 characteristics of strong protectionism, generally non-selective, subsidy to capital formation and to exports, and heavy regulatory intervention.

(5) Investments in infrastructure and development of the educational and training system. After the diagnoses of the beginning of the fifties, pointing to deficiencies in the areas of energy and

transportation, there was an intensification of state investments in these areas with the support of the BNDE. Subsequently, with the establishment of public enterprises and other governmental financial agencies, these investments were intensified and expanded to include urban infrastructure, sanitation, warehousing and telecommunications. The deficiencies were overcome and, by the end of the seventies, the economic infrastructure was compatible with the most advanced requirements for industrial development as proposed by the II PND. The same did not happen with the educational and training system. In spite of the achievements in higher education and in post-graduate studies and research, the major deficiency - basic education - was barely touched.

## **2.2 The Targets Plan and the II PND: cases of industrial policy in wide sense**

The above given birds'-eye view of the historical experience of industrial policy in Brazil allows the assertion that the only two periods in which industrial policy was implemented in a wide sense, in accordance with the approach here adopted, were the ones of the Targets Plan and of the II PND. In both of them there was an indicative plan and formal mechanisms of coordination of the instruments and auxiliary policies between themselves and with the macroeconomic policy.<sup>9</sup> In both there was a political option for industrial development and a predominant role of the President of the Republic, although under entirely different political regimes. In the Kubitschek administration, the political strategy consisted of the organization of a "parallel administration" (Benevides, 1976:224-34): the Executive Groups, Workgroups and other agencies of economic policy set the policies, created the instruments and allocated

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(9) In more effective way in the II PND, through the CDE, chaired by the President of the Republic himself and comprising all ministers of the economic area. In the case of the Targets Plan, such a function would be attributed to the Development Council. "But the Council divided itself in several groups, with the aim of controlling only the sectoral policies, (...) consequently, the Council never performed the function for which it had been created" (Benevides, 1976:231). According to the same author, the Council "only worked at all" because its executive secretary was also the President of BNDE (p. 232).

resources for their implementation “independently of specific support from Congress” (Benevides, 1976:226). In the II PND, the authoritarian government centralized the command of the economic policy in the CDE and excluded the Congress from the political-economic game.

In both cases sectoral directives and specific industrial targets were clearly set, in the Targets Plan through the plan itself and the executive groups, and in the II PND not only through the plan but also through the CDI and sectoral, regional and specific programs. Starting with the Targets Plan, and especially in the two following decades till the II PND, the specific institutional organization was completed, with a growing specialization and division of functions, making it functional for the implementation of policies but at the same time making more difficult the coordinating task.

The instruments and auxiliary policies became reasonably interrelated and synchronized given the objectives of the plan (in both cases) and the sectoral directives or the set industrial targets. During the Targets Plan, protection began to be administered by a system composed of a new *ad valorem* customs duty with high rates; multiple exchange rates in accordance with a priority scale; stiff non-tariff barriers, particularly the utilization of a test of national similarity and indices of minimum domestic content, and the first incentives to the exports of manufactured products. Nevertheless, the system was still non-selective, there were not requirements of performance and time, and little emphasis on export promotion. Financing could count on the diversification of BNDE operations towards basic industries, and on regional banks; development policies started to administer fiscal incentives that were systematized by the executive groups and by regional agencies for investment and regional development, and the action of CNPq and CAPES meant the beginning of a process of strengthening of post-graduate activities and academic research in the country (despite the little emphasis on technological development being another deficiency of the Targets Plan from the standpoint of industrial policy). Regulatory policies started to be implemented by means of investment licensing through executive groups and SUMOC (the latter for foreign capital) and to attract direct foreign investment through specific regulation, besides other

regulatory practices which were already been used, especially price control and regulation of the labor market.

During the implementation of the II PND the system of protection was extended and intensified. The exchange rate was periodically adjusted through minidevaluations. Such a system had been started in 1968 and alleviated the recurring problem of overvaluation of the national currency. Customs duties were extremely high, but had little practical effect since: (1) there were numerous special import regimes with a low or zero rate, or even exemption; (2) besides this, the CPA was empowered to change rates on the basis of firms' requests, being able to raise or lower rates or even grant a zero rate,<sup>10</sup> (3) but more important was the fact that customs duties were overwhelmed by a strong discretionary import control through non-tariff barriers, which involved not only the issue of import requests, with the application of the similarity test, but also varied forms of control through regulations on minimum indices of domestic content, agreements and margins of protection for the participation of national firms in the supply of capital goods to large national projects or in international competitive bids; import budgets of public agencies and state enterprises, control of computer imports, and others. Complementarily, export promotion of manufactured products was to count not only on the drawback regime and the traditional fiscal exemptions, established in the sixties, but also on fiscal credits, subsidized financing and special export promotion programs. Therefore, the previous defficiency - little emphasis on export promotion - was overcome. Yet, the protection system became highly incongruous: non-selective and strongly discretionary, shutting off imports, but with a profusion of special import regimes and with compensatory incentives/subsidies to exports. The "logic" seemed to be the maintenance of exceedingly high rates of customs duties and discretionary control of imports in order to be able to simultaneously administer promotion "incentives" based on the reduction or exemption of tariffs and authorization to import.

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(10) On special import regimes and other aspects of the Brazilian import policy, see Moreira & Araújo (1984). On the role and tasks of the CPA in the administration of customs duties, see Baumann & Morais (1988).

Completing the set of instruments and auxiliary policies, financing counted in this period on subsidized credits from BNDE for industrial investments and from CACEX/FINEX for exports; loans and credits from abroad, as part of the strategy of **growth-cum-debt** subsequent to the oil crisis, and new sources of financing resulting from the diversification of the financial system started in the sixties. With respect to promotion policies, incentives to investment ranged from fiscal incentives (based on exemptions or reduction of tariff rates and other taxes, as well as accelerated depreciation of equipment) for projects and sectoral, regional or specific programs, to fiscal credits for buyers of capital goods and for steel products.

The promotion of technological development, which already counted on special funding and indicative plans for the scientific and technological development, evolved towards the constitution of a National System of Scientific and Technological Development – SNDCT and regulatory mechanisms for the transfer of technology and industrial property rights. At the regional level, besides the policies carried out by regional superintendencies, numerous regional programs were implemented (and sectoral with a regional impact), as for example the ones of petrochemical poles. The promotion and assistance to small and medium enterprises, which already counted on a special institution (CEBRAE, created in 1972), was to benefit from special funding and a specific export program (CIEX, created in 1976).

The regulatory and competition policies were more rigorously enforced, particularly the three more important: investment licensing, price control and labor market regulation. Investment licensing was administered by several agencies besides CDI, including those that handled incentives and sectoral or specific policies and the CDE itself. Price control which was an attribution of the CIP since 1968, was carried out in the seventies through surveillance of firms (mainly the larger and the most concentrated industrial sectors) according to different controlling regimes. And the labor market was strongly regulated through legislation which required yearly readjustments of wages (it was only in 1979 that readjustments were to be made every six months) and repression of trade union activities, including the prohibition of trade

unions associations. Besides these, were in force the regulations on direct foreign investment based on Law 4131/62, implemented by the Central Bank; those of Law 4137/62 on the abuse of economic power and anti-trust, implemented by the CADE, and the ones on industrial property rights, based on the code approved in 1971, and mechanisms for transfer of technology, implemented by the INPI.

Finally, in both cases investments in infrastructure and educational system were included in the plans. Energy, transportation and education constituted specific groups of targets in the Targets Plan. In the II PND, besides energy and transportation, public investments were directed to warehousing infrastructure, telecommunications and urbanization/sanitation. In education, jointly with the constitution of the SNDCT and the implementation of the PBDCTs, investments aimed at the expansion of higher learning and post-graduation, including research activities.

Therefore, both the Targets Plan and the II PND can be considered as experiences of *lato sensu* industrial policy, namely, those in which industrial development was:

(1) a political decision, as part of a wider strategy of economic development in which industry held the central role. The political and economic policy coordination was carried out, in the first case by a system of parallel administration, away from the representative political power, and in the second case by an authoritarian concentration of political power and economic policy in the planning and coordinating institutions under the control of the President of the Republic himself;

(2) guided by an indicative plan, with general directives, objectives and sectoral targets or clearly established sectoral or industrial targets;

(3) implemented by an institutional organization which was being shaped since the thirties, consolidating specific capabilities and division of tasks and powers at the various levels (planning, coordination, definition of policies and sectoral directives, and implementation of instruments and auxiliary policies of foreign trade, financing, promotion and regulation/competition);

(4) stimulated by a set of instruments and auxiliary policies that: supplied protection to production for the domestic market and incentives to exports (these latter with less emphasis in the Targets Plan); financed capital formation in industry (with implicit subsidies in interest rates or in monetary correction), as well as exports, technological development and other kindred activities; promoted investment, technological development, regional development and the small and medium enterprises segment; and established strong regulations on: investment in sectors or areas considered strategic, foreign investment (direct investment, profit remittances, access to fiscal benefits and financing), industrial property, transfer of technology, abuse of economic power, control of prices and tariffs of public goods and services, and labor market, and

(5) benefited from investments which generated external economies in economic infrastructure (energy, transportation, ports, warehousing, telecommunications, urbanization, sanitation) and in the educational system, mainly formation of human resources of university level and skilled technicians.

These experiences enabled the structuring of manufacturing industry, completing productive chains, beginning the constitution of a national system of technological development, and taking the first steps towards the incorporation of advanced technology industries. They brought about the rapid growth of industrial output and GDP and a high rate of productivity growth (about 3.5% per year in the seventies). But they sanctioned a practice of industrial policy and a form of institutional organization that represented obstacles to change in the eighties.

### **2.3 Concluding remarks**

Although successful from the standpoint of industrial development, the practice of industrial policy which was sanctioned by historical experience and the institutional organization which was established accumulated problems that would make difficult the necessary change in direction in the eighties. Which were these problems, and why was it necessary to change?



The problems included: (1) excessive non-selective protectionism, with no phasing out targets and no performance requirements from firms, as for instance exports, technological development, etc; (2) late and insufficient emphasis on promotion of exports; (3) almost neglect as regards technological ability to innovate, in complement to promotion of ability to produce; (4) widespread concession of subsidies (fiscal and financial) to industrial capital formation and exports of manufactured products; (5) strong regulatory intervention, especially on investments, prices and wages, generating informal market reserves in some sectors or industries, elimination of price competition and fall or stagnation of real wages, which did not benefit from productivity gains; (6) non sequentiality of plans and policies, with only two periods in which industrial development was an object of indicative planning, sectoral targets setting and coordination of instruments, and auxiliary policies. The outcome was a development process that concentrated income, aggravated social inequalities, and disseminated rent seeking activities favored by a combination of protection and subsidy.

It was necessary to change not only to correct these problems, but also because there was conscience that the country had reached the zenith of a historical development process (which many erroneously described simply as import substitution). Once built an ample and diversified industrial basis, it was necessary to make it efficient and competitive. It was also necessary to incorporate sectors and industries representing new technologies, particularly informatics and telecommunications, and develop innovation ability, a crucial element in competition.

However, it became difficult to move away from this “normative” model and institutional organization. The political economy of industrial policy in the eighties continued to operate in the direction of extracting rent from the State. And it was in the interest of this one to maintain the *status quo* from the viewpoint of the policy of macroeconomic adjustment to fight the internal effects of the international crisis resulting from the rise in the oil prices and international interest rates in 1979-80. Import restrictions were intensified and export subsidies were expanded as part of the measures aiming at keeping increasingly positive balances of trade.

The worsening of the inflationary process and the disequilibrium of the external sector of the economy once more gave priority to the macroeconomic adjustment and the stabilization of the economy, driving away from the political and economic policy agendas, throughout the remainder of the decade, the long term preoccupations.

The National System of Scientific and Technological Development underwent substantial budgetary cuts; the educational system started to deteriorate, and investments in economic infrastructure were drastically reduced. A few attempts at defining industrial policy, between 1985 and 1988, failed due to lack of political support or were only partially implemented (as the New Industrial Policy of Sarney administration). There survived only some policies and sectoral programs, such as the National Informatics Policy, badly implemented (inclusively through lack of support of ministers of the economic area) and strongly opposed by adverse interests, and investment programs in export sectors, generally with financing from the BNDES.

Lately many authors have stressed the importance of history (history matters) and institutions (the institutional environment matters) in economic processes. The historical experience of industrial policy in Brazil corroborates these assertions in the negative sense – what we did not do in the past explains a good deal of our limitations in the present. And perhaps reinforces the more obvious assertion: the one that politics also is important (politics matters).

Brazil. Summary table of historical experience of industrial policy, 1930-1979

Periods/Elements of Industrial Policy	The Thirties		Second Vargas Administration	
	CFCE (1934)	II World War/fourties	CFCE; CME/SPI (1942); Plano Salte	Economic Advisory Staff of Presidency; CD/PGI; CMBEU (1950); PRE/FRE/BNDE; CEPAL/BNDE; CDI (Subcomissões); CEXIM; CACEX (1953)
1. Planning, strategy, coordination				
2. Directives, objectives, institutional organization				
3. Targeting of industries or new technologies	Steel making pulp/paper		Steel making, heavy engines, iron ore, alkalies	Steel making, heavy chemicals, heavy mechanical & electrical machinery, railway equipment, motor vehicles, shipbuilding
4. Instruments and auxiliary policies	Devaluation; centralization/control (Banco do Brasil)		Fixed exchange rate (overvaluation); administrative control (CEXIM)	Overvalued fixed exchange rate (until oct. 53); multiple exchange rates with auction (Instruction 70/SUMOC); foreign exchange budget and import priorities (SUMOC);
4.1 Foreign trade policies:	Revision of rates		Rates (specific) eroded by inflation	Rates eroded by inflation; Commission for Revision of Customs Duties
Exchange rate				Import licensing regime import (CEXIM, till oct. 1953)
Customs duties	Administrative restrictions to imports; Commission of Similars		Quantitative restrictions (1947); licensing regime (1948)	Foreign exchange bonus for exports of manufactures (1955)
Non-tariff barriers				
Export incentives/subsidies to production	CREAI/Banco do Brasil (1937)		CREAI/BB	Banco do Brasil; BNDE (1952); SCF ("Financetrás")
4.2 Financing	(Not systematized)		(Not systematized)	(Not systematized)
4.3 Promotion: Investment				CNPq (1951); CAPES (1951)
Technological development				
Regional development				
Small/medium enterprises				
4.4 Regulation/competition:				
Investment licensing			SUMOC	SUMOC; Legislation on profit remittance; Instruction 113/SUMOC
Foreign direct investment			Industrial Property Code (1945)	Industrial Property Code (1945)
Intellectual property rights			Electric power rates; interest rates	Electric power rates; interest rates; COFAP (1951)
Anti-trust legislation	Electric power rates (Code of Waters, 1934); interest rates (Usury Law, 1933)		Minimum wage enforcement (1941); CLT (1943)	Raise of minimum wage
Control of prices and tariffs	Ministry of Labor (1931); Labor and trade unions legislation; prohibition of strikes (1937)			
Labor relations			Electric power; transportation	Energy (generation of electric power; production and refining of oil, national coal); transportation (railroads and ports)
5. Infrastructure (state investments)				
6. Education, training	Ministry of Health & Education (1931)		SENAI (1942)	

Brazil. Summary table of historical experience of industrial policy. 1930-1979 (contd.)

Periods/ Elements of Industrial Policy		Kubitschek administration	
1. Planning, strategy, coordination	Tariffs Plan; Development Council	Crisis and Institutional Reorganization (tilt 67)	
2. Directives, objectives, institutional organization	Executive Groups; Workgroups: CACEX; CPA (1957)	Three Year Plan; PAEG; National Monetary Council	
3. Targeting of industries or new technology	Steel making & metallurgy; heavy chemicals; heavy mechanical and electric machinery; motor vehicles and auto parts; shipbuilding; pulp & paper, cement	CDI (1964; incorporating Executive Groups); CONCEX (1966)	
4. Instruments and auxiliary policies			
4.1 Foreign trade policies:			
Exchange rate	Simplified multiple exchange rates (1967)	Instruction 204/SUMIOC (1961): exchange rate unification (1967) recurring exchange rate overvaluation	
Customs duties	1957 Tariff (ad valorem)	1967 Tariff Reform (liberalization); CPA: alteration of rates	
Non-tariff barriers	Law of National Similar (CPA); indices of domestic content (Executive Groups)	CACEX: test of similarity (1967); CPA: quotas; indices of domestic content (Executive Groups; CDI)	
Export incentives/subsidies to production	Exchange rate bonus to manufacturers; exports of manufactures through the free foreign exchange market (1959)	Drawback (1964); exemption of IR (1965); exemption of IPI (1967)	
4.2 Financing	BNDE, BB, "Financieras", Regional Banks	Indexation; financial development; diversification of BNDE loans; special financing funds; foreign loans (Instr. 289/SUMIOC)	
4.3 Promotion: Investment	Exemption/tax breaks (Executive Groups); Regional incentives	Exemption or tax breaks of I and IPI (CDI, CPA; regional agencies) accelerated depreciation (CDI/SRF)	
Technological development	CNPq, CAPES	CNPq; CAPES; BNDE/FUNTEC (1964); FINEP (1965)	
Regional development	SUDEV/BSNB; regional incentives	SUDENE; SUDAM (regional incentives) BNDE/FIEME (1965)	
Small/medium enterprises			
4.4 Regulation/competition:			
Investment licensing	Executive Groups; SUMOC (foreign capital)	CDI/Executive Groups	
Foreign direct investment	Instruction 113/SUMOC	Law 4131 (1962); regulated in 1965	
Intellectual property rights	Code of Industrial Property (1945)	Code of Industrial Property (1945)	
Anti-trust legislation		CADE (Law 4137/62)	
Control of prices and tariffs	Electric power rates; interest rates; COFAP	SUNAB (1962); CONEP (1965); updating of public services rates	
Labor relations	Rate of minimum wage	Freezing of minimum wage (1962); annual readjustments (by law) after 1963; wage repression (PAEG); repression of trade union activities; FGTS (1966)	
5. Infrastructure (state investments)	Energy (electric power generation, nuclear, coal, production/refining of oil); transportation (railroads, highways, ports, merchant marine, air transportation)	Investments cut (stabilization programs)	
6. Education, training		Law of Directives and Bases of National Education	

Brazil, Summary table of historical experience of industrial policy, 1930-1979 (contd.)

Periods/ Elements of Industrial Policy	Cycle of Expansion, 1968-73)	II PND: New Investment Cycle (1974-79)
1. Planning, strategy, coordination	National Monetary Council; PED; I PND	II PND: CDE
2. Directives, objectives, institutional organization	CDI/GEP and GS: sectoral, regional, technological, specific institutions and special programs (1)	CDI: more selectiveness; sectoral, regional, technological, specific institutions and special programs (1); sectoral/regional programs (2)
3. Targeting of industries or new technology	Steel making, non-ferrous metals, petrochemicals, shipbuilding	Capital goods, basic inputs, telecommunications, aircrafts, armaments, nuclear energy, informatics
4. Instruments and auxiliary policies		
4.1 Foreign trade policies:	Devaluation (August/68); system of crawling pegged exchange rate	System of crawling pegged exchange rate
Exchange rate	Raise of tariff rates(end of 1968); CPA: alteration of rates	Raise of tariff rates; CPA: alteration of rates
Customs duties	CACEX: import requests, similarity test, national participation agreements;	CACEX: import requests, similarity test, national participation agreements; CPA:
Non-tariff barriers	CPA: quotas, reference prices; import budgets of public agencies and state enterprises (CCNAB); 15% margin for national firms in international tenders; indices of domestic content (CDI, official financing, government purchases)	quotas, reference prices; import budgets of public agencies and state enterprises (CCNAB); 15% argin for national firms in international tenders; indices of domestic content (CDI, official financing, government purchases), CAPRE: import control of computers
Export incentives/subsidies to production	Drawback; exemption of IR, exemption of IPI; exemption of ICM (1969); fiscal credit of IPI and ICM (1969/70); BEFIEX (1972)	Drawback; exemption of IR; exemption of IPI; exemption of ICM (1969); fiscal credit of IPI and ICM (1969/70); BEFIEX (1972); CIEEX (1976)
4.2 Financing	BNDE System; Banco do Brasil/CACEX/FINEX; Resolution 63/BACEN; regional/state banks	BNDES; subsidized financing; loans and financing from abroad; Banco do Brasil/CACEX/FINEX; regional/state banks

Brazil, Summary table of historical experience of industrial policy, 1930-1979 (contd.)

4.3	Promotion: Investment	Exemption/reduction of import tax and IPI for: industrial projects, sectoral and regional programs, generation of electric power, oil/gas; accelerated depreciation, exemption of income tax for mergers/incorporations; equating of domestic sales of capital goods with exports; credit of IPI to buyer of national capital goods and for steel products  CNPq; CAPES; BNDE/ FUNTEC; FINEP; FNDCT (1969); INPI (1971); FUNAT/STIAMIC (1972); INMETRO; IPBDCT (1973-74) SUDENE, SUDAM, GERES, SUFRAMA CEBRAE (1972)	Exemption/reduction of import tax and IPI for industrial projects, sectoral and regional programs, generation of electric power, oil/gas; accelerated depreciation, exemption of income tax for mergers/incorporations; equating of domestic sales of capital goods with exports; credit of IPI to buyer of national capital goods and for steel products  SNDCT (1975); II PBDCT (1975-79); INPI/Normative Act no 15 (1975) SUDENE, SUDAM, GERES, SUFRAMA, regional programs CEBRAE: CIEX; PROGIRO (1977); PRONAEX (1979)
4.4	Regulation/competition: Investment licensing Foreign direct investment Intellectual property rights Anti-trust legislation Control of prices and tariffs Labor relations	CDI/GEP/GS; CONSIDER; CNP; CCPCL Law 4131/62; state/ municipal incentives New Code of Industrial Property (1971), INPI CADE CIP (1968) Annual readjustments of minimum wage; stagnation of real wage; repression of trade unions Energy, transportation, urbanization/sanitation	CDI/CONSIDER, CNP, CCPCL, CAPRE (1972), CDE, SEI (1979) Law 4131/62; state/ municipal incentives Code of Industrial Property, INPI CADE CIP Stagnation of real wage; semestral readjustments (1979); repression of trade unions; prohibition of trade union associations; "new tradeunionism" (1978-79) Energy, transportation, warehousing, telecommunications, urbanization/sanitation
5.	Infrastructure (state investments)		

Notes: (1) The most important institutions are listed below, in the items related to instruments and auxiliary policies.

(2) The following programs were established in the seventies: (1) Sectoral - National Steel Program, National Development Program of Non-ferrous Metals, Petrochemical Poles, National Program of Fertilizers and Soil Correctives, National Program of Agricultural Defensives, National Program of Pulp and Paper, Program of Shipbuilding and Housing Program; (2) Energy/transportation Railroad Program, Highway Program, Nuclear Program and National Alcohol Program; (3) Regional: Program of National Integration, Program of Land Distribution and Incentive to Agroindustry in the Northeast, Program of Development of Integrated Areas in the Northeast, Programs of Farm and Husbandry and Farm and Mining in the Amazonian Region, Special Program for the São Francisco River Valley, Program of Development of the Centre-West, Program of Development of the Cerrados and Program of Development of the Pantanal, Mato-Grosso (Marshy Region of the State of Mato-Grosso).

Sources: Bastos (1991); Bastos (1994); Benevides (1976); Draibe (1985); Farina (1990); Lafer, org. (1975); Leopoldi (1984; 1994); Malan et al. (1977); Mata (1980); Oliveira et al., org. (1994); Souza (1993); Suzigan, ed. (1978) and Suzigan et al. (1974).

# The 1980s

Chapters 3 to 5 discuss the 1980s as a period in which, in contrast to the previous experience, no industrial policy was implemented. Macroeconomic adjustment programs and stabilization plans predominated, leaving little room for industrial policy. Worse than that, an implicit negative industrial policy<sup>11</sup> resulted from macroeconomic adjustment measures affecting industry in the first years of the decade.

However, during the same decade an intense debate on industrial policy took place. As a result of this debate, several important changes began to be shaped. Among the changes, some would be at the heart of the industrial policy reforms of the 1990s, as for example: the implementation of the informatics policy law, new priorities for investment financing by BNDES, the privatization program, the tariff reform, R&D incentive programs, and new policy institutions like *câmaras setoriais* (sectoral committees or chambers). Finally, at the end of the eighties a new industrial policy was defined but only partially implemented.

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(11) Following Johnson (1984:7), by negative industrial policy we mean "... the distortions, disincentives, and inequities that result from uncoordinated public actions that benefit or restrain one segment of the economy at the expense of another".





# 3

## **Macroeconomic adjustment with negative industrial policy, 1980-84**

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### **Introduction**

In March 1979 a new Federal government administration took office. The year 1979 was also the final year of the II PND. A III PND had to be elaborated and submitted to Congress in September. However, facing balance of payments difficulties, rising inflation rates and growing foreign indebtedness, the new administration gave priority to short term monetary and fiscal policy-measures to control inflation and balance of payments disequilibrium.

The problems left over from the historical practice of industrial policy (see Chapter 2) were also in the minds of policy makers, though. The gradual elimination of fiscal subsidies to exports and of the prepaid deposit on imports had already been established at the beginning of 1979, which would be compensated for by accelerating the exchange-rate devaluations under the crawling-peg system.<sup>12</sup> And a full trade and incentive policies reform was being considered in mid-1979.

In fact, a study elaborated by IPEA for the Ministry of Planning in the first months of the new administration suggested the following measures: tariff reform, elimination of special import regimes, gradual reduction of non-tariff barriers, elimination of export subsidies, and a compensatory exchange-rate devaluation, if necessary.<sup>13</sup> These proposed changes were, in part, an answer to international pressures against the Brazilian practice of fiscal and credit subsidies to exports of

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(12) Conjuntura Econômica (1979).

(13) IPEA (1979).

manufactured goods. But it was also a result of the perception by policy-makers that Brazilian industrial policy was a discretionary set of instruments and supplementary policies with practically unknown allocative and effective protection effects, implying the transfer of a substantial amount of public resources to private firms by means of fiscal and financial incentives and subsidies.

However, a change in the command of economic policy-making<sup>14</sup> prevented the immediate and full implementation of the policy reforms. A new economic policy orientation was introduced. The restrictive measures to control inflation and restore the balance of payments to equilibrium were relaxed, and economic growth was again stimulated. The III PND was elaborated and submitted to Congress. And finally, in December 1979 a trade and incentive policies reform was issued.

### **3.1 The policy reform of December 1979**

The reform was implemented along the lines suggested in the study by IPEA (1979), except for the tariff reform and the removal of non-tariff barriers. As regards foreign trade policy, the following measures were taken: elimination of the fiscal credit of IPI and ICM for exports of manufactured goods; elimination of prepaid deposits on imports, and a substantial reduction of credit subsidies for exports of manufactured goods. At the same time an export tax on agricultural and mining products exports was established, and the deadline for utilization of drawback in exports was reduced to one year.

The incentive policy measures comprised: the reduction of credit subsidies to small and medium-sized firms and to agriculture, and the elimination of incentives based on exemption or reduction of import duties. The latter, however, had a long list of exceptions. Tariff exemptions or reductions could still be granted to imports for:

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(14) Economic policy-making was initially under the command of M.H. Simonsen, Minister of Planning. Reacting to political pressures against his restrictive policies, Simonsen resigned in August 1979, giving way to A. Delfim Neto who would be in charge of economic policy until the end of that administration (March, 1985).

BEFIEX/CIEX programs, Manaus Free Zone, energy projects, domestic firms under participation agreements (CACEX), news print, SUNAMAM, electric energy generation and distribution, regional projects (SUDENE/SUDAM), firms participating in international bids, shipbuilding and aircraft construction and repairs. Other incentives remained in force, such as accelerated depreciation, fiscal credit of IPI to buyer of domestically produced capital goods and for steel products, etc. (see section 3.2).

To compensate for the elimination or reduction of fiscal and credit subsidies to exports, the exchange-rate was immediately devalued by 30%. However, this devaluation far exceeded the amount of subsidies suppressed,<sup>15</sup> not considering the positive effect of the elimination of the prepaid deposit on imports. In fact, such devaluation was also aimed at stimulating exports and restricting imports generally, so as to reverse the tendency of the trade deficit.

At the same time, the government pre-established monetary correction and exchange-rate variation for the year 1980, while expansionary monetary, credit and fiscal policies stimulated economic growth. As inflation accelerated during 1980, as a result of both these expansionary policies and the exchange-rate devaluation, domestic consumption, investments and imports were further encouraged, leading to increased balance of payment difficulties. These difficulties were only aggravated by the effects on the domestic economy of the second oil-prices shock and the rise in international interest rates.

Reacting to the balance of payments crisis, the government began to reverse the policy reform already in 1980. First, a new round of tariff increases was decreed in March; second, a 15% financial tax was imposed on imports in April (with a list of exceptions determined by Central Bank regulations), and finally a tighter administrative import control was exerted by CACEX.

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(15) Fiscal and credit subsidies suppressed amounted to approximately 20% of the FOB value of manufactured exports in 1979 (see Baumann, 1989:12).

However, persisting the crisis, stronger and comprehensive adjustment policy measures were employed, as discussed in the next section.

### 3.2 Macroeconomic adjustment: industrial policy effects

From 1981 onwards a severe macroeconomic adjustment program was implemented, with an implicit negative industrial policy. The initial attempts at reducing subsidies and rates of protection were abandoned, wasting an historical opportunity to change the emphasis of industrial policy from protection and subsidization to promotion of greater efficiency, better quality and technological upgrading.

Major changes in economic policy-making were introduced. As far as industrial policy is concerned, these changes meant a radicalization of old protectionist practices without the benefit of the former tradition of planning and coordination. With the help of the analytical scheme proposed in Chapter 1 we try, in what follows, to evaluate in some detail the industrial policy effects of the adjustment measures:

(1) Formal indicative planning was abandoned: the III PND, formulated for the period 1980-85, was never implemented. Former coordination councils, such as CDE, were weakened by the centralization of the decision-making process at the planning secretariat, SEPLAN;<sup>16</sup>

(2) No industrial policy guidelines or objectives were issued. The CDI, which was formally in charge of defining guidelines and objectives, lost most of its powers with the suppression of investment incentives by the policy reform of December 1979. The same apply to some sectoral and regional programs and institutions. On the other hand, institutions in charge of import control, export incentive, investment licensing and price control became stronger, as well as the institutions and programs for the development of new sources of energy (PROALCOOL and *Programa Nuclear*);

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(16) Monteiro et al. (1986).

(3) After the expansionary policy of 1980, macroeconomic policy became severely restrictive. Tight monetary and credit control and budget restrictions led to a deep recession in the domestic market, strongly contracting domestic demand.<sup>17</sup> At the same time, exports were encouraged by increased incentives and subsidies (see below), real wage cuts and an “aggressive” exchange-rate policy.<sup>18</sup> The outcome was a series of large trade balances which financed the huge amounts paid for the interests on external debt.<sup>19</sup> Manufacturing industry restructured to achieve this macroeconomic policy objective;

(4) Targeting of sectors or industries was not generally practiced. However, during this period the national informatics policy was institutionalized, becoming law in October, 1984; some delayed II PND investments were carried out, and activities or projects cared for by the military regime were implemented (arms industry, aircraft, energy projects and *Carajás* mining project);

(5) Trade policies afforded high and indiscriminate protection to import-competing activities, and high levels of incentives and subsidies to exports of manufactured goods. Protection was afforded mostly by non-tariff barriers, which included: a list of prohibited imports (so called Annex C of CACEX import regulations); imports which had the respective import permit suspended by CACEX; imports subject to contingency regimes (usually the obligation to buy a proportion of the same goods in the domestic market); imports subject to annual ceilings (state companies, public administration bodies); limit to imports which benefited from fiscal incentives (sectoral and regional development institutions); limit to imports of capital goods and inputs for firms under contract of long term export programs (BEFIEX/CIEX); state import monopolies (oil, wheat); exclusion of imported capital goods from domestic sources of credit (BNDES/FINAME); domestic market reserve

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(17) In 1981-83, GDP fell by approximately 8% and manufacturing industry production by 16%, relative to 1980. See Appendix 3 tables.

(18) Meaning an accelerated system of crawling-pegged exchange rate, following another maxi-devaluation (30% in February, 1983).

(19) US\$ 10.3 billion in 1981; 12.5 billion in 1982; 10.2 billion in 1983, and 11.4 billion in 1984 (Conjuntura Econômica, several issues).

for informatics goods (SEI); Law of National Similar (similarity test applied by CACEX and CPA); requirement of yearly import programs to be submitted by importing firms (CACEX); 15% IOF tax on imports, etc. However, exchange-rate protection was also important in particular periods (e.g. after the maxi-devaluation of February, 1983), and tariff rates were also extremely high, although mostly offset by the “special import regimes”.<sup>20</sup>

Incentives and subsidies to exports, on the other hand, were substantially increased from 1981 onwards. The fiscal credit of IPI was reintroduced in April, 1981; export financing was extended to production for export and to trading companies, and a system of interest rates equalization for export financing was introduced by Central Bank regulations of 1980-83. As a result credit subsidies increased substantially in 1981-82. In 1982 the total amount of fiscal and credit incentives and subsidies reached the highest level ever: 76.6% of total FOB value of manufactured exports (see Baumann, 1989:12);

(6) Long-term investment financing by BNDES dropped by approximately one fourth on average during 1980-84 relative to 1978-79 (see BNDES, 1992). Similarly, R&D and technological development financing suffered severe budget cuts, as well as the CNPq resources for financing graduate studies and individual research projects (see ECIB, 1994:129);

(7) Fiscal incentives and subsidies for investment, after being cut down by the trade and incentive policies reform of December 1979, were partially restored, particularly those based on exemption or reduction of customs tariff rates, as special import regimes expanded. Other investment incentives and subsidies like accelerated depreciation for capital goods; exemption of value added taxes (IPI, ICM) for domestic production of capital goods; fiscal credit of IPI to the buyer of national capital goods, and the fiscal credit of IPI to steel manufacturers, were all

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(20) In 1981-83 only 11.7% of the total imports paid full tariff rates; the “true” tariff (i.e. total tariff receipt over total CIF imports) was 5.9% in 1981, 5.7% in 1982 and 5.0% in 1983 (Moreira & Araújo, 1984). For a list of special import regimes, see the same source and the Appendix 3, to this volume.

maintained. But the incentives of the informatics policy legislation, as well as those established by the III PBDCT (*Plano Básico de Desenvolvimento Científico e Tecnológico*, 1980-85) were not implemented;

(8) Competition policies (especially antitrust legislation, intellectual property rights and privatization) were kept in low profile. Strong regulatory controls, on the other hand, were exerted over investments (through licensing, especially of foreign direct investments), technology transfer, prices, wages and trade-unions;

(9) Investments in infrastructure suffered a very sharp contraction, along with investments in general. Gross domestic investments as a proportion of GDP declined from 24.1% in 1980 to 16.6% in 1984 (keep in mind that GDP itself dropped 2.3% in the same period).<sup>21</sup> In the same way, total investments in infrastructure by state companies (which were in charge of nearly all such investments) decreased 26.7% between 1980 and 1984. The sharpest decline occurred in energy (29.4%) and transport infrastructure (28.4%), while in telecommunications investments decreased 18.4%. This reduction in infrastructure investments resulted mostly from the compression of tariffs as part of antiinflationary policies, deteriorating the financial conditions of state companies (over 75% of investments were financed by companies' internal resources).<sup>22</sup> As a consequence, infrastructure services deteriorated, particularly roads, railroads and ports, and the future supply of energy and telecommunications services were jeopardized;

(10) The science and technology infrastructure also had its resources cut down. R & D expenditures, after increasing continuously in the 1970s, reaching 0.58% of GDP in 1980, stagnated in the early eighties; in 1984 they were reduced to 0.5% of (a smaller) GDP.<sup>23</sup> FINEP

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(21) See data in the Appendix 3 to this volume.

(22) Data and information from Ferreira (1995).

(23) Data from Cassiolato (1992). Total science and technology (S&T) expenditures, as estimated by *Secretaria da Ciência e Tecnologia*, include expenses which are not strictly S&T commitments. For this reason, S&T expenditures as a proportion of GDP are higher than the figures mentioned above for R&D expenditures. See Appendix 3 tables for S&T data.

and FNDCT, the main institution and fund for financing S&T activities, suffered a severe loss of budgetary resources from 1980 to 1984 (see Appendix 3). Also, the III PBDCT, which was supposed to continue the building up of the National System of Science and Technology Development – SNDCT, was not implemented. As a result, the SNDCT was politically and technically weakened, besides bearing historically a weak relationship with industrial production itself.

Altogether, these measures characterize a negative industrial policy. As a result, large private (national and foreign) firms adopted defensive strategies by restructuring patrimonial assets, cutting investments down, reducing the labor force, substituting financial market operations for productive operations as the main source of profits, and directing an increasing proportion of their production to foreign markets.

By 1984 the economy, and particularly the manufacturing industry, had been “adjusted”. However, such adjustment was perverse from the point of view of industrial policy. For example, industrial productivity (defined as production divided by worked hours) increased by 35.1% between 1980 and 1984, but as a result of a 22.8% reduction in worked hours while production increased by only 4.3% in the whole period. Also, the manufacturing industry's export coefficient was sharply increased. But this increase resulted mostly from export subsidies and exchange-rate devaluation which turned relative prices in favor of exports. Exports were also stimulated by keeping wages and domestic demand at very low levels. On the other hand, strict discretionary control over imports and the substitution of alcohol for imported oil further reduced import coefficients to their lowest levels ever. Trade balances could not but recover.

In consequence, at the end of 1984, on top of the problems pointed out in Chapter 2, Brazilian manufacturing industry had accumulated new ones, namely: the need to resume growth in the domestic market; the need to engage in the diffusion of the new technological and organizational paradigms; the increasing technological lag of industrial plants, processes, products, organization and management methods; sectoral bottlenecks; heterogeneous financial



situation of firms, with the large private firms (both national and foreign) adjusted and state companies and small and medium-sized firms barely surviving; an irrational set of policies and instruments of protection, promotion and regulation, and a weakened institutional organization.

These problems would be in the agenda of the industrial policy debate in the years 1985-88.



# 4

## **Economic instability, high inflation rates and frustrated industrial policy initiatives, 1985-88**

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### **Introduction**

With the end of the military regime, transition to democracy began with the so-called New Republic government, inaugurated in March 1985. The climate of political transition helped in the debate of the national economic and social problems, including those of industry of course. But the late 1980s would be characterized by persistent macroeconomic instability; antiinflationary measures and stabilization plans predominated, precluding industrial policy actions almost entirely. This Chapter deals specifically with the period from 1985 to mid-1988, just before the so-called New Industrial Policy was designed.

### **4.1 Economic instability and industrial policy**

In 1985 economic growth resumed, stimulated by domestic demand (boosted by the 1984 export boom) and by export expansion.<sup>24</sup> However, inflation was sky-rocketing and in early 1986 a stabilization

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(24) Import substitution had already become of only marginal importance as a source of growth. In the period 1975-80 it accounted for only 8.3% of production growth; domestic demand was the main source of growth (77.3%), and export expansion was the second (14.4%). In some sectors, however, import substitution was still significant as a source of growth (for example: steel, machinery, heavy electrical equipment, and pulp and paper). For data and a more detailed discussion, see IPEA/INPES (1985).

plan (*Cruzado*) was launched. As is well known, the *Cruzado* Plan failed, and new stabilization plans were implemented in 1987-89 which barely kept inflation rates just under hyper-inflation. Consequently, growth rates declined and a new industrial recession occurred in 1987-88. Instability and uncertainties kept investments at very low levels and increased the difficulties for industrial policy-making.

But, besides these difficulties deriving from macroeconomic instability, industrial policy-making faced other problems. To sum up:

(1) Although a new development plan (I National Development Plan of the New Republic, 1986-89 – I PND/NR) was elaborated in 1985, containing industrial policy directives, and although also a targets plan (*Plano de Metas*) was issued in 1986, detailing specific industrial policy targets, in fact no indicative planning became effective;

(2) In the same way, although several official statements on industrial policy guidelines were issued,<sup>25</sup> none was carried out before the New Industrial Policy was regulated in September 1988. To some extent, this was a consequence of CDI remaining powerless;

(3) Without the support of any effective planning or industrial policy guidelines, and even without the agreement of the firms involved, the Ministry of Industry and Commerce established some specific sectoral investment targets which, not surprisingly, were unsuccessful;<sup>26</sup>

(4) Trade policies remained an inconsistent set of instruments and specific policies, although some significant changes did occur. The system of crawling-pegged exchange rate was maintained, but during the price-freezing periods of stabilization plans, with fixed exchange rate, there were overvaluations as inflation resumed (see data in the Appendix 3 tables). These overvaluations affected both imports and exports, of

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(25) These statements are discussed in more detail in section 4.3, on the industrial policy debate.

(26) Investment programs were announced for the period 1987-1995 in petrochemicals, fertilizers, paper and pulp, steel, and in the automotive industry. In the latter case, for example, the investment program was strongly contested by ANFAVEA, the vehicles manufacturers association, who stated that they did not have any active participation in the elaboration of the industry's investment program. For details, see Suzigan (1988).

course, but import-competing activities continued to benefit from the absolute protection of non-tariff barriers. Customs tariff rates remained high, although little effective as special import regimes still in force permitted to circumvent the tariff wall.<sup>27</sup> And, on the other hand, export performance was aggravated since export incentives had been reduced by the suppression of the fiscal credit of IPI/ICM from 1985 onwards (except for BEFIEX programs in force until 1989), and by changes in the credit lines for manufactured exports from 1984 onwards (Baumann and Moreira, 1988; Baumann, 1989). It should also be noted that the first protocols on trade agreements, which would later lead to MERCOSUR, were signed between Argentina and Brazil from 1986 onwards; also, the first unfair trade legislation was approved by Congress in 1987, in compliance with the Uruguay Round of GATT negotiations;

(5) Long-term investment financing remained at low levels, even below the depressed levels of 1980-84 (BNDES, 1992). But R&D and technological development financing benefited from budget increases in 1986-88 (see section 4.2);

(6) Competition and regulation policies did not undergo any meaningful change. In fact, price control and especially price freezings during the stabilization plans were the strongest policies in this area. With inflation persisting, and growing higher after each stabilization plan, wage indexation was gradually shortened to a monthly basis, and the political transition allowed the unions to become more active. Other minor changes were: as regards foreign investment regulation, the distinction between “domestic firm” and “Brazilian firm with national capital” in the 1988 Constitution; and the beginning of a formal (although restricted) privatization program managed by BNDES.<sup>28</sup> Other competition and regulation policies (such as technology transfer regulation, antitrust legislation, consumer rights protection, and environmental protection) remained in operation on the basis of existing,

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(27) A tariff reform began to be elaborated by CPA in 1986-87, and would become effective in 1988 as part of the New Industrial Policy (see section 4.2 below for a more detailed discussion).

(28) In fact, the reprivatization of firms from which BNDES had acquired equities perforce of its BNDESPAR operations.

and mostly ineffective, regulations, or were not regulated at all until the beginning of the 1990s;

(7) Investments in infrastructure were further reduced. Total annual investment by state companies in energy generation and distribution, and in transport and telecommunications services was reduced from US\$ 8 billion in 1980-84 to US\$ 6.4 billion in 1985-89 (Ferreira, 1995). Recall that such investments had already been reduced in 1980-84, as discussed in Chapter 3 above, and finally

(8) Science and technology infrastructure benefited from the creation, in March 1985, of the Ministry of Science and Technology (MCT), comprising FINEP, CNPq and SEI. Controlled by the main political party supporting the new government, MCT managed to increase the budget allowances of FINEP and CNPq quite substantially. As a result, financial allocations by FINEP reached US\$ 234 million in 1987 (1991 prices), as compared to US\$ 84.4 million in 1984. But this recovery was short-lived; from 1988 onwards FINEP's allocations shrank, reaching no more than US\$ 61.5 million in 1991.<sup>29</sup> CNPq, on the other hand, increased its financial allocations continuously until 1989-90 as a result of priorities set by MCT policies (as discussed in section 4.2 below). Also, MCT set the informatics policy in motion by coordinating the National Council on Informatics and Automation – CONIN.

The last topic was not, of course, so much negative for industrial policy as the previous ones, at least as far as science and technology infrastructure is concerned and only for a short span. But this was not the only positive aspect of industrial policy-making in the late 1980s.

## **4.2 Concrete industrial policy actions**

Despite the difficulties and problems pointed out in section 4.1 above, some important industrial policy actions were carried out in 1985-88: new priorities were defined for science and technology development; a privatization program and new strategies for granting long-term credit

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(29) See data in the Appendix 3.

were implemented by BNDES, and a tariff reform was elaborated by CPA. These actions are summarized next.

- **MCT measures**

Besides being able to manage substantial science and technology budget increases in 1985-87 (and up to 1988-89 as regards CNPq), which allowed the ratio of S&T expenditures over GDP to reach its apex in 1987-88,<sup>30</sup> the new Ministry of Science and Technology defined clear priorities and measures to support the qualification of human resources for industrial and technological development, to stimulate the development of new technologies, and to implement the informatics policy.

As regards the qualification of human resources, the main instrument was CNPq's grants for graduate studies and research projects. These grants increased continuously in 1985-89, reaching in 1989 a figure which represented nearly a five-fold increase relative to 1984. As a result, the number of grants increased from 11.985 in 1985 to 23.478 in 1989.<sup>31</sup> In selecting grantees, CNPq gave priority to areas considered strategic for industrial and technological development. However, the area of social and human resources was the one in which the greatest increase in qualification of human resources was observed, contrary to international trends and the needs of industry.

To stimulate the development of new technologies, on the other hand, MCT established some special secretariats (*Secretarias Especiais*). Four of these *Secretarias* were created in the late 1980s: those for biotechnology, fine chemicals, new materials and precision tools. However, they had little success and none survived into the 1990s.

Finally, under MCT coordination the informatics policy was implemented through the approval by CONIN of the I National Informatics and Automation Plan – PLANIN in April 1986.

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(30) Approximately 0.8%. See data in the Appendix 3.

(31) See data in the Appendix 3. Actually, the grants covered not only graduate studies but also post-doctoral studies and undergraduate student's participation in research projects.

Notwithstanding, the informatics policy was terminated in 1992, as discussed in **The 1990s**, of this study.

- **BNDES strategies**

Although BNDES disbursements remained depressed, a number of actions and changes in the bank operations were carried out which influenced industrial policy in the late 1980s and particularly in the early 1990s. First of all, the bank acquired an experience in privatization by implementing 13 operations of reprivatizations between 1987 and 1989, after the promulgation of Decree n. 91.991, in November 1985. In fact, as already mentioned, these operations simply transferred to the private sector the firms which were under the control of BNDESPAR. The total amount involved was equivalent to a little over half a billion US dollars.<sup>32</sup> Nevertheless, on the basis of this experience BNDES became the government agency in charge of the National Privatization Program (*Programa Nacional de Desestatização*) in the 1990s.

Secondly, a new strategic action plan for 1985-87 set important credit priorities, particularly the development of high technology industries and the modernization and expansion of production capacity of both industry and economic infrastructure. This was an important departure from the early 1980's practice of financing mostly firms' financial restructuring and working capital. Manufacturing industry's share in total BNDES disbursements increased from 42% in 1984 to over 50% in 1986-87. But the largest amount of credit still went to those industries traditionally assisted by BNDES: cellulose and paper, metallurgy, chemicals, machine-tools, electrical and communications equipment, transport equipment, textiles, and food and beverages.

However, the most important change in the rationale of BNDES action in late 1980s was the so-called competitive integration (*integração competitiva*). With a view to restoring the role of development bank to BNDES, its staff elaborated a number of scenarios for the Brazilian economy. Competitive integration was considered the most promising

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(32) See BNDES (1992).



scenario, in which the insertion of domestic firms in the international market was the strategic factor. Thus, BNDES operations should be changed to “stimulate competitiveness, the production at the lowest prices and at international quality levels” (Mourão, 1994:18, our translation). According to the same author, this would facilitate the access of Brazilian firms to the international market. In addition, the economic infrastructure should be modernized to favor systemic competitiveness. The best way of carrying out this strategy would be “to use the market mechanisms”, that is, “to open the economy to foreign competition with the elimination of subsidies, quantitative restrictions on imports and state protection, and with a gradual and planned reduction of tariff rates” (Mourão, 1994). It was also meant to liberalize foreign investment regulations in order to stimulate joint ventures with Brazilian firms to promote technological development and market expansion.

However, the implementation of competitive integration by BNDES was hindered in the 1990s. The Collor administration undertook a more radical change in trade policy and “the neoliberal view was imposed” on BNDES, which became the privatization bank (Mourão, 1994:22). Nevertheless, some of the propositions of competitive integration (particularly the industrial policy focus on firms and the emphasis in productivity and quality programs) were implemented by BNDES staff members working for the new government.

- **Tariff reform**

A tariff reform was elaborated in 1986-87 and submitted to the plenary of CPA in November 1987. The main objective of the reform was to recuperate the customs tariff as a long-term instrument of economic (or industrial) policy. With this aim in view, the reform proposed.<sup>33</sup>

(1) To eliminate the special import regimes, with the exception of those related to international agreements (GATT, ALADI, Brazil-Argentina and Brazil-Uruguay), export promotion (BEFIEEX, drawback,

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(33) See Kume & Patrício (1988) and Kume (1990).

export incentives), regional development (SUDAM and SUDENE projects), government imports, and Manaus Free Zone (ZFM);

(2) To eliminate import surtaxes such as IOF, AFRMM and TMP by incorporating their tariff equivalent in the tariff rates, and

(3) To effect a general reduction of tariff rates, lowering their average and reducing their dispersion.

The reform did not have a trade liberalization purpose. The objective was first to eliminate redundancies<sup>34</sup> in the tariff rates, keeping the existing tariff protection levels but giving greater transparency to the structure of tariff rates. Subsequently, non-tariff barriers would be reduced (along with the elimination of special import regimes), recuperating the tariff as an important trade and industrial policy instrument. Finally, a gradual and planned reduction of tariff rates would be implemented, beginning with capital goods, raw materials and intermediate goods.

This undoubtedly was a very sensible proposal for tariff reform, and was to become effective in 1988, as part of the New Industrial Policy. But its full implementation faced difficulties deriving from political resistance to the elimination of import surtaxes as well as of the special import regimes, as discussed in Chapter 5.

### **4.3 The industrial policy debate of the mid-eighties**

Another positive aspect of industrial policy in the mid-1980s is that this period of political transition was also characterized by an intense debate on industry issues. There was a general awareness of the problems faced by industry and of the need for an industrial policy. Several official (or quasi-official) documents on industrial policy guidelines were issued between January 1985 and February 1987. Among them are: the industrial policy document elaborated between October 1984 and January 1985 by Commission for the Government Plan – COPAG, for the newly elected

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(34) For a sample of 705 products, redundant protection was estimated at 41.2%. It would be reduced to 17.8% after the reform. See Kume & Patrício (1988).

Trancredo Neves government; the I PND of the New Republic (November 1985); the *Plano de Metas* (Targets Plan) of July 1986, which specified the I PND/NR targets; four different versions of an industrial policy proposal elaborated by the Ministry of Industry and Commerce – MIC and published between August 1985 and February 1987, and a study prepared by a group of experts commissioned by the government (July, 1986).

There is no room for a detailed discussion of these documents in this study. In general, all of them addressed to some extent the problems that industry was facing after the deep recession of the early 1980s (see Chapter 3 ). Specific policy proposals included measures to: (1) resume growth of industrial production both for the domestic market and export expansion;<sup>35</sup> (2) foster the diffusion of the new technological and organizational paradigms, so as to conform a new, technologically advanced, industrial development pattern; (3) upgrade industrial plants, processes, product design, organization and management; (4) stimulate the technological capability of national firms, implying the need for an advanced science and technology system; (5) coordinate government and private sector investments to prevent sectoral and infrastructural bottlenecks<sup>36</sup>; (6) assist in the financial restructuring of firms which suffered the most severe effects of the recession (mostly state companies and small and medium-sized firms); (7) reduce protection, subsidies and regulation, allowing for a more competitive environment; (8) promote regional industrial development, and (9) restructure the weakened industrial policy institutional organization with a view to having a better policy coordination and implementation. The general objective was to attain higher productivity levels, greater efficiency and better quality in industrial production, thus achieving competitiveness in both the domestic and the international markets.

To implement such policy measures, the industrial policy proposals considered: the relationships between industrial and

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(35) This specific aim disappeared from the policy agenda as production growth recovered in the second semester of 1985.

(36) The reduction of investments in infrastructure and the high levels of capacity utilization in basic-input industries were a cause of concern in the event of a full recovery of domestic demand.

macroeconomic policies; the establishment of clearly defined targets; the reform of trade, financing, incentive and regulation policies; and complementary government investment policies for infrastructure, science and technology, and human resources.

However, as already mentioned, none of these proposals was made effective. The main difficulty was, of course, macroeconomic instability itself. But also important were the lack of consensus between the government and agents as to specific goals, and particularly the difficulties for political articulation of interest groups (the state, firms' strategies, science and technology community, workers) in a period of political transition. It should also be remembered that there was strong resistance to depart from the protectionist and rent-seeking practices of the past, as discussed in Chapter 2.

Nevertheless, the intense debate on industrial policy issues by government officials, intellectuals, industrial associations and workers left some consensual ideas which would influence the future events. For instance, the sectoral chambers as *loci* for government-firms-workers negotiations on specific policy issues originated from the MIC industrial policy proposal of July 1986. Also, the emphasis on productivity growth, quality control, technological upgrading, R&D incentive, trade policy reform, etc. were all present in the industrial policy documents of the mid-eighties.

# 5

## The New Industrial Policy and the first steps toward trade liberalization, 1988-89

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### Introduction

By mid-1987 it was clear for the government that none of the previous industrial policy proposals would be implemented. A new study was then started with the purpose of defining industrial policy guidelines. Before the end of the year the government was announcing the coming implementation of what would be a “new industrial policy”, and also the establishment of export processing zones. At the same time, as discussed in Chapter 4, the CPA was in the process of elaborating a tariff reform. According to government announcements, these new policies had a liberalization purpose, which proved to be more a piece of rethoric than a matter of fact.

This Chapter discusses succinctly the New Industrial Policy (*Nova Política Industrial* – NPI), promulgated by decree in May 1988 and made effective by regulatory legislation in September 1988. As part of the same policy package, the trade policy reform and the legislation on export processing zones are briefly commented upon.

### 5.1 The New Industrial Policy

The NPI was announced with a liberal discourse. It started by correctly identifying the problems that domestic industry was facing, and

the relevant international trends that should be taken into account (as, for example, the “technological revolution” which threatened static comparative advantages). The general objective was to upgrade the industrial structure and to support the technological capability of Brazilian firms so as to improve efficiency, increase productivity and acquire competitiveness both in the domestic and in the international markets.

It consisted of two groups of instruments or complementary policies. First an incentive policy, and second a trade policy reform. In addition, an institutional reorganization was put in force to administer the new policy.

The incentive policy comprised investment incentives, new incentives for R&D, export incentives, and some “special” and “transitory” fiscal incentives. The investment incentives were based on a new industrial policy conception of dealing with “industrial complexes” (or *filières*), each one including the whole of a productive chain and not only individual projects, as before. These incentives should be administered through Sectorally Integrated Programs (*Programas Setoriais Integrados* – PSIs) to which other industrial policy instruments would converge.

The R&D incentives, in turn, were to be administered by Industrial Technology Development Programs (*Programas de Desenvolvimento Tecnológico Industrial* – PDTIs). This was an important new departure. For the first time incentives would be granted to stimulate the development of technological capability of Brazilian industrial firms by creating, on a permanent basis, in house R&D structures, and also through cooperation between firms and of firms with research institutes.

As regards export incentives, the NPI just kept the existing BEFIEX incentive programs. However, their administration was transferred to CDI in order to ensure a better coordination with industrial policy objectives.

The “special” and “transitory” incentives, mostly based on existing legislation, benefited the acquisition of capital goods and raw materials, parts and components by industrial firms (to increase

production capacity), newspaper and printing firms, state companies or public services concessionaires, mining industry, industrial R&D, Brazilian firms participating in international bids, domestic production of capital goods, aircraft industry, and shipbuilding and repairs.

The incentives were generally fiscal incentives. They included the exemption from or reduction of tariff duties and of the industrial value added tax (IPI), income tax rebates, and also accelerated depreciation of capital goods or amortization of assets. The most important and common was the exemption (reduction) of tariff rates. This means that a large number of special import regimes were created or maintained by NPI, which implied that non-tariff barriers had to be kept as the most important device for import control, contradicting the objectives of the trade policy reform (see section 5.2). From this perspective, it is understandable why other protectionist policies were explicitly kept in force, such as the government procurement policies, minimum domestic content regulations, and the law of national similar.

To administer the incentive policy a reorganization of industrial policy institutions was effected. The CDI was restructured to be the government body in charge of NPI. It would again be a council of ministers, under the presidency of the Minister of Industry and Commerce, and its organization was composed of an executive secretariat (*Secretaria de Desenvolvimento Industrial – SDI*) and, under SDI, some sectoral study groups.

The new CDI also incorporated the BEFIEX programs and absorbed the functions of CONSIDER and STI, both extinct. But the most important novelties were: (1) the creation of Interministerial Committees to help coordinate macroeconomic and industrial policies; (2) the creation of a Consultative Committee, integrated by industrialists, to suggest industrial policy measures, and (3) the establishment of sectoral chambers (*câmaras setoriais*), which had been proposed in a former (1986) MIC industrial policy document.

However, of all these institutional reorganization measures, the establishment of *câmaras setoriais* was the only effective and lasting change. They congregated government officials, firms and workers'

representatives to elaborate sectoral policy proposals for SDI, and to suggest accordingly the implementation of PSIs. This was the only institutional innovation which survived into the 1990s.

To sum up, although the NPI was based on a liberal approach,<sup>37</sup> its measures pointed to the contrary. The system of protection and export promotion remained unchanged; most of the existing fiscal incentives were maintained, and a large number of new ones were introduced; finally, a greater centralization in the institutional organization (despite the creation of sectoral chambers) increased substantially the discretionary power of CDI and also of CACEX and CPA. As to policy instruments, the PSIs and PDTIs were important innovations, of course. But their incentives had little impact. Only one PSI was implemented (for the textile industry) before these programs were terminated in March 1990. And the PDTIs incentives for in house R&D were practically ineffective since they could not exceed the limits for income tax rebates set by previous legislation.<sup>38</sup> But the positive aspect about the R&D incentives is that this specific instrument of the NPI was preserved in the industrial and trade policy reform of the early 1990s. In 1993 its legislation was reviewed and it is still in force.

## **5.2 Trade policy reform**

The trade policy reform was the most important complementary policy measure of NPI. It would seek to gradually liberalize foreign trade by, on the one hand, implementing the tariff reform which was being prepared by CPA, and on the other hand, by simplifying bureaucratic requirements for exporting.

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(37) In the introduction to the NPI measures it is stated that NPI was part of a project to reduce state participation in the economy (privatization, deregulation), to open up the Brazilian economy, and to reduce the dependency of private firms on government incentives. For a more detailed discussion, see Suzigan (1989).

(38) Firms could deduct up to 10% of due income tax on account of expenses on food, transportation, etc. for employees. The new incentive (8% deduction on account of R&D expenditures) should be within the 10% limit for other expenditures.



Independently from the NPI, but later to become an important part of that policy, the tariff reform had been under study since 1986, as discussed in Chapter 4. After being submitted to the Plenary of CPA, at the end of 1987, the reform suffered a setback. The reform had three main objectives, as already discussed: to eliminate most of the special import regimes, to suppress import surtaxes, and to proceed later on to a reduction of tariff rates. However, even before it was discussed with industry representatives, the reform was contested by other government areas which were against the suppression of surtaxes and the elimination of special import regimes. The Minister of Transports, for example, objected to the elimination of the two surtaxes which benefited his area: the AFRMM and the TMP.<sup>39</sup> And the special import regimes were “protected” by specific legislation.

As a result, the implementation of the tariff reform was deferred and, at the beginning of 1988, the CPA began a new round of discussions with the interested parties. By March/April 1988, the news was that the government was about to announce the NPI and that the tariff reform would be an important part of that policy.

In the end, the tariff reform was only partially implemented. Of the surtaxes, only IOF was eliminated. The AFRMM was maintained and the TMP only changed its denomination, becoming Additional on Port Tax – ATP. As to special import regimes, the reform had little success in eliminating them. Not only were maintained those suggested by CPA,<sup>40</sup> but also those regulated by specific legislation (e.g. informatics law). And also, new ones were created by the NPI. Based on import data for 1985, Kume (1990:22) estimated that the special import regimes still in force after the reform accounted for about 44% of total non-oil imports. This was the reason why non-tariff barriers could not be eliminated.

The reduction of tariff rates, on the other hand, was successful, signalling the intention of eliminating redundancies and gradually

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(39) The first one (*Adicional do Frete para Renovação da Marinha Mercante*) was a surtax on freight rates and benefited the shipbuilding industry, and TMP (*Taxa de Melhoramento dos Portos*) benefited the improvement of ports.

(40) I.e. those related to international agreements, export promotion, regional development, government imports and ZFM (Manaus Free Zone) imports (see Chapter 4, section 4.2).

reducing tariff protection. In 1988 the average tariff rate was reduced from 51% to 40% (Table 5.1), with a more uniform distribution and a reduced dispersion (range) of rates. In 1989 a revision was made with the purpose of improving the structure of tariff rates. With this revision, the average tariff was further reduced to 35%.

However, although this tariff reform pointed to an import liberalization purpose, such liberalization was in fact symbolical since non-tariff barriers remained unchanged (mostly for the reasons mentioned above). As shown in Table 23 of the Appendix 3, in the late 1980s the non-tariff barriers were the main instruments for import control. Their elimination was planned by CPA as a subsequent step after the tariff reform. But it could only happen if the special import regimes also were eliminated. This did not occur before the beginning of the 1990s, when a radical trade liberalization policy was put into effect by the Collor administration.

Table 5.1  
Evolution of Brazilian tariff rates, 1987-89 (%)

Statistics	Pre-1988 reform	1988 reform	1989 revision
Average	51	40	35
Mode	30	40	40
Median	45	40	35
Standard deviation	26	17	20
Range	0-105	0-85	0-85

Source: Horta, Piani & Kume (1991:67).

Finally, and also as part of the trade policy reform related to the NPI, export promotion was reinforced. First, a decree-law of May 1988 simplified the bureaucratic requirements for exporting by eliminating the intervenience of public agencies other than CACEX for issuing export permits (*guias de exportação*). And second, new export incentives were introduced in 1988: the exemption of the Social Contribution tax (8% of net profit before income tax) on export operations, and exemption of the PIS/PASEP tax on exports (see Baumann, 1989:25-26).

### 5.3 Export processing zones

Another, less important but politically significant complementary trade policy measure related to the NPI was the legislation on the establishment of export processing zones (*Zonas de Processamento de Exportações* – ZPEs). Such legislation was issued in July 1988 and came into effect by regulatory decree at the same time as the NPI (September, 1988).

Originally thought of as a means of implementing some specific articles of the Informatics Law dealing with export incentives, the ZPEs legislation in fact contradicted the Informatics Law as well as the science and technology policy of MCT. For this reason, it was strongly opposed by representatives of the informatics industry and by MCT, the ministry in charge of implementing (through SEI) the informatics policy. Eventually, it was changed to become a more general legislation for the establishment of export processing zones.<sup>41</sup>

According to the legislation, the objectives of ZPEs were to foster regional development and to stimulate technological development and employment in less developed areas. These objectives were strongly criticized by politicians, industrialists, scholars, etc. who argued that: (1) the ZPEs could not be an instrument of regional development since their linkages would be with suppliers from abroad or, at best, from the more industrialized regions of the country; (2) they would not stimulate technological development since the activities which are usually attracted to these free zones are not technology – intensive, and (3) employment would probably increase, but wages would have to be very low to make investments viable.

These were not the only criticisms, however. It was also argued that the ZPEs could: (1) stimulate corruption, contraband and illegal remittances of foreign currencies; (2) attract firms out of industrialized regions, weakening the country's industrial structure, and (3) be used by foreign firms to get access to restricted domestic markets.

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(41) See Tápiá (1995:154-8) for a detailed discussion.

For these reasons, the establishment of ZPEs became a political issue opposing regional development interests to those of more industrialized areas. In the event, although 14 ZPEs were authorized in 1988-89, the legislation had no practical effect. In the early 1990s the original legislation was temporarily suspended, and in 1992 it was changed by a new legislation (see Chapter 6).

## The 1990s

The industrial policy in the present decade was started with the declared intention of departing from the policies adopted in the past, as was discussed in the previous part. It was intended or at least stated, that it aimed at introducing marked changes in the concept of industrial policy, placing emphasis on commercial liberalization and competitiveness of domestic industrial production. All this was in sharp contrast to the Brazilian experience of industrial development.

In the first half of this decade this country had three administrations, instead of two, as President Collor, whose inauguration took place in January 1990 was impeached in September 1992, being replaced by Vice-President Itamar Franco, who ruled until December 31, 1994. On January 1, 1995, President Fernando Henrique Cardoso started his administration.

During these years the Brazilian economy was subjected to three stabilization plans - two in the Collor administration, the so-called Collor I and II, and another one in the Franco administration, the "Plano Real", which was launched in July 1994, and is being carried out in the present administration. This latter plan has reduced inflation from an average of 35 % to about 1% per month. It is easy to perceive that the stabilization policy has had priority over the industrial policy, harming both its formulation and implementation.

As a consequence of the above described political events, the discussion of the industrial policy in the nineties covers three subperiods, namely, the Collor administration period (1990-92), the Franco administration (1992-94), including the launching of Plano Real, and the first years of Cardoso administration. The major industrial policy measures in these periods are summarized in the annexes to **The 1990s**.

Finally, it is extremely important to bear in mind that in the era of globalization there is a clear demand for new instruments of industrial policy. The necessity to produce with flexibility, and to live with imported goods, easier communications and the fluidity of capital movements, namely, conditions that may be expected to remain, means that industrial production will have to be stimulated by new kinds of measures.

# 6

## **The Collor Plan and the Industrial and Foreign Trade Policy (PICE), 1990-92**

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### **Introduction**

Upon President Collor's inauguration (March 1990) the monthly rate of inflation was 81%. The new economic measures to fight inflation made up the so-called Collor Plan I. In a nutshell, these new measures were: (a) the country's currency, the *Cruzado Novo*, was replaced by the *Cruzeiro* (Cr\$ 1.00 = NC\$ 1.00); (b) 80% of financial assets of the private sector were frozen for 18 months, receiving during this period a real return of 6% a year (the prevailing rate of inflation plus 6%); (c) an extraordinary tax on all financial transactions; (d) indexation of taxes (on income and on manufactured products); (e) elimination of most fiscal incentives; (f) increases in the prices charged by public enterprises; (g) liberalization of the exchange rate and a gradual opening of the economy to external competition; (h) temporary freezing of prices and wages; (i) extinction of several federal government agencies, and an announcement that the government planned to lay-off over 300 thousand public servants; (j) stimulus to the privatization program and beginning of the deregulation of the economy (Baer, 1995; Ferreira da Silva, 1991).

It was only natural that the above mentioned measures led to a sharp fall in the economy's liquidity. Thus, the supply of money fell from 30 to 9% of GDP (between March and June), bringing about a strong cut in retail trade and industrial output. The rate of inflation which had reached 81% in March, fell to 9% in June. However, public opinion's pressure and government's fear of a recession prompted a quick remonetization of the economy. As the government had exempted several sectors or firms from the liquidity crunch, granting credits and accepting

that taxes be paid in frozen currency, while its expenditures were made in the new currency, in less than two months the supply of money which had declined to 9% of GDP, rose to 14%.

Due to the temporary tax on financial transactions and the freezing of financial assets, which during some time relieved the government from the payment of interest on the internal debt, it was possible to have a budgetary surplus for a short time. But, as these measures could not permanently solve the fiscal problems of the government, this one attempted to lay-off a large number of public servants. Such an attempt was unsuccessful because the 1988 Constitution had granted tenure to government servants who had worked for more than five years. Moreover, the Constitution had increased the transfer of funds from the federal government to the state and municipal ones, and thus aggravated still further the fiscal problems of the Union.

In the second half of 1990 inflation had risen again and in January 1991 its rate was 20%. The government then launched a new stabilization plan. This new plan, known as the "Collor Plan II" basically consisted of a new freezing of prices and the creation of new financial instruments to replace the "overnight". The yield of these financial instruments was to be based on a reference rate – TR, which was calculated taking into account expected future rates of private and federal papers. The government's idea in setting up this scheme in lieu of the old ones (indexation schemes) was to eliminate the "inflationary memory", making it possible for expectations of falling inflation rates to be embodied into current price formation (Baer, 1995).

The measures of Collor II had a short-term impact on prices: the monthly rate of inflation fell again from 21% in February to 6% in May 1991. Later on, under a new Minister of Economics, prices were liberalized and the control of inflation was carried out through a strong increase in real interest rates.

To sum up, the emphasis of the governmental policy was very much influenced by the so-called "Washington Consensus" of early 1990. There was advancement in the objectives of deregulation, privatization and opening up of the economy.



The bad relations between the Executive and Congress which prevailed till the impeachment of President Collor in the second half of 1992 prevented the achievement of the fiscal adjustment that was necessary for coping with the budgetary disequilibrium.

The following indicators (Table 6.1) show the poor performance of the economy in the years 1990-92, when inflation dropped in 1991, rose again in 1992, and agriculture & livestock partially compensated for the fall in industry in 1991 and 1992.

Table 6.1  
Yearly rate of growth of Real GDP, GDP per head, agriculture & livestock, industry, and inflation, 1990-92 (%)

	Real GDP	GDP per head	Agric. & Livestock	Industry	Inflation
1990	- 4.4	- 6.4	3.7	- 8.0	2,740
1991	1.1	0.8	2.8	- 0.5	415
1992	- 0.9	- 2.7	5.3	- 3.6	991

Note: Inflation is measured by the IGP-DI = General Price Index (Internal Availability), (*Fundação Getúlio Vargas*).

Source: Basic data from IPEA (1993: 690-700 and 724).

## 6.1 PICE: Industrial and Foreign Trade Policy

In the *Medida Provisória* (Executive Decree subject to Congress approval into law) n. 158, of March 15, 1990 the Government linked the industrial policy to its strategical objectives such as raising real wages in a sustained way and promoting a greater opening and deregulation of the economy. It was also stressed that the industrial policy was to aim at maximizing the rate of productivity growth. Therefore, it was deemed crucial that a radical reform took place regarding the scope and policy instruments hitherto used, as in the past industrial policy did not have the promotion of efficiency among its principal aims.

That initial proposal was amplified in the document “*Diretrizes Gerais para a Política Industrial e de Comércio Exterior – PICE*” (General Guidelines for the Industrial and Foreign Trade Policy), of June 26, 1990.

- **Guidelines, objectives, legal and institutional organization**<sup>42</sup>

The General Guidelines stated that the objective of industrial policy is the increase of efficiency in production and commercialization of goods and services, through the modernization and restructuring of industry. Moreover, it asserts that the new policy requires forms of governmental action and regulation of economic activity that differ markedly from those that prevailed throughout the process of import substitution. It emphasizes particularly that in this new phase market forces will have to be used in a more effective way in order to induce the modernization of the industrial sector as well as improve the forms of production organization and labor management.

The implementation of PICE was to take into account the following strategies: (i) gradual reduction of tariffs and elimination of widespread incentives; (ii) competitive restructuring of industry; (iii) strengthening of new sectors through greater specialization of production; (iv) planned exposure of industry to external competition; (v) improvement of the technological capability of the national firm, through selective protection of high-tech industries, and support of the diffusion of innovations to other sectors.

Three programs would assist the implementation of the PICE: (a) the Program of Industrial Competitiveness – PCI, to foster the development of high-tech industries and the restructuring of industrial sectors and services that can attain prices and quality levels by international standards; (b) the Brazilian Program of Quality and Productivity – PBQP which is structured on subprograms such as for consciousness and motivation, development and diffusion of modern

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(42) A great deal of the remarks on the industrial policy in the Collor administration draws freely on Guimarães (1992).

managerial methods, training of human resources, etc; (c) the Program of Support to the Improvement of the Technological Capability of Industry – PACTI, namely, establishing networks of technological information, upgrading the technological infrastructure, training of human resources for the improvement of the technological capability, etc.

Finally, the PICE would count with the following instruments:

- a. financing policy for the fixed capital formation, improvement of technological capability and foreign trade;
- b. export policy – creation of mechanism for the financing of exports of goods with a long cycle of production through the establishment of a Foreign Trade Bank; simplification of bureaucratic procedures; revision of tax structure;
- c. import policy – use of customs duties as the sole instrument of import policy; reduction of customs duties over the period 1991/94; creation of anti-dumping mechanisms;
- d. use of the purchasing power of the State – generation of demand for high-tech sectors and fostering joint public & private research projects.

It was also foreseen that PICE would include a policy for the defense of competition. For that purpose, a revision of the anti-trust legislation (Law 4137/62) was proposed.

The General Guidelines stated that the implementation of the PICE required the revision of the legislation inherited from past administrations such as Decree-law 2433/88 (New Industrial Policy of the Sarney Administration), Law 7322/84 (National Informatics Policy) and Law 5772/71 (Code of Industrial Property).

At the very beginning of the Collor administration there was the preoccupation of dismantling the system of protection and incentives built up throughout the past decades: to revoke exemptions and reduced taxes used in sectoral special import regimes; abolish non-tariff barriers; start the gradual implementation of a tariff reform, cutting rates and their

degree of dispersion. The important exceptions: drawbacks, imports of goods for the informatics sector, and imports by the Manaus Free Zone.

Along the years 1990 and 1991 other legal measures detailed and implemented some of the proposals put forward in the General Guidelines for PICE. These measures related to fiscal incentives, financing by official credit institutions, purchases by federal agencies and state enterprises, and the concept of capital goods of domestic production, which will be discussed later on.

Simultaneously with the new legal measures dealing with the industrial policy there occurred many important modifications in the institutional set up that formulated and implemented this policy. With the creation of the Ministry of Economics, Finance and Planning – MEFP at the beginning of the new government, the Planning Secretariat at the Presidency of the Republic and the Ministry of Industry and Commerce were declared extinct. Thus, the new Ministry of Economics became responsible for the formulation and implementation of the PICE.

However, a few instruments and mechanisms of industrial policy remained under the responsibility of other ministries, such as:

- i. Ministry of Justice – the National Institute of Industrial Property – INPI; the National Institute of Metrology – INMETRO; and the National Secretariat of Economic Rights – SNDE (policy of defense of competition).
- ii. Science and Technology Secretariat – the Financing Agency for Studies and Projects – FINEP, (financing of technology); National Council for Informatics and Automation – CONIN; Special Secretariat for Informatics – SEI, later on Department for Informatics Policy and Automation; and the Technology Department.
- iii. Regional Development Secretariat – the Superintendency for the Development of the Northeast – SUDENE; Superintendency for the Development of Amazonia – SUDAM; Superintendency for the Manaus Free Zone – SUFRAMA, and the National Council for the Export Processing Zones.

Within the Ministry of Economics, Finance and Planning the agencies dealing with industrial policy were put together in the National Economy Secretariat, as follows:

- a) Industry and Trade Department – DIC;
- b) Foreign Trade Department – DECEX, which comprised (i) the Technical Coordination of Tariffs – CTT, (which took over the functions of the extinct CPA) and (ii) the Technical Coordination of Foreign Trade – CTIC, (which replaced the CACEX);
- c) Supply and Price Department – DAP.

Side by side with the above described organizational framework the new administration attempted to establish a few mechanisms of liaison and exchange of information between the government and firms. It was foreseen the creation of Executive Groups for Sectoral Policies – GEPS, whose functions according to the General Guidelines for PICE were to discuss and submit to governmental decision the measures on the application of mechanisms and instruments of industrial policy, as well as to stimulate the interaction of the several firms in each industrial complex. As the GEPS did not come true, their functions were transferred to the Sectoral Chambers (Law 8178/91).

The main task of the Sectoral Chambers was analysing the cost and price structure of sectors and specific productive chains with a view to advising the Ministry of Economics to monitor price flexibilization after the freezing introduced by Collor Plan II. Later on their tasks were amplified, and besides price issues they were also given the task of probing into medium and long term issues of their own sectors. Twenty-nine Sectoral Chambers were created, and at times they were divided up in workgroups dealing with special subjects.

Both the PBQP and the PCI also had the participation of the private sector. Within the PBQP were established a National Committee for Quality and Productivity (to give the global strategical orientation and carry out periodic evaluations of the Program) and General and Sectoral Subcommittees, the tasks of which were the management of actions and specific projects. Upon the announcement of the PCI in February 1991,

an Entrepreneurial Commission for Competitiveness – CEC was created. Afterwards the CEC was transformed into the Consultative Entrepreneurial Council for Competitiveness – CONCEC. Representatives from the public and private sectors were expected to discuss national strategies for competitiveness, governmental programs, etc.

- **Targeting policies**

This applies almost exclusively to the informatics sector.

Among the initial changes in industrial policy was the revision of the informatics policy. At once there was a reduction in the number of products for which it was necessary to obtain permission to import or produce domestically (Decree 99541/90). This indicated the commitment to terminate the market reserve at the foreseen date.

The incentives to the informatics sector are foreseen in Law 8248/91. For the purpose of granting incentives this law defines the Brazilian firm of national capital, which among other characteristics on the nationality and residence of shareholders states that no less than 51% of the voting capital should be in the hands of Brazilian citizens, and that they should have the power to effectively manage the firm, including the decisions of technological nature. Later, in the Constitutional reform of 1995, this definition of Brazilian firm was abolished. A new definition was substituted for, which practically eliminated the discrimination of foreign capital by considering as Brazilian any firm constituted under Brazilian laws and operating in the country.

The most important incentives are:

- deduction of up to 50% of the income tax due, in the fiscal years 1992-97, of the amount of expenditures made in the country on activities of R & D, either directly or through agreements with research centers or universities;

- exemption of the IPI on capital goods and accessories, including industrial automation and data processing equipment, either imported or made in Brazil, up to 1999;
- accelerated depreciation, calculated by the application of the accepted rate of depreciation multiplied by 2, on top of the normal depreciation of capital goods, up to 1999;
- priority in the financing by federal financial institutions for fixed investments, expansion and industrial modernization;
- preference in the purchases by agencies directly or indirectly controlled by the Federal Government.

- **Instruments and auxiliary policies**

- (1) **Trade policies**

**Exchange rate** – The main characteristic of the exchange rate policy introduced by the Collor administration was the floating exchange rate. This was a novelty after a long period of daily minidevaluations through which the Central Bank attempted to prevent abrupt oscillations caused by high rates of inflation.

The country was in a moratorium but it was obvious that it would eventually have to return to service its foreign debt. Therefore, the Central Bank accumulated enough reserves to revert the trend towards overvaluation started in early 1989, and forestall the expectation of a maxidevaluation. For this reason, the foreign exchange system after March 1990 was closer to a system of managed rates than to one of floating rates, although without a rule for intervention as in the past.

To sum up, the trade-off between a tight monetary policy and an exchange rate policy that would enable through the medium term equilibrium the return of the servicing of the foreign debt, led to strong and sudden fluctuations in the exchange rate and in the interest rate, in accordance with the objective of the moment: liquidity control or recuperation of the real exchange rate (Horta, Piani & Kume, 1991).

The exchange rate policy and the monetary policy followed in the Collor administration as is easily perceived were not conducive to the implementation of the PICE.

**Tariffs** – As regards customs duties there was in June 1990 a reduction in the rates of tariffs on textiles, agricultural inputs and machinery, chemical inputs and capital goods which were not produced in the country. On 1/31/91 Regulation 58 of the Ministry of Economics announced a general reform of tariffs, following a time-schedule of gradual reductions, which were to go on up to 1994. In February 1992 Regulation 131 of the Ministry of Economics revised the time-schedule, anticipating tariffs foreseen for 1993 and 1994 (Table 6.2), as shown below:

Table 6.2  
Time-schedule for the reduction of tariff rates

Initial schedule	1990	2/15/91	1/1/92	1/1/93	1/1/94
Modified schedule	1990	2/15/91	1/1/92	10/1/92	7/1/93
Average (%)	32.2	25.3	21.2	17.1	14.3
Mode (%)	40	20	20	20	20
Standard deviation (%)	19.6	17.4	14.2	10.7	7.9

Source: Guimarães (1992: 4).

The objective of the tariff reform was to make it the sole instrument of import policy, since all forms of non-tariff barriers had been eliminated.

**Incentives to exports** – These incentives are of two types: fiscal and financial. The fiscal incentives are mainly related to the income tax - IR and to indirect taxes, the IPI and the ICM. The Collor administration in most cases reenacted past legislation, chiefly the one enacted in the Sarney administration. The reason for reenactment of some measures foreseen in previous legislation is that the Collor administration at its outset abolished many incentives to exports, and subsequently revised these decisions, mainly by Law 8402/92.



With respect to the financing of exports the National Treasury was authorized to negotiate financial charges below the cost of raising the funds necessary for the Program for the Financing of Exports – PROEX, whose objective was to increase the competitiveness of Brazilian exports; in other cases of financing of exports the Treasury was empowered to grant the financial agent an incentive equivalent to the coverage of the higher differential between the financial charges negotiated with the borrower and the cost of raising the resources (Law 8187/91).

MERCOSUR – The creation and development of the MERCOSUR has become an important instrument of trade policy regarding the exports of Brazilian manufactures, mainly in the case of exports of capital goods and automobiles to Argentina. On March 26, 1991 the Treaty of Asunción between Argentina, Brazil, Paraguay and Uruguay defined as its objective the creation of a Common Market by December 31, 1994. As discussed in Chapter 7, and also in Appendix 2, this target would later be considered too ambitious and a longer transition period was established.

## **(2) Financing**

The BNDES System continued to be the sole source of medium and long term investment financing, either in the expansion or modernization of productive capacity, or in improvement of technological capability.

For the purpose of official financing as well as granting of fiscal benefits and purchases by federal agencies the capital goods and the high-tech goods which have a domestic content of no less than 60% (Regulation of the Ministry of Economics 126/91) are considered as domestically produced.

## **(3) Incentive policies**

**Investment** – The incentives to investment were basically related to exemption of the IPI on new capital goods and accessories, including industrial automation and data processing, either imported or made in the

country (effective up to 3/31/93); credit of IPI on raw materials, intermediary products and packaging products used in the manufacture of those indicated goods; accelerated depreciation, calculated by the application of the usually accepted rate of depreciation, multiplied by 2, on top of the normal depreciation of capital goods used for industrial production, and incorporated in the fixed assets before 12/31/93. All these incentives were granted by Law 8191/91.

**Technological development** – The incentives in this area are those foreseen in the Sarney administration (Decree Law 2433/88 and Decree 96760/88), as was already discussed in The 1980s, and maintained by the Collor administration. The Collor bill that reestablished fiscal incentives to activities of R & D remained two years in Congress and only passed in 1993, as will be seen later.

There were changes in the procedure of registration of contracts of transfer of technology by the INPI (Resolution 20/91).

**Regional development** – The incentives to enterprises in the areas of SUDENE, SUDAM and the State of Espírito Santo are those foreseen in previous legislation, as was already discussed in this study, and maintained by the new administration, with minor changes.

With respect to the Superintendency of the Manaus Free Zone – SUFRAMA a few changes were introduced in the previous legislation, and the major ones are:

- (a) exemption of port fees on imports of inputs for the production of goods for exports (Law 8367/91);
- (b) exemption of IPI on informatics goods (Law 8387/91) provided that the firm invests annually on R & D at least 5% of its gross turnover;
- (c) a ten percent increase in the IPI rates on products that constitute the priority sectors of the Free Zone (consumer electronics, motorcycles, tricycles, watches, typewriters, calculators, copiers, etc.) (Decree 613/92).

As regards the Export Processing Zones – ZPEs (Decree-Law 2452/88) the major changes introduced were:

(a) definition: areas of free external trade, reserved for the installation of firms for the production of goods and services to be exclusively sold abroad, being considered primary zones for the purpose of customs control (article 1, with wording of Law 8396/92);

(b) conditions for the operation of ZPEs: prohibition of installation at ZPEs of firms whose projects are a simple transfer of industrial plants already established elsewhere in the country (article 5, with wording of Law 8396/92).

**Small and medium sized firms** – The Collor administration started out by terminating with several programs of support to the small and medium sized enterprises. Later on, the pre-existent CEBRAE was transformed into the *Serviço Brasileiro de Apoio à Pequena e Média Empresa* – SEBRAE (Brazilian Service of Support to the Small and Medium Sized Enterprises), a private entity financed by a 0.3% levy on the payroll of firms. SEBRAE assists small and medium sized firms seeking to improve their organization, management, technological capability and credit worthiness.

In 1991, the BNDESPAR (venture capital branch of the BNDES' system) decided to create the Technology-based Business Capitalization Consortium – CONTEC in order to support small and medium sized firms that base their productive activity on the systematic application of scientific and technological knowledge and on the utilization of techniques that are considered innovative and/or pioneer. The CONTEC operates either directly, subscribing shares of firms, or indirectly through the Regional Venture Capital Companies – CCRs, i.e. privately controlled companies, which are located and operate in the regions of technological poles, within a radius of 200 km.

An assessment of CONTEC's operations is presented later on.

#### **(4) Regulation/competition policies**

**Defense of competition** – By Law 8158/91 the National Secretariat for Economic Rights – SNDE was put in charge of surveilling

and proposing measures to correct distortions in the behavior of sectors, firms, and establishments in order to prevent among others: price fixing; barriers to entry of competitors; impediment to access of competitors to inputs, equipment, technology or distribution channels; regionalized control of the market by firms or groups of firms; formation of conglomerates or economic groups, etc in order to inhibit free competition. Whenever the SNDE detects practices against competition and the firm does not comply with its instructions it can recommend through the Council of Economic Defense – CADE penalties that can go up to the expropriation of the firm.

**Labor relations** – The wage policy during the Collor administration limited itself to determine nominal readjustments to minimum wage earners. The better favored segments of the labor force were expected to negotiate their readjustments, despite the recession (Urani, 1993).

The Collor era was the end of the populism of the Sarney administration. However, no major change occurred in terms of labor policy. But, firms began to adapt themselves to the opening of the economy, and obviously this had quite an impact on capital - labor relations, collective bargaining and the labor market.

The defensive restructuring of firms induced by the stabilization policy and the commercial liberalization policy hit adversely the labor market. The rate of open unemployment for the country as a whole rose from 2 to 6% between January and March 1992 (IBGE), and in the State of São Paulo it went from 5 to about 10% (SEADE). This indicator, unfortunately, does not take into account the informal sector, which in Brazil is composed of part of the self-employed workers and wage earners who do not have a labor charter, i.e. do not maintain legal employment relations.

In the adjustment process, firms intensified negotiations within the firm, fired less skilled workers, and kept the skilled ones. Such an adjustment took place mainly in the industrial sector. And, a different type of relationship was started between firms and the workers who were maintained, namely, the firms kept relatively stable the purchasing power

of wages, in exchange for reductions in working hours and greater productivity from workers. Consequently, the total of worked hours underwent a reduction greater than the one in the level of employment. While real wages in industry were kept relatively stable since 1990, real wages of both formal and informal workers in the economy as a whole have fallen continuously. It seems that the stability of real wages in industry was the result of a decision of the firms to avoid increasing the dissatisfaction of their core workers (Amadeo, 1992).

**Privatizations** – At its outset the Collor administration embarked upon a program of privatization within the framework of Law 8031 of April 12, 1990. There had been privatizations in the previous administration, but they were on a modest scale. Now, the objective of privatization was chiefly linked to the objective of modernization of the State and the Brazilian economy.

Two points were clearly spelled out in the National Privatization Program – PND: (a) the connection of privatization with the public deficit – the fiscal goal of privatization was to be the purchase of the public debt, and not to finance the cash deficit of the government; (b) the sale of state monopolies and state enterprises – the possible negative impact that the transfer of these enterprises to the private sector could have on the social welfare was expected to be countered by the industrial and commercial policy which was geared to competition and would make difficult the concentration of power in a few private groups (Pineiro & Oliveira Filho, 1991).

Among the state enterprises to be privatized during the Collor administration the most important groups, in a decreasing rank were: steel making, petrochemicals, and fertilizers. At the prices of December 1990, these firms represented total assets of US\$ 8.3 billion, total sales of US\$ 4.6 billion, total net worth of US\$ 5.6 billion, and a labor force of 54 thousand people.

Although the privatizations carried out in that period had ultimately a positive impact on the steel sector, increasing its productivity and competitiveness, they were basically conceived to reduce the public debt and diminish the size of the State.

- **Economic infrastructure**

It is well known the crucial role of the economic infrastructure, mainly, transportation, energy and telecommunications, in providing externalities to industrial firms, i.e., they are pre-conditions for industrial competitiveness. In the case of Brazil, at the start of Collor administration, the economic infrastructure as a whole had undergone a very severe deterioration, but the worst cases were in the area of highways, railroads and ports. Table 6.3 shows the investments in infrastructure by state enterprises in the period 1980-1993. They are a good indicator of the decay in the sector as they account for the bulk of investments made.

Table 6.3  
Investment in infrastructure by state enterprises (US\$ billion)

Year	Telecommuni- cations	Energy	Transportation	Total
1980	1.966	4.563	2.538	9.067
1981	1.825	3.270	2.515	7.610
1982	1.951	4.566	1.780	8.297
1983	1.672	4.771	1.818	8.261
1984	1.604	3.222	1.818	6.644
1985	1.705	2.934	1.523	6.162
1986	1.927	3.487	1.265	6.679
1987	1.790	4.148	1.190	7.128
1988	1.776	2.870	2.410	7.056
1989	2.310	2.269	653	5.232
1990	1.647	1.258	327	3.232
1991	2.999	1.749	172	4.919
1992	2.783	1.533	244	4.561
1993	2.600	1.101	267	3.967

Source: Ferreira (1995). Original data from *Centro de Estudos de Economia e Governo/Instituto Brasileiro de Economia, Fundação Getúlio Vargas*, Rio de Janeiro.

Except for highways, all other subsectors of economic infrastructure operate through public enterprises. Therefore, among the possible solutions for coping with the growing difficulties of generating,

transmitting and distributing electric power, providing telecommunications services, railway services, port services, etc, the government gave thought to the possibility of privatization, either of the supply sources or of the provision of services through concessions. Privatizations had to wait till later, as these services, by the Constitution, had to be provided by the State.

In the meantime, the administration strove to get rid of the legal impediments, and the most conspicuous attempts were:

- sending to Congress a proposal of amendment to the Constitution (51/91), in order to reestablish the National Highway Fund (made up mainly by taxes on the consumption of liquid fuels, and abolished by the 1988 Constitution);
- sending to Congress the Bill 08/91, which foresaw: the deregulation of the ports (mainly as to the hiring of services for loading and unloading); decentralization of decisions of port management by the concessionaire (public companies); free competition between ports through rate setting by each of them. The Bill was approved in late 1992, and became known as Law of Ports.

The investment program of the new administration in the area of economic infrastructure for the period 1992/95 amounted to US\$ 51 billion, at the prices of 1991, i.e. an average of US\$ 12.8 billion per year, or 3.2% of the country's GDP in 1991. Eighty two percent of the planned investments were concentrated on electric power and telecommunications (Villela, 1993).

#### • **Education**

The available data show that the country's expenditure on education throughout the eighties increased from 2.3 percent in 1981 to 4.3 percent of GDP in 1989. This ratio compares favorably with other Latin American countries with similar levels of per capita income like Chile, Mexico and Venezuela. However, the performance of the system is very poor. By the end of the eighties the illiteracy rate was close to 20 percent of adult population, whereas the average for those Latin

American countries was 8.6 percent and the number of years of schooling was 3.9, namely, 3 years below the average for those countries, 6.8. The rate of school attendance was 74.3 percent, whereas the average for those three countries was 88.7 percent. Finally, the repetition rate in elementary school was 20 percent, in contrast to 6.1 percent, the average for those three countries (Amadeo, 1993).

Because of the new technological paradigm the low level of qualification of the Brazilian labor force became an important restrictive factor to the expansion and modernization of the industrial sector. In terms of schooling the profile of the Brazilian labor force is incompatible with the requirements of flexible automation. About 40 percent of industrial workers have no more than elementary education, and less than 20 percent have the second grade. There is no doubt that the lack of basic-skills is the major problem of the Brazilian worker. Basic education nowadays is an economic factor as important as the machinery used in an industrial firm. Consequently, it is no longer a concern and exclusive responsibility of the State, and should become a major item in entrepreneurial decision making (Fogaça & Eichemberg Silva, 1991).

Despite the above summary of the serious deficiencies of the educational sector, apparently no far reaching measures were either conceived or initiated in the Collor administration.

## **6.2 Critical remarks on PICE, 1990-92**

Due to the novelty of the PICE it is worthwhile to sum up a few selected criticisms raised on it.

It is useful to start with the critical remarks on the articulation between industrial and macroeconomic policies. The lack of success of the Collor Plans I and II made difficult the reconciliation of the objectives of macroeconomic policy with those of industrial policy regarding the links between the two policies, i.e. exchange rate, interest rates and fiscal policy, as is discussed below:



- although the real exchange rate had its overvaluation reduced in 1990/91 relative to the 1989 average, it remained overvalued throughout the period of the reform of the commercial policy (the major snag being the definition of a rule through which the exchange rate maintained a reasonable “equilibrium” taking into account its impact on the levels of protection and foreign-exchange reserves);
- the monetary policy kept interest rates at exceedingly high levels, thus increasing the cost of capital, discouraging productive investment, and reducing the size of the market ;
- the fact that the fiscal crisis was not solved led to restrictions that harmed the implementation of development measures (financing and fiscal incentives) and the channelling of resources to the scientific and technological system, education, and investments in the economic infrastructure (Suzigan, 1992).

Other aspects of interest are those related to the impacts of liberalization measures, two of which will be discussed here. One of them is that the fall in the degree of protection would lead to a fall in producer's mark-ups, thus contributing positively to the stabilization program. However, this is not necessarily so, for at least the following reasons, as argued by Fritsch & Franco (1991):

- until domestic contents requirements are eliminated, tariffs will have only the function of defining the costs of imports that happen to go around the barriers erected by these requirements, with very little impact on profit margins;
- in the long run, should the liberalization program succeed, the relevant competitive price to domestic producers depends not only on the tariff, but also to a great extent on the real exchange rate. Given the great threat of external disequilibrium because of the country's heavy dependence on imported oil and the high debt service, the exchange rate policy is of paramount importance. Therefore, if for the purpose of maintaining external equilibrium it would be necessary offsetting the effects of a cut in average tariff by devaluing the exchange rate to the same extent of the fall in the average tariff, the use of trade liberalization as a device for stabilization would require not allowing

the exchange rate to be devalued to the full extent of the cut in the average tariff;

- in order that imports have a sizable effect on prices of traditionally protected markets, import penetration ratios in manufacturing would have to reach far higher levels than those currently observed, and this most likely will not be feasible in the short run given the external constraints.

The other aspect is that the liberalization program did not foresee any commitment with an aggressive export policy, as seen in the conduct of the exchange rate policy, in the suspension of new contracts in the BEFIEX program, as well as in the elimination of some export incentives and financing mechanisms. This was in contrast to the experience of other Latin American countries, which explicitly targeted exports by liberalizing inputs used therein, both through import-to-export schemes and export processing zones. Moreover, the success of the BEFIEX program suggested that Brazilian liberalization could extend and generalize such a program (Fritsch & Franco, 1991).

Now very pertinent remarks by Erber (1991) will be summarized concerning competition versus competitiveness policies, entrepreneurial behavior and progressive versus regressive adjustments, and entrepreneurial behavior and technical progress. Writing in 1991, Erber stressed that the PICE was to be implemented through the competition and competitiveness policies. The former was being carried out by imports, which were subjected to a declining tariff protection (whose time-schedule had already been defined). But the latter depended on measures to foster investments, either in terms of productive capacity or in technology, which require time consuming actions like legislative decisions or availability of resources, both from the Treasury or from abroad. In other words, the maturation period of measures to promote investment (and competitiveness) is much longer than the one of measures for competition.

However, as theory and entrepreneurial practice suggest that uncertainty plays a stronger role in the decision to invest than the cost of investment itself, there was a structural disequilibrium between the

intensity of the competition policy and the competitiveness policy, namely, the former tended to be stronger than the latter in terms of results (Erber, 1991).

Although the behavior of firms presents a high degree of inertia (as the failures of several stabilization attempts indicate), it was pointed out that they could change their behavior, and tread on paths diverse from those foreseen in the PICE, of a “regressive nature”, from the industrial standpoint, as conjectured below, instead of reacting in a “progressive way”, under the spur of competition from imports, by investing and going in search of innovations.

Under the long standing conditions of oligopolization of the Brazilian economy, it was stated that existing producers could merely add import lines to their activities, which interfere little with their local production, and have little impact on the productivity and competitiveness of those activities. Further, in the absence of foreign exchange constraints and with an overvalued exchange rate, there might occur a “deindustrialization”, and firms would be transformed from producers into mere importers, as happened in Argentina. Commercial and investment transactions intragroups, among multinational firms, facilitate this type of behavior (Erber, 1991).

The PICE aimed at simultaneously stimulating the entry of foreign companies and the local capability to innovate. These are contradictory objectives, as will be argued below.

In world terms, the Brazilian market is small, high quality human resources are scarce, and the scientific and technological system is below accepted standards, generating few externalities to firms investing in R & D. Consequently, it is only rational that multinational corporations do not make these expenditures in the country, and preferably in their home country.

The technological capability of multinational subsidiaries is limited to production and sales, except in the rare cases of industrial activities relying heavily on local raw-materials. It is clear that although important, this does not lead to innovations.

It seems that the Brazilian State is not in a position to induce multinational corporations to modify their behavior and innovate in Brazil (as desired by PICE).

As to local firms, the access to the scientific and technological system of developed countries is also very difficult. Nevertheless, there is room for a stronger action on the part of the State. These firms, perhaps, can be induced to innovate if the outcome of this activity is protected. For this purpose, there must be restriction to the access to the domestic market of those products that embody the external technology. As the cost of such a protection means higher prices to users, obviously such a measure has to be selective, and applied to specific lines of products, declining over time, and conditioned to obtaining concrete results.

In this area the PICE industrial policy was characterized by a disequilibrium between its mechanisms: on the one hand it intended to stimulate innovation through cost reduction (investment in plant and technology); on the other, it curbed it, increasing the uncertainty of these investments by means of a boundless competition of imports of technology. Besides, this negative impact was compounded by an economy in recession.

In conclusion, Erber pointed out that the outcome of PICE would probably be restricted to improvements in quality and productivity, whereas the local capacity to innovate would be kept undeveloped. Although these quality and productivity improvements are positive results, they are nothing but an improvement on the results of the former process of import substitution, and do not make possible the transition to a more up-to-date and dynamic development pattern, that relies on the country's ability to innovate (Erber, 1991).

# 7

## **Further liberalization and piecemeal industrial policy, 1992-94**

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### **Introduction**

President Collor was replaced by Vice-President Itamar Franco, who took over as interim President in October 1992, and was confirmed in December 1992. Up to about the middle of 1993 the new President had had three finance ministers, and the performance of the economy continued to be very poor. In May 1993 there came the fourth finance minister – Fernando Henrique Cardoso – and in June an austerity plan was presented, called the “Immediate Action Plan”, the basis of which was a US\$ 6 billion cut in government spending. Among the objectives of the plan was the tightening of tax collection and the solution of the problem of state debts with the federal government.

By 1993 the states owed the federal government US\$ 36 billion and were about US\$ 2 billion in arrears. The new finance minister decided that the federal government would withhold federal foreign loan guarantees from states until the arrears were cleared, and also that state governments would be required to allocate 9% of their revenues to clear their debts with the federal government. Another important step was the constraint imposed on state banks which since the 1980s and early 1990s were overlending to the states, becoming illiquid and turning to the Central Bank for help, which implied in the latter issuing more money (Baer, 1995).

When the “Immediate Action Plan” was launched the economic activity was already recovering. Thus, GDP had increased 4% in the first

quarter of 1993 relative to the first quarter of 1992. On a cumulative basis, GDP in 1993 increased 5% relative to 1992, which had declined – 0.9% in relation to 1991 (Table 6.1 above).

### **7.1 The launching of *Plano Real***

As inflation continued at very high rates of over 35% a month in the last quarter of 1993, in December 1993 the finance minister announced a new stabilization plan, the “*Plano Real*”, to be implemented in three stages. The first one was a mechanism of budgetary equilibrium. The second introduced a stable accounting unit for aligning the main relative prices of the economy. And, the third one established the conversion of the accounting unit into the new currency of the country, at a semi-fixed parity with the dollar (Bacha, 1995).

The first stage consisted in bringing into equilibrium the budgetary proposal for 1994 through deep cuts in expenditures. For that purpose the government sent to Congress several proposals of amendments to the Constitution regarding the structural disequilibrium of the public sector, and among them stood out the creation of the “Social Emergency Fund”, which was a measure for immediate action.

That Fund, to be enforced over a two year period, would be formed by the proceeds of 15% of the receipts of federal taxes plus a 5% increase in their rates. It was expected that through it the Union would partly recuperate its ability to allocate public resources, which due to the high level of earmarking of public revenues had almost vanished out. Consequently, there would be a corresponding reduction in the Funds of Participation of States and Municipalities (Funds whose resources are composed of a certain percentage of federal taxes which are transferred to states and municipalities, and often constitute a major source of revenue for the latter) (Villela & Levy, 1994).

Only a small part of the proposal for the “Social Emergency Fund” passed in Congress. The resources of the Funds of Participations of

States and Municipalities were maintained, and only the rates of individual income tax were increased.

The Congress did not approve most of the proposals in the Round of Constitutional Revision of 1994. In fact, they were again sent to Congress by the present administration, and the most important among them are the social security reform, the tax reform and the administrative reform.

Although the government did not obtain from Congress all the necessary instruments for proceeding to the second stage of the plan, it decreed a "*Medida Provisória*" on March 1, 1994, introducing a stable accounting unit, called the Real Value Unit – URV, with a maximum exchange parity of 1 to 1 relative to the dollar. With a few exceptions all contracts in the economy were allowed to be converted into this accounting unit. The exceptions were wages, rents of dwellings, monthly school tuitions, and prices and rates of public enterprises. The terms of conversion were freely negotiated, but readjustments for periods shorter than one year were prohibited.

The second stage of the Plan aimed at aligning the chief relative prices of the economy as there were indexed contracts whose dates of readjustment were different over time and implied a great price dispersion at each moment. Some had been recently readjusted and others a long time ago. Therefore, a sudden break in the inflationary process would catch some prices at their highest levels and others at their lowest. Such a disalignment would cause additional inflationary pressures, as the previous readjustment clauses would continue to boost the lagged prices. This mechanism of lagged indexation made up the so-called inertial component of the Brazilian inflation, which is to be distinguished from the structural component related to the ex-ante operational deficit of the federal government (Bacha, 1995).

Finally, on July 1, 1994, after four months of conversions of contracts, the government began issuing the country's new currency – the Real, for which the exchange rate parity was set at a maximum value of R\$ 1/US\$ 1. Whenever the market value of the dollar reached R\$ 1 the Central Bank was to sell dollars, but was not forced to intervene if the

value was kept at lower levels. This became known as the “asymmetric band”, with an upper limit of R\$ 1 and an undefined lower limit, which in practice was kept around US\$ 0.85/ R\$ 1 (Bacha, 1995).

## 7.2 Industrial policy in disarray

In the context of the antiinflationary policies of 1992-93, and particularly after the launching of *Plano Real*, the implementation of industrial policy faced severe difficulties. Only parts of the PICE guidelines were carried out.

The little progress achieved was a consequence of the difficulties imposed by macroeconomic constraints and also of the problems within the State for formulating and implementing a new agenda of industrial policy, given those constraints. These macroeconomic constraints and the difficulties faced by State intervention explain the unbalanced progress of PICE's competition and competitiveness policies in this period.

The trade liberalization policy requires little intervention of the State and no financing or foregone revenue. This can explain its success. The competitiveness policies, on the other hand, need a continued and well articulated action on the part of several public agencies, as well as government financing and incentives.

In the formulation and implementation of a new agenda of industrial policy the State has to cope with three types of difficulties: (a) identify new instruments of policy for the new pattern of industrial growth, and at the same time to free itself from the remnants of past mechanisms and instruments; (b) the lack of legal instruments and an institutional framework that meet the new exigencies of the industrial policy, and the survival of the old setup that is inadequate for the new policy; (c) the inability of the governmental agencies in charge of industrial policy to define and implement the new policy because of the dearth of competence or the inexperience of their professional staff, as well as shortage of funds.



One must emphasize that the inability of the governmental agencies is not only a consequence of the difficulties of any bureaucracy to deal with new problems, but is mainly due to the deterioration of the public sector throughout the eighties, and aggravated by the utter disarray brought about by the disastrous administrative reform of the Collor government.

### **7.3 Industrial policy measures, 1992-94<sup>43</sup>**

During President Franco's administration, between September 1992 and December 1994, few industrial policy measures were implemented, apart from the ongoing trade liberalization policy. These measures cover incentive policies, competition policy and additional trade policy measures. They will be briefly discussed below. It is worth mentioning from the start, however, that the usual assessments of industrial policy in this period confirm the already commented fact that trade liberalization advanced successfully, while the gains from competitiveness policies were modest. The modest gains of the latter seem to have been more the consequence of restructuring induced by trade liberalization than the result of industrial policy measures.

- **Institutional Organization**

At the beginning of the Franco administration the already described industrial policy organizational framework underwent some changes: the Ministry of Economics, Finance and Planning was divided up in two ministries – Finance and Planning; the Ministry of Industry, Trade and Tourism – MICT was reestablished, taking over the Industry and Trade Department – DIC and the Foreign Trade Department – DECEX, which became now the Industrial Policy Secretariat and the Foreign Trade Secretariat (this one composed of the Technical Department for Trade Relations – DTIC and the Technical Department of

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(43) This section draws heavily on: Guimarães (1995) and CNI (1994).

Tariffs – DTT. The MICT also took over the INPI and the INMETRO, which hitherto were in the Ministry of Justice.

- **Targeting policies**

No comprehensive targeting policy to promote strategic industries or industrial restructuring, foreseen by PICE, was implemented. However, a specific program to assist the automotive industry was launched with the reduction of IPI on “popular cars” in April/1993. This was the result of an agreement at the *Câmara Setorial* between the government and representatives of the workers unions and assemblers to keep up production and employment in the industry.

- **Instruments and auxiliary policies**

- (1) **Trade liberalization policy**

It is worth emphasizing the fact that not only the commercial liberalization policy was implemented but also that it was carried out according to its time-schedule. Recalling the opposition raised against mild changes in the tariff structure foreseen in the 1988 reform it seemed only natural to expect resistance from the sectors that benefited from the prevailing protective structure.

The reason for the success can be attributed, on the one hand to the worldwide wave of liberalization of the late 1980s, and on the other, to the dismantling of the governmental apparatus inflicted by the Collor administration, mainly in the area in charge of formulating and implementing industrial policy. This certainly impeded the action of possible groups of resistance. Besides, it should be added that the absence of any major setback in the opening of the economy up to the end of 1994 also resulted from the fact that this policy was gradually carried out, and that there still remained a rather high level of tariff protection.

It seems that this opening process prompted the firms to strive towards competitiveness, which became a current practice. In other words, the context of commercial liberalization started by the government

led the enterprises to include competitiveness among their survival and growth strategies, in the absence of support on the part of the government.

Other specific trade policy measures are worth mentioning. During the implementation of the *Plano Real*, besides a few ad hoc changes in the tariff rates, the government set up a wide reformulation of the prevailing tariff structure when it anticipated to October 1994 the enforcement of the new common external tariff negotiated within the MERCOSUR (see below), and scheduled to January 1995. Also, in connection with export promotion, the fiscal credit was established in October 1994 to offset the contribution to PIS and COFINS levied on raw materials and semimanufactured goods bought on the domestic market by exporting firms. Finally, with regard to the defense against unfair trade practices, MPs 616/94 and 655/94 altered the antidumping legislation, adjusting it to the new orientation of the Uruguay Round of GATT.

**MERCOSUR.** As regards MERCOSUR, the time-schedule of the Trade Liberalization Program was being met up to July 1994, when a reduction of 89% of nominal tariffs on about all products was reached. The List of Exception admitted at the beginning of the the Treaty was also being reduced at an annual rate of 20%, in order to allow its elimination on December 31, 1994, for Argentina and Brazil, and one year later for the other two countries.<sup>44</sup>

As the end of the “transition period” approached it became clear that it was too short for the member countries to undertake the necessary internal restructuring, and it was agreed by consensus that a “reduced list of products” could be maintained for an additional period of 4 years in the case of Argentina and Brazil, and 5 years for Paraguay and Uruguay.

Finally, through Decision 24/94, in December 1994, at Ouro Preto, the so-called “*Regime de Adequação*” (Adequacy Regime) was established for the products that were still protected, within the sub-region, during the above mentioned periods.

Besides the products included in the *Regime de Adequação* the member countries decided to create special regimes for the automotive

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(44) See Aragão (1995) and Appendix 2 for details.

and sugar sectors. In the interregnum, three bilateral agreements were signed: Argentina/Brazil, Argentina/Uruguay and Uruguay/Brazil.

In the case of the Argentinian – Brazilian agreement reciprocal free-trade was set as a target for January 1, 2000. Argentina recognizes as national the autoparts imported from Brazil, and as a compensation, it will multiply by 1.2 the value of its exports of the same products to Brazil. In turn, Brazil is to grant Argentinian automobiles, including the “popular models”, a fiscal treatment identical with the one applied to its own industry. The interchange of complete cars between assemblers, in accordance with the agreed quotas, will be subjected to a zero tariff. Later on, in mid-1995, Brazil implemented its special regime for the automotive industry (see Chapter 8 and Appendix 1).

## **(2) Financing**

One indicator of the financial support of the government to the industrial sector in general terms is given by the disbursements from the BNDES System, which fell in current terms in 1992 and 1993 (see Appendix 3). Such a decrease in disbursements also reflects the stagnation of the economy and the risks involved in borrowing at high real interest rates (in contrast to the past, when BNDES loans carried interest rates that did not cover the rate of inflation). Moreover, throughout the period 1990-94, the share of disbursements by industry (in current terms) continuously decreased from 73 to 41 percent.

As was already mentioned, the BNDESPAR, through the Technology Based Business Capitalization Consortium – CONTEC, started in 1991 an innovative program in the area of small and medium sized firms, the outcome of which is summarized below.

Since 1991 and up to 4/22/1994 fifteen firms had their investments approved by the CONTEC, in a total of US\$ 24.5 million, of which US\$ 15.8 million had already been carried out. In 1993 the first divestment of CONTEC's portfolio was made, in the amount of US\$ 2.2 million, and up to 4/22/94 dividends totalled US\$ 0.5 million (Castelo Branco, 1994).

### **(3) Incentives policies**

During the Franco administration new legislations on incentives were issued to foster investment and technological development, and to stimulate small and medium sized firms. The investment incentives were regulated by Law 8643 (April/1993), which in fact renewed previous legislation granting fiscal incentives to the purchase of capital goods. The technological development incentives are those of Law 8661 (June/1993), which defines incentives to stimulate the technological capability of industry and agriculture & livestock. In fact, it reestablished incentives foreseen in 1988 within the context of the New Industrial Policy of the Sarney Administration, but which were never utilized because of bureaucratic difficulties.

Among the incentives, the most important are: (i) deduction of up to 8% of the income tax due, of the amount spent on R & D; (ii) exemption of the IPI on equipment, machinery, accessories, tools, etc related to R & D; (iii) accelerated depreciation, calculated by the application of the usually accepted rate of depreciation, multiplied by 2, on top of the normal depreciation of machinery, equipment, etc. used in activities of R & D, for the purpose of assessment of the income tax; (iv) accelerated amortization, through deduction as cost or operational expenditure, of amounts spent on intangible goods exclusively related to R & D activities;(v) credit of 50% of the withheld income tax and reduction of 50% of the tax on credit operations, foreign exchange and insurance or related to securities, which are levied on amounts paid, remitted or credited to beneficiaries who are resident in the country or living abroad, by way of royalties, technical or scientific assistance, and specialized services, foreseen in contracts of technological transfer and registered in accordance with the Code of Industrial Property.

Finally, small and medium sized firms were stimulated by Law 8864 (March/1994), which granted differentiated treatment to these firms as regards fiscal, administrative, social security and labor relation procedures.

#### **(4) Defense of competition**

A new law in defense of competition was enacted in June/1994 (Law 8884), replacing Law 8158/91. In spite of this, it cannot be said that the country has a competition policy, since its application is not straightforward, as the international experience shows.

The implementation process of a competition policy in a country not accustomed to competition and where prices were controlled is a hard task. Two examples illustrate the types of difficulty encountered in the implementation of the competition policy.

It is bizarre how the experience of price control has left its imprint, even when the stabilization plan does not intend to use that instrument. Thus, at least until 1995 the antitrust legislation was used mainly as a substitute for the CIP (the old price control outfit), becoming an instrument levelled against firms that insisted on setting price increases that could jeopardize the antiinflationary policy. The point is that it cannot be said that a competition policy was being effectively implemented although the use of such a mechanism to fight inflation is understandable.

Another example is the case of mergers and acquisitions. This is due to the tendency to adopt as a basic criterium to make decisions on mergers and acquisition the outlooks on the possible monopolistic control of the market or the occurrence of practices against competition, despite the fact that these outlooks cannot be easily assessed by the mere application of indicators of the degree of concentration. Thus, under the circumstances of the commercial opening under way in Brazil, it may be necessary an increase in the scales of operation and the degree of concentration in order to ensure competitiveness of local producers, without implying in a greater control of the market than the one that prevailed in the previous closed market.

#### **7.4 Final remarks on competitiveness policies**

It is useful to recall that the PICE competitiveness policy was to be implemented through three programs: the Program of Industrial Competitiveness – PCI, the Brazilian Program of Quality and Productivity – PBQP, and the Program of Support to the Technological Capability of Industry – PACTI.

The PCI never spelled out how to put into action the set of announced proposals. It was more a list of loosely related objectives and instruments of policy than a program.

The PBQP can be considered a successful program. This is to be attributed to a series of circumstances: a capable management of the program on the part of the participating governmental agencies; a favorable climate created by the worldwide importance of quality, and mainly, its convergence towards the needs of the productive system and the trend of the spontaneous adjustment process undertaken by firms in reaction to the commercial opening.

It should be added that the recent development of managerial techniques in contrast to the traditional backwardness of most Brazilian firms, constituted a clear possibility to attain higher productivity levels and a sizable improvement of quality, basically without investing in fixed capital (a risky decision in a situation of recession and high inflation), through managerial and organizational adjustments. In other words, the PBQP anticipated the needs of the productive system and contributed to its mobilization in order to meet the new requirements.

To illustrate the growing interest of the productive system in the implementation of the PBQP it should be mentioned that according to the National Institute of Metrology, Standardization and Industrial Quality – INMETRO up to June 1994 about 305 large scale industrial firms had obtained the certificate ISO – 9000. Thirty eight percent of them had reached the advanced standard, the ISO – 9001 series. In comparative terms, the number of certified enterprises in other countries was: USA – 1,600, France – 1,300, Canada – 1,000, Italy – 800, and Argentina – 6.

(Matesco, 1994). By the last count of INMETRO (August 1996), about 900 firms had obtained the certificate ISO – 9000.

As regards the PACTI and the technological policy in general it stands out the implementation of the mechanism of fiscal incentives to technological activities, through Law 8661/93, as was already seen. According to the Ministry of Science and Technology – MCT, in the first year of application of this law, 1994, the total of investments in R & D of the approved projects (up to January 1995) amounted to around R\$ 600 million. It is estimated that for each R\$ 1.00 of foregone revenue of the government, the private sector had invested about R\$ 3.00 in R & D. One of the weaknesses of this mechanism is that virtually it is not used by the small and medium sized enterprises, as they either do not pay or pay little income tax.

It is not possible as yet to assess the impact of recent incentives, both those from Law 8661 and the financing by FINEP on the technological activities of the manufacturing sector. However, one may surmise that these incentives will have a stronger impact when geared to the incorporation of technology in the productive sector. Such a priority does not mean to deny the importance of R & D for the competitiveness itself of the country's industry. But, such activities ought to be supported on a selective basis and as a detailing of the process of technological upgrading based on the transfer, diffusion and absorption of technology.



# 8

## **The *Plano Real*, back and forth liberalization and renewed interest in industrial policy, 1995-96**

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### **Introduction**

In July 1995 the *Plano Real* completed one year. Over the period August 1994-July 1995 inflation remained below 30% according to all major price indices. Furthermore, the fall in inflation went with a sharp growth of the economy, and despite the deceleration of the last months, the GDP in the first half of 1995 increased by close to 8% relative to the first half of 1994. As to wages, the average real industrial wage between July 1994 and May 1995 went up 10.9% (IEI, 1995). The average monthly rate of inflation in the second semester of 1995 was 1.0% and the growth of GDP in 1995 was 4.1% (Appendix 3).

Despite the positive results, there remains a weak spot in the stabilization program: a significant overvaluation of the exchange rate and the large current account deficit. Up to the start of the *Plano Real*, the current account had a positive balance, which became negative in the first semester of 1995, and increased in the second semester. The financing of the deficit implies a great dependence on short term foreign capitals, namely, that domestic real interest rates remain high and above the rate of real devaluation of the exchange rate, thus guaranteeing a premium on short term foreign capital investments in the local currency. Therefore, to circumvent this problem it is necessary that the economy resumes the generation of positive trade balances, thus diminishing the disequilibrium in the current account. In fact, this is of paramount importance to ensure

the long term external equilibrium and make the stabilization policy successful.

Two measures were recently taken in this direction: a new fund for export financing, managed by BNDES, and the exemption from ICMS to exports of primary products, semi-processed products and minerals. However, it is difficult to improve the trade balance within a long term perspective of the balance of payments without a devaluation of the effective exchange rate of the real. But this devaluation will be avoided as long as the exchange rate anchors the stabilization program. This course of action requires that the economic activity be maintained at a low level, for otherwise the disequilibrium in the trade balance would cause a large deficit in the current account.

The above described trade-off: “current account deficit x growth of the economy” will have to be satisfactorily managed so that an effective industrial policy can be implemented.

### **8.1 Industrial policy measures, 1995-96**

This section assesses industrial policy making in 1995 and 1996 (up to September). It should be noted, to start with, that no comprehensive industrial policy was implemented. Although a new set of guidelines and programs for industrial development was issued (see below), it remained ineffective due to lack of political support within the government and to the predominance of macroeconomic objectives related to the stabilization plan, particularly after the Mexican crisis and, later on, the upsurge in the current account deficit.

Nevertheless, several important industrial policy measures were taken, first, in the trade, financing and incentive policy areas to accommodate the effects of macroeconomic policies (e.g. high interest rates, overvalued exchange rate) on industry in general, and also the effects of trade liberalization (including the anticipated enforcement of MERCOSUR common external tariff) on specific industries, and to comply with the WTO agreements; second, in the regulation/competition

policy areas to enact and enforce new legislation to implement such policies, and third, in the infrastructure area to define government actions concerning the so-called “*custo Brasil*” (“Brazil cost”). These measures or government actions are commented upon in what follows, in accordance with the approach adopted in this study.<sup>45</sup>

- **Guidelines and institutional organization**

A new set of guidelines and specific programs for implementing industrial, technological and trade policies was elaborated by MICT and published in 1995.<sup>46</sup> These guidelines and programs had the purpose of superseding the PICE, at the same time that it would ensure the continuity of some programs and policy measures started by the former policy (e.g. the PBQP – productivity and quality improvement program, the PDTI – industrial technology development program, etc.). However, for reasons already mentioned, the new set of guidelines and programs became a dead letter.

As to the institutional organization, one of the chief measures in the area of trade policy management was the creation of the Foreign Trade Chamber (*Câmara de Comércio Exterior*) in February 1995. The creation of this institution was an important step for the coordination of governmental actions in this area, which had been in disarray since the CACEX was terminated.

- **Instruments and auxiliary policies**

- (1) **Trade policies**

**WTO agreements.** Following the approval by Congress of Decree 1355, of 12/30/1994, regulating the multilateral agreements signed under GATT/1994-WTO, Law 9019 of March 1995 set the basic

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(45) See Annexes 1 and 2 for a chronology of industrial policy measures for the period 1990-96, and changes in the import policy in the years 1994-96.

(46) *Governo Fernando Henrique Cardoso, Política Industrial, Tecnológica e de Comércio Exterior – Reestruturação e Expansão Competitivas do Sistema Industrial Brasileiro, 1995-1999*. Brasília, 1995.

legislation in compliance with the agreements on safeguard regimes, rules of origin, antidumping codes, and subsidies and countervailing duties. Each one of these agreements was regulated by decree (respectively: Decree 1488, of May 1995; Decree 1568, of July 1995; Decree 1602, of August 1995, and Decree 1751, of December 1995).

**Imports.** After 1994 the import policy was increasingly used with the objective of ensuring the success of the prices stabilization. Therefore, there were many instances of precipitate actions (Kume, 1996).

When tariff cuts were applied in September 1994 it was clear that imports had been growing since January 1993, and that the inflow of external capitals had caused a strong appreciation of the exchange rate after the implementation of the *Plano Real*. It appears, then, that the policy makers assumed the calculated risk of a disequilibrium of the external accounts by overexposing the industrial sector to foreign competition, as the results of the commercial opening carried out in the years 1988/93 were still being consolidated.

The upsurge of trade deficits and the Mexican crisis, both at the end of 1994, were a sort of warning of the risks of continuously financing high and growing deficits in current account. In addition to that there was the overexposure of the domestic industry to external competition through the strong tariff cuts on automobiles, consumer electronics products plus inputs and raw materials, in conjunction with a strong exchange rate appreciation. All this, naturally, led to a return of protectionist pressures, which had been dormant since the beginning of the commercial opening at the end of the 1980s.

As a reaction to the above mentioned circumstances, namely, to attend to the demands for more protection and to keep the imports at a level compatible with an equilibrated trade balance, the Government raised tariff rates on goods like automobiles, motorcycles, bicycles, tractors, consumer electronic products, textiles, etc, which accounted for the high rates of growth of imports. At the same time, to curb rises in domestic prices deemed exorbitant, the Government reduced the tariff rates on several inputs (Kume, 1996, and Annex 2).

It should be added that the Government during some time also set quotas on imports of automobiles, which were withdrawn when this measure was condemned by the WTO, and later on created a set of incentives for the automotive sector, as discussed in Appendix 1.

In March 1996 the Government announced its decision to postpone the reduction of the tariff rates on about 120 products (consumer electronics products, electric appliances, footwear, motorcycles and bicycles). There will be a gradual reduction of tariff rates until 2001. These were products which last year had had increases in tariff rates to protect domestic industry from competition, and to curb the trade deficit. In practice, the Government managed to maintain during a few more years the rates of the customs duties above the 20% ceiling negotiated in the MERCOSUR.

On May 23, 1996 the Government set quotas on imports of textiles and garments from China, South Korea, Hong Kong, Panama and Taiwan. This measure was in force as of June 1, 1996, and will have a 3 year validity. The reason was the accusation of dumping on the part of those countries.

**Exports.** The reinforcement of the competitiveness of Brazilian exports in the external markets, given the present overvaluation of the foreign exchange rate, is to be achieved mainly through:

- . elimination of taxes embodied in exports;
- . improvement of the financing systems and credit insurance to exports; and
- . more efficiency and cost reduction in the transportation infrastructure and port services.

With regard to the elimination of taxes embodied in exports, as was already seen, the payment of social levies PIS/PASEP and COFINS, the total rate of which was 2.65% has been abolished. At the same time the fiscal credit of these levies was established on raw materials, intermediary products and packaging materials used in exported products. There remained until recently the incidence of the ICMS on semi-manufactured and primary products, and the difficulty to recover the

credit of the ICMS paid in the previous stages of the production chain. These issues, given the autonomy of the CONFAZ, should have been dealt with in the context of the Tax Reform under discussion in Congress. However, it was not.

The House of Representatives approved on August 27, 1996 the bill that exempts from the ICMS the exports of primary products, semi-processed products and minerals as well as purchases of capital goods, fuels and electricity. In September 1996 the bill was approved by the Senate. It is expected that it will boost exports and improve the balance of trade. In order to compensate the States for the foregone revenues of the ICMS the Federal Government will issue bonds in the amounts of R\$ 3.6 billion in 1996/97 and R\$ 4.4 billion in 1998.

Although it is highly desirable to reduce the tax burden on exports it appears that it would be more appropriate to obtain this reduction within the context of the tax reform. As it stands, the recent measure is another palliative action.

The financing of exports is already institutionalized, with a growing importance of the role of the private sector in the financing of exports of goods with short production cycles (through the advances on foreign exchange contracts – ACCs and advances on export contracts – ACEs), and export securities.

The financing of exports of goods with a long production cycle (as capital goods) and engineering services is done by the government, through programs like the PROEX, FINAMEX, and more recently the Foreign Exchange FAT started by the BNDES to finance the FINAMEX itself in the cases of international competitive bids in Brazil, and FINEM, in the cases of investments geared to the production of goods with a recognized insertion in the world market.

In August 1996 the Government announced a new line of financing of exports. It will be managed by the BNDES, and the conditions are: (a) a limit of US\$ 10 million per firm (up to 85% of the total amount of the export); (b) interest rate of around 11% p.a. (Libor of 6 months, i.e. 5.6% per year, plus 2,5% for the BNDES and 3.0% for the accredited bank); (c) grace period of 9 months plus 6 months to repay the

debt. The total amount of the line of credit is US\$ 1 billion, which is considered sufficient for 1 year. However, it seems that the interest rate is not competitive. For example, a Japanese exporter of electronic goods to Brazil gets a financing with an interest rate of 9% per year. The industrial sectors to benefit from the new line of financing are: garments, furniture, autoparts, footwear, ceramics, plastic manufactures, electronic goods, and cutlery.

The main issues in the area of export financing derive from: the excessive institutional fragmentation of the governmental credit system in several funds and public agencies; the instability of budgetary allocations (and the great dependence on this source); operational shortcomings of the main funds, and unstable rules for the private sector operations.

As to the credit insurance of exports, although it has long been established in the country, it never worked satisfactorily because of the "inadequate management of risks (commercial and political), coupled with overestimation of claims in the process of obtaining indemnities. As a result, the government took all the risks, and this led to the accommodation of the agents, harming the whole system" (CNI, 1994:60).

## **(2) Financing policy**

A financing policy to the industrial sector should be coupled with the industrial policy in order to reach two main objectives: supplying long term credit for capital formation and financing technological development, specially expenditures on R&D. The former chronic inflationary situation in this country is the principal cause for the existence of only public financing in those two types of operation, namely, the BNDES System, for long term credit to investment and purchases of capital goods, and the FINEP for financing of scientific and technological development.

It was seen above that in the period 1990-94 the total disbursements for industry from the BNDES System had steadily declined. The main reason for this, probably, was the combination of recession and

high interest rates, which discouraged borrowing. The situation has improved recently, as indicated by the disbursements from FINAME (the agency of the BNDES System that finances purchases of capital goods) in the first half of 1995 relative to equal period of 1994, which increased 36.0% in real terms, going up from R\$ 1.2 to R\$ 1.9 billion.

In December 1995, in response to the poor performance of several industrial branches like autoparts, footwear, textiles, etc. the BNDES announced its intention to grant financial support to them. Apparently the support will be within the context of the progressive restructuring of these industries, which claim to be suffering from the negative impacts of tariff cuts, very high interest rates, and an overvalued exchange rate. These industries also benefited from new protectionist measures, in the wake of trade balance difficulties in 1995-96, as discussed above.

As regards the support of the FINEP, throughout the years 1990-94, there occurred quite a downturn in its operations. However, even in its heyday (1986-87), the support of this agency barely exceeded US\$ 400 million a year, i.e. a trickle in the bucket of demand of the area of science and technology.

### **(3) Incentive policies**

These policies are generally implemented through the granting of fiscal incentives to industries or industrial branches, investment, technological development, regional development, etc. Obviously, they rely on the capacity of the government to sustain foregone revenues, and frequently arouse bitter political struggles.

Today in Brazil it can be said that the granting of fiscal incentives by the federal government reflects more political struggles than well conceived strategical criteria of economic, technological and social development. Thus, for example, according to the Secretariat of Federal Revenue – SRF-MF, out of a total of R\$ 7 billion of foregone revenue in the 1995 budget, incentives related to industry, technology and investment in general (except the regional ones) amounted to only 22.3% of the total (Villela & Suzigan, 1995:27).



The most important measures in this area in 1995-96 concerned investment incentives, a special incentive system for the automotive industry, and regional incentives.

**Investment incentives.** Investment incentives were consolidated by Law 9000, of March 1995. These incentives consist of exemption from IPI (and its credit when paid on inputs) in the purchase of new machinery and equipment, imported or domestically manufactured, and also of accelerated depreciation of capital goods. They were previously regulated by Laws 8191/91 and 8643/93, and by specific MPs of 1994.

**Automotive regime.** The automotive regime was established by MP 1024, of June 1995. Preceded by a raise in tariff rates and an unsuccessful attempt at setting import quotas on automobiles, this measure created a sectoral policy based on protection and incentives for the automotive industry (see Appendix 1 for details). This policy has been renewed by successive MPs, pending approval as law by the Congress. Meanwhile, it was regulated by Decree 1761, of December 1995, later modified and revoked by Decree 1863, of April 1996. Subsequently new changes were introduced by new MPs, which are still to be converted into law. However, the approval by Congress of the correspondent bill of conversion has been delayed by an attempt to introduce regional incentives in the original policy measures. Meeting political resistance from the Executive and from other regional interests in the Congress, and with a promise by the Executive that regional incentives will be granted by specific legislation, this regional policy dimension was abandoned and the bill was again submitted to the Congress for discussion, where it presently (September 1996) stands. Strongly opposed by trade partners, the automotive regime was forced to introduce a tariff quota system (Decree 1987, of August 1996) to settle international disputes by discriminated countries or regions (Japan, Korea and the European Community).

**Regional incentives.** Due to the continental dimensions of this country and the marked regional economic disparities there has long been a challenge to the implementation of regional policies of industrial development in consonance with the industrial policy of the country as a

whole. Regional development policies have traditionally resorted to fiscal incentives, cheap credit and public (mostly federal) investment in infrastructure. Often these instruments are geared to specific policies and programs, such as support to clusters of industries organized around a sector or a specific location; support to small and mid-sized firms; creation of sectoral industrial poles (e.g. petrochemicals, minero-metallurgical, etc.), and high-tech poles (generally close to universities or research centers).

There has always been a great difficulty to coordinate all these instruments and policies among themselves and with the general industrial policy. Other difficulties are: (1) the growing “autonomy” of state governments to formulate and implement their own industrial policies, which leads to the so-called “fiscal war” and puts pressure on the federal government to invest in infrastructure; (2) how to deal with the Manaus Free Zone within the context of industrial policy in general.

Regarding state industrial policies, their increasing importance is the result of the virtual absence of a national industrial policy. The “fiscal war”, i.e. granting exemptions or tax breaks, has always existed. Nevertheless, it became more acute as the struggle for investments among states was amplified through the inclusion of other objectives like intensifying the utilization of ports and using state banks to finance the ICMS in exports and imports (in fact, a disguised subsidy; in the case of imports of capital goods with a zero rate, some states grant a full exemption of the ICMS, discriminating against domestic production of these goods, which is not exempted).

With respect to the Manaus Free Zone it has apparently adjusted itself over the last years, improving its operational conditions, though still relying heavily on transfers of funds through incentives and subsidies (28.8% of the foregone revenue foreseen in the Federal Budget for 1995, i.e. about R\$ 2 billion, according to the Secretariat of Federal Revenue – SRF).

**Support to micro/small sized firms.** Law 8864/94 regulates the State action in this area, and the SEBRAE has been operating satisfactorily. However, there are still a few deficiencies like:

impossibility of use of fiscal incentives in R & D, for the legislation is largely based on deductions of income tax, of which these firms are generally exempted; shortage of financing in terms adequate to the characteristics of these firms, etc.

It should be recalled the already mentioned mechanisms created by the BNDESPAR – the Technology-based Business Capitalization Consortium – CONTEC and the Regional Venture Capital Companies – CCRs which have been instrumental to the establishment of several new ventures close to technological centers, research centers, and firms (BNDES, *Relatório Anual*, 1994).

#### **(4) Regulation/competition policies**

Government action in this area in 1995-96 was concentrated on defense of competition, protection of intellectual property rights, regulation of foreign direct investments and privatization.

**Defense of competition.** The new law of defense of competition (Law 8884/94) has institutionalized this type of protection within the constitutional framework of “freedom of initiative, free competition, social function of property, defense of consumers (the Code of Defense of the Consumer was enacted by Law 8078/90) and repression to the abuse of economic power”. The Administrative Council of Economic Defense – CADE was restructured and empowered to apply this law.

According to the new President of CADE, appointed in April/96, it is important that this agency (in contrast to its past attitude) accepts the worldwide process of economic concentration in several industrial branches, such as autoperparts, steel making, chemicals, infrastructure, etc. Although the Brazilian law rules that there is a dominant position when a firm or a group holds 20% or more of an important market, it empowers the CADE to alter this percentage for specific sectors of the economy.

**Intellectual property rights.** The legislation related to the protection of intellectual property comprises laws of patents, copyright, trademarks, trade secrets, designs, etc. In this country, the debate about the bill on a new code of intellectual property (recently approved by

Congress) was being fed by two sources of international pressure. On the one hand, the approval in the GATT/1994 of the Agreement on Trade Related Intellectual Property Rights – TRIPs, and on the other, the pressures of the American government in order that the Brazilian patents legislation be drafted in such a way that the interests of the American pharmaceutical industry are duly taken into account. The main points of contention were: (a) obligation or not of the exigency of the use of patent in production (the TRIPs allows the local manufacture or the import of the good subject to patent); (b) the grace period of the enforcement of the new law (the TRIPs allows a grace period of five to ten years, whereas the U.S.A. and multinational firms demand a shorter period); (c) exigency of patenting of microorganisms; (d) limited acknowledgement by TRIPs, of the right to use safeguards as the compulsory license in case of insufficient exploitation or of public interest of the patent; (e) acknowledgement or not of patents already registered abroad, but not yet acknowledged and commercialized (in the pipeline); (f) longer or shorter term of the patent.

On May 14, 1996 the President ratified the Law of Patents as approved by Congress (Law 9279). The new law follows the guidelines of the WTO, and its main points are: (a) a transition period of one year after the law is published in the official Gazette; (b) the term of the patent is 20 years for industrialized products and 15 years for modifications in products; (c) will be acknowledged patents in the pipeline in the case of chemicals, pharmaceuticals and food products; (d) will be acknowledged patents of genetically modified microorganisms.

**Regulation of foreign direct investment.** The participation of foreign direct investment in the Brazilian economy has a long tradition. It was attracted both by the size and potential of the domestic market, and by policies, either general (protection) or specific. After declining in the 1980s, the FDI is surging again in the 1990s. This recent growth is mainly a consequence of the changes in the regulation of these investments, following international trends. These changes aimed at liberalizing, doing away with progressive taxation and cutting the rates of taxes on remittances, stimulating the registration of FDI in the form of trademarks and patents (necessary to the new kinds of investment in non-financial

services, including the technological ones, based on joint-ventures and “*parcerias*” [partnerships]), abolishing some sectoral restrictions to foreign investment and its discrimination in the access to public credit and governmental buying policy, and, finally, eliminating the discrimination to foreign firms, foreseen in the Federal Constitution itself.

**Privatization.** As was already discussed, the implementation of the National Privatization Program – PND has as its main objective the reduction of the public sector liabilities. However, since among the public enterprises to be privatized there were numerous industrial firms, in the steel and petrochemical sectors, which were in fact privatized, privatization, in a sense, became an instrument of industrial policy. According to a recent study (Amarante et al. 1994) privatized steel companies have undergone substantial improvements as far as their competitiveness is concerned.

In compliance with the National Privatization Program – PND in 1994 were sold to the private sectors: three companies in which the federal government held majority control (*Petroquímica União S.A.*, *Mineração Caraíba Ltda.*, and *Empresa Brasileira de Aeronáutica S.A.* – EMBRAER); minority stock holdings remaining in five previously privatized firms (*Usinas Siderúrgicas de Minas Gerais S.A.* – USIMINAS; *Companhia Siderúrgica de Cubatão* – CST; *Companhia Siderúrgica Nacional* – CSN; *Companhia Siderúrgica Paulista* – COPISA, and *Companhia Petroquímica do Sul* – COPESUL); five minority stock holdings owned by PETROQUISA (*Acrilonitrilo do Nordeste S.A.*; *Companhia Pernambucana de Borracha Sintética S.A.*; *Polialden Petroquímica S.A.*; *Ciquine-Companhia Petroquímica*, and *Politeno Indústria e Comércio S.A.*); one minority share holding held by Petrofertil (*Arafertil*), and several minority share holdings under Decree 1,068/94. Altogether, US\$ 1.97 billion were collected, 72% of which in cash (US\$ 1.42 billion) (BNDES, *Relatório Anual*, 1994:25-9).

In 1995 privatization efforts were mainly directed to public utilities, and were considerably less intense than in 1994 (only six firms were privatized). This was basically due to the fact that changes in

legislation were required, and these changes occurred only late in the year. It is expected that the process will pick up again in late 1996.

- **Infrastructure and systemic determinants of competitiveness**

**Law of Concessions.** Regarding the transportation infrastructure and port services, which had already deteriorated so much at the beginning of this decade, as was seen, there seems to be hope after the recent approval of the Law of Concessions (Law 8,987; 2/13/1995), which allows the private sector to lease and operate highways, railways, ports, electric power generation, transmission and distribution, etc, thus contributing to fill the growing gap between demand and supply (hitherto solely provided by the public sector).

The most important aspects of the Law of Concessions are:

- the concession of public services is granted by the Union, State, Federal District or Municipality to a private company or group of companies after a competitive bid, in which it is demonstrated its ability to provide the service, on its own account and risk, over a certain period of time;
- the rates of the public service that is object of the concession will be set by the price of the winning proposal and will be kept in accordance with the revision rules foreseen in this Law, in the invitation for the competitive bid, and in the contract. It is important to note that the rates will not be subject to the previous specific legislation, and that the contracts may foresee mechanisms for the revision of the rates in order to maintain the economic-financial equilibrium.
- the evaluation of the competitive bid will take into consideration the following criteria:
  - a. the lowest value of the rate of the public service to be provided;
  - b. the highest offer, in the cases of payment to the conceding power for granting the concession;
  - c. a combination of the above mentioned criteria.

It is important to recognize that this law induces the mobilization of private savings and the use of the best management techniques, thus

affording the opportunity to cut costs in public works as the concessionaire is interested in spending the minimum, while in the past, the old system allowed contractors to aspire the highest possible gains.

Up to now, among others, the most important examples of concessions in the area of highways are: the Rio de Janeiro-São Paulo highway, the Rio de Janeiro-Petrópolis-Juiz de Fora highway, and the bridge Rio de Janeiro-Niterói. All of them require substantial initial investments on the part of the concessionaires.

As in the case of the privatization of service companies, the granting of concessions requires a great effort of the conceding power as regards adequate and effective regulation.

**Systemic competitiveness and “*custo Brasil*”.** The National Confederation of Industry – CNI has coined the term “*custo Brasil*” to define the type of costs that originate outside the firm like those caused by inefficiencies and high cost of the economic infrastructure, excessive taxation, antiquated labor legislation, exceedingly high financing costs, exaggerated governmental regulation, etc. A few examples will be given below.

According to the CNI (1995) the average tax burden on industry is 36.0%, in contrast to 25.0% on the GDP, ie. on the economy as a whole. The tax burden of indirect taxes on exports of industrialized products in Brazil in 1990 was 11.7%, whereas in industrialized countries and in her competitors is slightly above zero. In the case of steel, the total tax burden on steel exports at the present time reaches 26.9%, whereas in Japanese and Korean exports it was respectively, 15.0 and 10.0% (Brazilian Steel Industry Institute – IBS).

Similarly, it is claimed (on the basis of data derived from Brazilian labor legislation) that labor charges are excessively high, totalling 102% of the payroll. However, this figure refers to all legal charges on remunerations for hours effectivelly worked, including payments which constitute part of the contractual wages (i.e. weekend rest, holidays, vacations, etc.). Fiscal labor charges in strict sense (namely, financing of social services and part of the social security) amount to 27.8% of the payroll. At any rate, this fiscal charge stimulates

the growing informal labor relations (see Camargo, 1995, and also Santos, 1996).

As to the cost of financing it suffices to register that from July 1994 to March 1995, the real interest rate of Interbank Certificates of Deposit was 25%, while the average interest rate charged in working capital loans, at the beginning of 1995, was 50% a year.

Finally, the absence of an adequate supply of services of education and health leads to an increasing shifting of this burden to firms, implying in higher costs.

**Science and technology infrastructure.** Also of fundamental importance in the systemic competitiveness are the infrastructure of science & technology and the scientific and technological policy itself. Since the 1980s the infrastructure of science and technology has been undergoing a persistent erosion, not only in terms of losses of human and financial resources but also by becoming less and less attuned to the productive capacity of the country. The institutes and research centers are decadent; scholarships are concentrated on pure science, and important functions like information, technical standardization and metrology are not meeting the requirements of globalization and the rules of the GATT/94. In the words of Possas (1995:47), “this already reduced local basis of science & technology, with scarce and dwindling resources and little tradition of relationship with the needs of industry (with rare exceptions), becomes an inadequate starting point for a strategy of industrial policy centered on attaining high competitive levels. This latter presupposes, within the present international framework, the long term build up of a growing innovative capacity, which involves apprenticeship and flexible adaptation to a changing environment, without eroding the already reached competitive positions” (our translation).



## **Annex 1**

### **Chronology of major industrial policy measures, 1990-96**



## **Chronology of major industrial policy measures<sup>47</sup>, 1990-96**

- |                |   |
|----------------|---|
| March/1990     | - MPs 158 and 161 (Law 8032 & 8034): Reform of import and fiscal incentives policies.   |
| April/1990     | - National Privatization Program – PND, Law 8031, regulated by Decree 99463, 8/16/90.<br>- CEBRAE is transformed into SEBRAE and removed from the public sector. Law 8029, 4/12/90, regulated in oct. 90.   |
| June/1990      | - General Guidelines for PICE (Port. 365/MEFP).<br>- Port. 363/MEFP reduces indexes of domestic content.  |
| August/1990    | - Anti-trust legislation (MP 204; Law 8158, 1/8/91) regulated by Decree 36, 2/14/91.  |
| September/1990 | - PACTI – Program for the Support to Technological Capability of Industry (defines targets for outlays on science & technology, and proposes the reinstatement of fiscal incentives for outlays on R&D).<br>- MP 222 (Decree 99541) transfers powers from SEI to SCT; alters previous import permit for imports of informatics goods.<br>- Code for Consumers' Defense (Law 8078, 9/11/90). |
| November/1990  | - PBQP – Brazilian Program for Quality and Productivity (set of actions to induce the country's industrial and technological modernization).<br>- FINAMEX/BNDES (financing of imports of capital goods, to be started in Jan. 1991).  |
| January/1991   | - Bill on fiscal incentives for enhancing the technological capability of industry and agriculture (PDTI and PDTA).<br>- Starts the implementation of the tariff reform (Port. 58/MEFP).  |

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(47) For changes in the import policy, see Annex 2.

- Reinstatement of regional incentives (Law 8167, 1/16/91, regulated by Decree 101,4/17/91).
- February/1991

  - Program of Industrial Competitiveness (sectoral targets and proposals for a new legislation on fiscal incentives).
  - Norms for technology transfer (Res. INPI 20, 2/27/91).
  - Reduction of the index of domestic content to 60% (capital goods), Port. 126//MEFP.
- May/1991

  - Bill on intellectual property (824/91)
- June/1991

  - Law 8191, 6/1/91, fiscal incentives of the Program of Industrial Competitiveness (PCI): exemption of IPI and accelerated depreciation for capital goods until 12/31/93. Renewed for 1994 and 1995.
  - PROEX (Law 8187, regulated on 7/31/91)
- October/1991

  - New informatics law (Law 8248, 10/23/91) confirms the end of the market reserve in Oct. 92, alters the concept of national enterprise and creates new fiscal incentives (regulated in June 92, Decree 574).
- December/1991

  - New incentives (IPI) for the Manaus Free Zone (Law 8387, 12/30/91, regulated by Decree 613, 7/12/92).
- January/1992

  - Redefinition of the policy for installation of ZPEs through fiscal incentives (Law 8396, 1/2/92).
- February/1992

  - "Active Foreign Trade Policy" (Law 8402, regulated by Decree 452, 2/18/92).
  - Anticipation of the time schedule of the tariff reform (Port. 131).
- April/1993

  - Law 8643 renews fiscal incentives of Law 8191 (6/1/91) until 12/31/94. Later on these incentives were renewed till 12/31/95 by MP 775/94.
  - Reduction of IPI on small cars (Decree 799, 4/17/93).
- June/1993

  - Law 8661, 6/2/93, defines fiscal incentives to enhance the technological capability of industry and agriculture (PDTI and PDTA), regulated by Decree 949, 10/5/93.

- March/1994 - Law 8864, 3/23/94, creates the bases for differentiated treatment granted to micro/small and medium sized firms in the administrative, fiscal, social security and labor areas.
- June/1994 - New law of defense of competition (Law 8884, 6/11/94).
- October/1994 - Fiscal credit of PIS and COFINS taxes for exports (MP 674).  
- Anticipation of the enforcement of the Common External Tariff (MERCOSUR).
- December/1994 - Decree 1355 (12/30/94) regulates the multilateral agreements under GATT/1994 - WTO.
- February/1995 - Creation of the Foreign Trade Chamber (*Câmara de Comércio Exterior*), Decree 1386.  
- New legislation to regulate concessions of public utility services (Law 8987).
- March/1995 - Law 9000 renews exemption from IPI to capital goods.  
- Law 9019 sets the basic legislation in compliance with GATT/WTO agreements on safeguard regimes, rules of origin, antidumping codes, and subsidies and countervailing duties.
- April/1995 - Renewal of exemption from PIS/PASEP and COFINS taxes to exports (MP 948, subsequently renewed by new MPs).
- May/1995 - Regulation of Law 9019 as to the application of WTO safeguard regimes (Decree 1488).
- June/1995 - MP 1024 creates sectoral policy for the automotive industry (renewed by several MPs afterwards).
- July/1995 - Regulation of Law 9019 as regards WTO rules of origin.
- August/1995 - Regulation of Law 9019 as to the application of WTO antidumping codes.
- December/1995 - Regulation of Law 9019 with regard to the application of WTO agreement on subsidies and countervailing duties.

- MP 1235 modifies previous MPs and sets new policy for the automotive industry.
  - Decree 1761 regulates the automotive industry sectoral policy.
- May/1996 - Approval by Congress of the new legislation on intellectual property protection, in accordance with WTO agreements on Trade Related Intellectual Property – TRIPs.
- August/1996 - New fund for export financing by BNDES.

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Abbreviations: Port. = *Portaria* (Regulation issued by a ministry);

Res. = *Resolução* (Regulation issued by a governmental agency);

Source: Authors' compilation.

## **Annex 2**

### **Principal changes in the import policy, 1994-96**





## Principal changes in the import policy, 1994-96

Instrument	Date	Measure
Port. 119, MF	3/11/94	Reduces to 20% the tariff rate on medicines, ceramic inputs, to electric bulbs, and hygienic products
Port. 145, MF	3/24/94	Reduces to 5% the tariff rate on cast iron, iron, steel and non-ferrous minerals
Port. 214, MF	4/14/94	Reduces to 2% the tariff rate on food products such as cheeses, olives, olive oil, sugar, instant coffee, fruit juices, beers, and others like razors, blades, sinks and lavatories
Port. 288, MF	5/19/94	Raises to 20 - 30% the tariff rate on toys
Port. 300, MF	5/25/94	Reinstates the tariff rate of 20% on medicines
Port. 327, MF	6/14/94	Reduces to 0% the tariff rate on paper and its manufactures
Port. 334, MF	6/16/94	Reduces to 2% the tariff rate on cosmetics, beauty products, toilet paper, etc.
Port. 422, MF	7/12/94	Raises to 15% the tariff rate on tyres
Port. 472, MF	8/24/94	Sets tariff rates of 4 - 6% on fertilizers, and their raw materials in anticipation of the Common External Tariff (MERCOSUR)
Port. 492, MF	8/14/94	Reduces to 20%, in anticipation of the Common External Tariff, rates on all products whose tariffs were higher than this level: automobiles, trucks, biscuits, machinery & equipment with numerical control, pastas, motorcycles, consumer electronics products and fine chemicals
Port. 506, MF	9/23/94	Anticipation of the Common External Tariff for a group of products
Port. 507, MF	9/23/94	Anticipation of the Common External Tariff for the remaining products of the NBM-SH
Port. 609, MF	11/21/94	Establishes the regime of simplified taxation on postal parcels and international airmail "colis postaux" for owners's use
Port. 703, MF	12/28/94	Alters the regime of simplified taxation on postal parcels and international airmail "colis postaux" for owner's use
Decree 1391	2/10/95	Includes automobiles, road tractors and trucks in the National List of Exceptions (MERCOSUR) with the following structure of convergence: 32% in 1995; 30% in 1996; 28% in 1997; 26% in 1998; 24% in 1999; 22% in 2000 and 20% in 2001
Decree 1427	3/29/95	Alters to 70% the tariff rates on Automobiles, bicycles, electric appliances, consumer electronics products and motorcycles
Decree 1453	4/11/95	Alters to 0% the tariff rates on corn in grain, tomatoes, whole or in slices, ketchup and other tomato sauces, petrochemicals, plastic rawmaterials, natural and synthetic threads, laminated iron or steel and non-alloyed aluminum
Decree 1471	4/27/95	Formalizes the National List of Exception to the Common External Tariff (MERCOSUR)
Decree 1475	4/28/95	Sets a global quota for the stimulated imports of the Manaus Free Zone
Port. 201, MF	8/10/95	Includes in the National List of Exception the following products and their respective tariff rates: 2% on meats, 33% on powdered milk, 16% on cheese and butter, 20% on rice, 45% on peaches, and 70% on 10 textile products and 3 garment products. And maintains the 0% tariff rate on petrochemicals, plastic raw materials, natural and synthetic threads, laminated iron or steel and non-alloyed aluminum
Port.13,MICT	8/30/95	Conditions the issue of import permits for imports of toys to the presentation by the importer of certificate of the INMETRO or report of a foreign laboratory accredited by INMETRO
Port. 282, MF	11/14/95	Sets tariff rates of 43% on hydroxide and carbonate of lithium, and 70% on blankets
Decree 1761	12/26/95	Regulates the incentive system to the automotive sector, established by MPs.
Decree 1763	12/26/95	Sets the tariff rate of 70%, as of 1/1/96, on automobiles, trucks, motorcycles and bicycles
Port. 316, MF	12/28/95	Alters the regime of simplified taxation on imports through parcel post and international air "colis postaux", setting a maximum limit of US\$ 500, with a customs duty of 60%
Decree 1863	4/16/96	Revokes Decree 1761 and sets new regulation for the incentive system to the automotive industry
Decree 1987	8/20/96	Introduces a system of tariff quotas for imports of automotive vehicles

Source: Kume (1996: 6-7), with minor changes and additions.

Abbreviation: Port = Portaria (Regulation issued by a ministry).



## **Conclusion and policy recommendations**

It is widely recognized in the literature that industrial competitiveness is mostly the result of built up dynamic comparative advantages, and that competitiveness depends on both microeconomic and structural determinants. At the micro level it concerns built in technological capabilities to produce with efficiency and to innovate, management capability, industrial organization and firm strategies. At the structural level, it is related to a favorable macroeconomic environment, adequate government policies, high investment and saving ratios, qualified human resources, an efficient infrastructure, and a science and technology infrastructure connected to the needs of the production structure. Competitive advantages are usually created in sectors, industries or geographical clusters. National competitive advantages are determined by the number and the nature of these industries and clusters.

Brazil pursued such a “competitiveness model” for some time, with relative success, in the period from the mid-1950s to the end of the 1970s. Industrial development was fostered by industrial policies in wide sense, comprising indicative planning to coordinate government action and private investments; institution building; accommodating macroeconomic expansionist policies; sectoral targeting; matching foreign trade, financing and incentive policies; investments in infrastructure and education, and the initial constitution of a national system for scientific and technological development.

These policies resulted in fast growth of industrial production and GDP, with substantial increases in industrial productivity (about 3.5% annually in the 1970s). However, they left imprinted a cultural heritage of overprotection, subsidizing and strong state regulation, which led to inefficiencies and rent-seeking.

In the 1980s, instead of changing the focus of industrial policy from protection and subsidies to competition, quality and productivity

improvements, and technological upgrading, the practice of industrial policy was altogether abandoned. There began a steady process of deterioration of institutions, infrastructure, science and technology system, etc, combined with macroeconomic instability. But the system of protection was kept unchanged, as well as the incentive and subsidizing policies.

From 1990 onwards the old protection and incentive systems were dismantled. Industrial policy in strict sense became the rule, with emphasis on productivity and quality improvement programs and specific sectoral protection and incentive policies. The development of innovative capabilities was disregarded, and the determinants of systemic competitiveness continued to deteriorate.

Moreover, with regard to the industrial policy in the 1990s one concludes that the priority given to stabilization tended to overshadow the commitment to formulate and carry out an industrial policy for Brazil. Therefore, in an attempt to delineate how to reconcile macroeconomic and industrial policies, lest the 1990s be known as a decade of a “muddle through industrial development” a few remarks are in order.

In a nutshell, under the present circumstances, three major conditions are required in order that the stabilization policy does not constitute a strait jacket for the industrial policy:

- (1) that the exchange rate tends to be neutral, without an excessive overvaluation, neither grants an undesirable foreign exchange protection;
- (2) that interest rates (chiefly the long term rates) tend to decline, as the fiscal adjustment becomes the fulcrum of the stabilization policy;
- (3) that the implementation of the tax reform (under discussion in Congress) and budgetary discipline enable the State to recover its financing capacity as regards investment (e.g. infrastructure) and promotion (fiscal incentives).

Assuming that the Brazilian Government will succeed in meeting the three above mentioned conditions, one may then make a few

recommendations on industrial policy. These recommendations are of a general nature, and specific, relating to particular areas.

General recommendations:

- The Government should offer the country a vision of the economy. Countries like France and Japan use this type of instrument. In France it is the Indicative Plan, both for the country and for the industrial sector. In Japan, the MITI since the 1970's has elaborated visions, namely, sketches of probable future trends in the economy as a whole, in the industrial sector, and in the main industrial branches. These visions have been important guidelines for decision making in the private sector, as well as for carrying out the concrete objectives of industrial policy (Uekusa & Ide, 1986).
- The Government should establish a coordinating office of industrial policy, at the Presidency of the Republic. Such an office will have the power to arbitrate conflicts and redefine actions, whenever necessary.
- The Government should push forward a process of active, pro-competitiveness industrial restructuring, through Sectoral Programs. As discussed above there has only been a defensive industrial restructuring, and governmental incentives had a very weak effect on the decision to restructure.

Specific recommendations:

- **Foreign trade policy**

- **Import policy**

It is necessary to impart transparency and stability to the protective system. Protection to domestic production as part of the industrial strategy and sectoral guidelines should be compatible with the norms of the GATT/WTO and international commitments (like the MERCOSUR, for instance). Among others, it is necessary to enforce the legislations of defense against unfair trade practices (Antidumping

Agreement, Agreement on Subsidies and Countervailing Measures and the Agreement on Safeguards), signed in the Uruguay Round of GATT and recently regulated. For the application of these legislations, it is of high priority the training of technical staff and the gathering of updated information, which are preconditions for the investigation and monitoring of each case.

– **Export policy**

- a) With reference to official credit, to reorganize the existing funds and programs with a view to reducing its number, and if possible to concentrate them in a single public agency; to create conditions for amplifying and regulating the allocation of institutional resources, defining norms that would simultaneously allow more flexibility for raising resources from other sources, including from abroad.
- b) As to short term operations, its expansion should be stimulated through the participation of the private sector, with the definition of stable and flexible rules.
- c) Regarding the export insurance, it is necessary to structure a system for that purpose, with the participation not only of the government, but also of private agents, both national and foreign.

• **Incentive policies**

It is important to reevaluate the system of incentives and seek to redirect them towards the objectives of the industrial and technological strategy. Therefore, more emphasis must be given to R & D activities (PDTI and PDTA), incentives to sectors that need to be restructured, to the incorporation of technical and organizational changes, to the quality and productivity program (reinforcing the successful experience of the PBQP), to the formation of human resources (education, training, specialization), etc. However, two basic conditions should be met: (1) the incentives are to be in conformity with the norms of the Agreement on Subsidies and Countervailing Measures, GATT/WTO; (2) the

establishment of time schedules and clearly specified counterparts in terms of performance, technological development, exports, etc.

- **Financing policy**

Given the weakness of the capital market for the placement of primary papers in adequate volume, the improbability that the private financial system may in the short term supply investment and R&D financing, and the nature of these financing operations, in which the State participation is considered legitimate, it is of top priority to reinforce the action of the BNDES System and FINEP.

Such a reinforcement should be sought through: (1) expansion of FINEP's budgetary allocations and their increasing complementarity with alternative sources from the country and from abroad; (2) maintenance of the sources of funds from the institutional savings system channelled to the BNDES; (3) encouragement to the participation of pension funds in the long term financing of investments; (4) amplification of the funding of the FINEP for the financing of the scientific and technological development, mainly through partnerships with the private financial system; (5) reducing to the international level the long term interest rates for investments, if necessary by granting subsidies for the equalization of the capital cost; and (6) gearing the use of resources, mainly for investment, in accordance with the adopted industrial strategy.

- **Competition/regulation policies**

- **Defense of competition**

Taking into account the chief aspect of the defense of competition – the antitrust policy, it is recommended (Possas, 1995:38) “an approach of defense of competition less preoccupied with the concentrated market structures (instead of pulverized ones, supposedly the ideal) than with the competition (and competitiveness) within the oligopolies themselves, today's generalized form of market structure. In this sense, it is desirable, for instance, to induce in the oligopolistic strategies modernization efforts

and R & D. For this purpose, joint-ventures, agreements and strategical alliances, which are often seen as nothing but spurious and defensive attempts at cartelization, may not only be useful but fundamental”.

As to the other aspect of the defense of competition – prohibition of the abuse of a dominant position and of restrictive practices of the market – the enforcement of the new law should take into account that some present practices of the relations between firms (for example: establishment of reciprocity linkages, contractual relationships with restrictions to the conduct of the parties, integration or quasi-integration along the productive chain) constitute organizational innovations which aim at generating efficiency gains, and not restrictive practices with the objective of setting up barriers to the entry and market power (Pondé, 1995).

– **Protection of intellectual property rights**

Although as previously seen, the Law of Patents as ratified by the President complies with many aspirations of multinational companies and the interests of developed countries in protecting their leadership position in the new technologies, it is highly desirable that the regulation of this law takes into account the following points: (a) exigency of local production of the patented product; (b) adoption of the longest grace period, as in Argentina, where it is ten years; (c) patenting only of engineered microorganisms, and for specific purposes, so as to not to bar their use in other products (processes); (d) wide and explicit acknowledgement of the use of compulsory license wherever there is no local production or this one is insufficient; (e) make as difficult as possible the acknowledgement of the “pipeline”, and shorten the terms of the patents in accordance with their nature, namely, consider the terms of 20 and 15 years, as foreseen in the law, as exceptions rather than the rule.

– **Regulation of foreign direct investment**

According to Possas (1995) “one of the main points to be better explored by the industrial policy as far as the foreign capital is concerned



would be the induction to performance, better use of the contribution of foreign capital as a vehicle for a more dynamic insertion in the export markets, in the international circles of financing and transfer of technology, by means of new non-proprietary forms and networking of investment, including R & D”.

– **Regulation of the labor market**

The need to reform the present system of labor relations is consensual. According to most analysts, it leads to conflicting relations and does not stimulate cooperation and labor productivity. However, such a reform should protect some basic principles of labor rights, as for example: freedom of unionism, collective bargaining, the right to strike, and social security (Siqueira Neto, 1996). Under this premise, one possibility is to introduce flexibility and collective bargaining at firm level with the participation of workers’ unions, as suggested by Camargo (1995). This implies, of course, the organization of workers at firm level, with unions’ supervision, and also to understand flexibility as aiming not at turning the real cost of labor flexible, but at turning the labor relation flexible “while it exists, within the firm” and not when this relation is interrupted and negotiations become juridical (Camargo, 1995:21).

– **Defense of the environment**

Again, according to Possas (1995:40), “the best solution seems to be the adoption of economic and market incentives as a complement (and sometimes in substitution) to mechanisms of control”, as it occurs in developed countries. “On the basis of the ‘principle of the paying polluter’ are created incentives via prices (through the imposition of taxes and rates) or quantities (certificates), or negotiable property rights with a view to incorporating in the markets and prices, via private costs, the environmental costs incurred in production. Such incentives have the merit of allowing the generation of fiscal and tariff revenue, out of which, it could eventually be formed the funding necessary for selectively financing, with non-budgetary resources, the firms that adopt control practices and ‘cleaner technologies’, besides stimulating the diffusion of

technologies which are less intensive in environmental resources or less polluting, with more efficiency in terms of operational costs”.

- **Regional/state policies of industrial development**

A possible solution to the problems of “fiscal war” between states should be attempted by means of legal discipline in the context of the tax reform (now under discussion in the Congress) and the articulation of regional and state policies with the country's industrial policy.

As regards the Manaus Free Zone – ZFM, its insertion as a regional development policy in the framework of the country's industrial policy should take into account: (a) the other regional policies because of the interregional distribution of fiscal benefits; (b) the context of the overall industrial policy with the objective of defining, from the strategical standpoint, which are the viable or not viable activities to be located at the ZFM, and (c) their compatibility with the regional integration policy of the MERCOSUR member countries. MERCOSUR decision n. 8/94 which establishes free zones, export processing zones and special customs areas in the region directs the application of the Common External Tariff – TEC to intra-MERCOSUR exports. It also decided that the special customs areas of Manaus Free Zone and Tierra del Fuego may operate according to the prevailing regime till 2,013. However, Brazil and Argentina entered into a bilateral agreement in order to establish a list of products that will be free from the TEC. Such a list should include only those products which are not manufactured by industries operating in Brazil and Argentina, and consequently, do not benefit from the same incentives granted to industrial free zones.

Regarding the setting up of export processing zones regulated by Decree 846/93, and which so far did not come true, they should be reassessed with reference to the foreign trade policy and the regional industrial development policies, within the context of the country's industrial policy.

- **Policy of support to micro/small and medium sized firms**

The following recommendations are in order:

- (a) Enacting of a specific law to stimulate R & D by these firms, or modification of Law 8661/93;
- (b) Complementing the recently launched SEBRAE's program of guarantee, creating financing lines adequate to the specificities of these firms (as to term, interest rates and collateral);
- (c) Emphasis on the support to the dissemination of data on technology, markets, etc.;
- (d) Developing managerial training programs and human resources formation;
- (e) Supporting exports, either directly or through subcontracting with large companies;
- (f) Granting specific incentives to sectoral or local agglomerations, by sharing equipment, technologies, labor, etc.

- **Science & technology infrastructure and technological policy**

The infrastructure of science & technology, whose decay was previously mentioned, besides the already discussed financing and promotion of technological development and regulation of the protection of intellectual property rights, badly needs a few important actions such as:

- (a) facilitation of the access to technology, through the removal of bureaucratic obstacles to the registration of transfer contracts, reducing restrictions to remittances for payments of the use of technologies, and encouraging joint-ventures, partnerships and strategical alliances. These actions, however, require that national firms offer more than the mere access to the domestic market;

- (b) promotion of the diffusion of technological data through a higher interaction between the institutions which possess the data bases and the productive sector;
- (c) revamping of the institutes and technological centers (or establishing new ones) in order to adjust their activities to the requirements of the productive sector and particularly of the industrial restructuring. Priority areas and sectors to be restructured ought to be indicated by the industrial strategy.
- (d) encouragement of the participation of private sector entities, in conjunction with governmental agencies, in the areas of metrology and standardization, laboratories and granting of certificates of quality and environmental norms, in order to fulfill the requisites set by domestic and international regulations (commercial, technical, environmental, on quality and on protection to the consumer), thus avoiding possible impositions of technical barriers to Brazilian exports;
- (e) strengthening the integration university-enterprise, stimulating the financial participation of private enterprises in R & D projects, as well as in complementing the budgetary resources of universities;
- (f) establishing specific programs tuned to the development of the design (especially for textiles, apparel and footwear), technological services, etc.

- **Education**

It is well known that the new technologies and forms of industrial organization demand high qualifications of the labor force as well as prerequisites of general knowledge which reinforce the role of basic education, in contradistinction to programs of workers' training. Hence, from the standpoint of the industrial policy it is of paramount importance to invest in the education and recycling of the laborforce, not only in terms of specific knowledge, but also of general education.

Besides the well known necessity of investing in the education and recycling of the labor force in terms of general education, it is recommended a better utilization of the notable experience of the SENAI and the strengthening of the Program of Training of Human Resources for Technological Development (RHAE), by boosting its funding.



## **Appendix 1**

### **Automobile industry**





## **Automobile industry<sup>48</sup>**

### **Introduction**

In contrast to the 1980s, the automobile industry in the first half of the 1990s has shown a very dynamic behavior. Since 1992 there have occurred sizable increases in production, exports and imports, while annual investments were around US\$ 900 million, i.e. much larger than the averages of US\$ 486 million in 1980/84 and US\$ 551 million in 1985/89.

The causes of these developments can be attributed to the agreements of 1992 and 1993 of the Sectoral Chamber of the Automobile Industry, the restructuring and internationalization of the sector, and the recovery of the economy since the middle of 1993. There were also institutional changes such as reductions in the tax burden and tariffs and non-tariff barriers, as well as the elimination and the subsequent reactivation of the programs of incentives to exports.

The reductions in tax and prices of passenger cars under 1,000 cc, the so-called "popular models", along with the growth of income that began in 1993 accounted for a significant increase in sales and a change in the output mix of assemblers, which concentrated their production on the more profitable medium and luxurious models.

According to the Sectoral Agreement of 1993 the production targets of motor vehicles were: 1993 – 1,200,000; 1994 – 1,350,000; 1995 – 1,500,000; and, 2,000 – 2,000,000. The targets for 1993 and 1994 were exceeded, as shown in table 1.

Despite the growth of the domestic market assemblers have been postponing decisions to invest in new plants, complaining about the tax burden, insufficiency of protection and of incentives to export.

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(48) This note is partly based on Santos; Souza & Costa (1995).

Early in 1995 the sector's claims began to be attended to by the government: tariffs were raised and mechanisms of export incentives were introduced.

Table 1  
Brazilian automotive industry, 1990-94<sup>a</sup>

	1995	1994	1993	1992	1991	1990
Production (1,000 units)	1,638	1,582	1,391	1,074	960	915
Growth (%)	3.5	13.7	29.5	11.9	5.0	(9.7)
Domestic sales (1,000 units)	1,373	1,207	1,062	740	771	713
Growth (%)	13.8	13.7	43.4	(4.0)	8.2	(6.4)
Exports (1,000 units)	265	379	331	342	193	187
Growth (%)	(30.1)	14.4	(3.3)	77.1	3.1	(26.2)
Turnover (US\$ million)	n.a.	n.a.	13,500	11,482	9,245	8,994
Exports (US\$ million)	1,299	2,689	2,622	3,012	1,915	1,897
Imports (US\$ million)	3,857	n.a.	1,809	1,079	849	733
Share in GDP (%)	n.a.	n.a.	10.8	10.4	8.2	8.0
Direct employment (1,000)	n.a.	106.2	106.9	105.6	109.4	117.4
Investments (US\$ million)	n.a.	n.a.	886	908	880	790

(a) Includes automobiles, light commercial vehicles, buses and trucks.

Note: Figures between brackets denote a negative growth.

Sources: Anfavea. Anuário Estatístico (1994); Carta da Anfavea (Janeiro 1995) and Gazeta Mercantil (2/1/96 and 23-24/3/96).

**Tax Burden** – In 1993 and 1994 the average tax burden on the price to consumers was 34% in Brazil, 6% in the U.S.A., 9.5% in Japan, 15.4% (on average) in Europe, and 18% in Argentina.

As of February 1995 it was agreed in the Sectoral Chamber that the IPI on vehicles under 1,000cc (which had been lowered from 14% to 0.1% between March 1992 and February 1993) was raised to 8%. Changes in the IPI on other vehicles have not been agreed as yet. According to the assemblers, a lower incidence of the IPI on other models would enable a better utilization of capacity and an increase in IPI receipts, given the expectation of higher sales of medium cars, at the expense of the popular ones.

Tables 2 and 3, give respectively a picture of the tax burden on passenger cars and light commercials, trucks and buses.

Table 2  
Taxes on passenger cars (%), 1995

Tax	Up to 1,000cc	Up to 100HP	Over 100HP	Remarks
IPI	8	25	30	Increase from 0.1 to 8% in February 1995 Proposed change: Up to 1,000cc: 0.11% Up to 1,800cc: 10% 1,800-2,500cc: 15% Over 2,500cc: 20%
ICMS	18	18	18	ICMS of 12% until 12/31/94. Thereafter, it returned to 18% although some states are negotiating
PIS/Cofins	2.65	2.65	2.65	

Source: Anfavea. Anuário Estatístico (1994), cited by Santos et al. (1995).

Table 3  
Taxes on light commercials, trucks and buses (%), 1995

Tax	Light commercial vehicles (gasoline/diesel)	Trucks	Buses	Remarks
IPI	8/23	5/3	0	There was reduction of IPI in 1993. Previously, light commercials were taxed 16/31%
ICMS	18	18	18	Until 12/31/94 ICMS was 12%. Thereafter, it returned to 18% although some states are negotiating
PIS/Cofins	2.65	2.65	2.65	

Source: Anfavea. Anuário Estatístico (1994), cited by Santos et al. (1995).

**Foreign Trade** – Tariff rates on vehicles as of 1990 were gradually reduced from 85% before that date to 45% in 1990, and 20% in September 1994. This latter rate was an anticipation of the level foreseen for the Common External Tariff of the MERCOSUR to be enforced in 2001. However, because of the growing imports by assemblers themselves which would hit local production in 1995 and increase the

deficit in the trade balance, the government raised the tariffs to 32% in February and 70% in March 1995. And, more recently in June, imports of cars were subject to quotas, which allegedly were temporary, until the trade balance improves. Later on, in October, on recommendation of the WTO, quotas were suspended.

The impact of the tariff cut over the period 1990-94 can be summarized as follows:

- pressure for restructuring and modernization, through automation, quality control and increases in productivity;
- pressure on the autoparts industry for price cuts and quality improvement;
- increase in imports of autoparts because of the world level purchasing strategy;
- more rapid launching of new models by local assemblers and introduction of improvements in the vehicles;
- increase in imports, either by assemblers themselves, which were forced to face competition through the increase of imports from their parent companies (14,545 units in 1992; 40,444 in 1993 and 120,227 in 1994), or by the entry of new marks

After July 1994, the tariff cut coupled with the policy of appreciation of the real, encouraged imports and discouraged exports, with the result that the share of imports in the domestic market went up from 7% in 1993 to 13.8% in 1994 and 31% in January 1995.

With respect to exports, in terms of volume, they alternated good and bad performances between 1990 and 1995 (table 1 above). Argentina became the most important destination of Brazilian exports of motor vehicles: its share rose continuously from 19% in 1990 to 69% in 1993. However, in 1995 exports to Argentina fell 16.8%.

Mainly because of imports of cars, which more than doubled between 1994 and 1995, reaching US\$ 3.0 billion in 1995, the trade balance of the automobile industry in that year was negative – US\$ 2.6

billion, in sharp contrast to 1993, when there was a surplus of about US\$ 800 million (Gazeta Mercantil, 22-24/3/96).

It was to restrain imports and attract investment of local assemblers that the government raised tariffs and imposed quotas on vehicles. However, tariffs on autoparts were maintained in 18%, the 1994 level. At the same time a program was studied to promote exports, which among other proposals comprise the enlargement of the number of goods to benefit from the Proex, creation of a mechanism of refund of taxes (COFINS and PIS) and financing of exports.

Apparently after having raised twice the tariff rates on motor vehicles in 1995 and even established quotas (being forced to withdraw this last measure as it was condemned by the WTO) the Government realized that this sector badly needed some support. And, maybe as a consequence of this perception, in June 1995 was issued the Medida Provisória 1024, subsequently renewed by MP 1235 and other MPs, which established a new policy of incentives to the production and foreign trade of the automotive and autoparts industries. In fact, it set the basis of a regime of transition to prevail in the MERCOSUR until December 1999. Thereafter, there will be implemented a common automotive regime.

Essentially, in the MPs the Government reduces the tariffs on imports of capital goods, parts and components, inputs and raw materials. It also establishes the limits to the use of domestic capital goods in order that the firm be entitled to a bonus. To be allowed to import an additional amount of goods, the assemblers will have to acquire at least 50% of capital goods in the domestic market. As per the agreement negotiated with Argentina, the assemblers' investments in Brazil will not be considered in the computation of the bonus. The Argentines opposed this measure, claiming that it would be crucial in attracting investments to Brazil and not to Argentina.

Successive MPs were issued as the Congress did not appreciate the matter in due time. Finally, under the number 1483-14, of July 10, 1996, it was reviewed by Congress, and a few changes were introduced in a bill, by the rapporteur of the Joint Commission of the Congress. The

principal change refers to the inclusion of a regional dimension to the incentives, which would then be in force until 1999 in the States of the Southern and Southeastern regions, and till 2014 in the States of the North, Northeast and Centre-West. Such a change reflects the political regionalism prevailing in the Congress. It was strongly opposed by state governments and representatives of the Southern and Southeastern regions, and also by the federal government. A compromise was reached by which this regional dimension of the incentives was dropped under the condition that the government would introduce regional development incentives for the North, Northeast and Centre-West regions in specific legislation. The MP is still (September/1996) being reissued every month, pending appreciation by the Congress.

**Investment and employment** – So far, the increase in output (723,000 units between 1990 and 1995) has been achieved within the existing plants through the purchase of new machinery and equipment, debottlenecking and operating in more shifts. Assemblers are also importing more and investing in plants in Argentina, endeavoring to rationalize and take advantage of the complementarity of lines of production between the two countries.

The amount of investments agreed in the Sectoral Chamber in 1993 totalled US\$ 10 billion up to the year 2000. However, investments in new plants have not been made, and the expansion of some units was replaced by imports. It is known that the industry is close to its installed capacity, and badly needs to increase output to attain economies of scale and cut costs. There are announcements that Renault, Mercedes-Benz and other companies will be setting up plants in the country. These decisions would be contingent upon incentives granted by the state governments.

Volkswagen is completing a new plant in Resende (State of Rio de Janeiro) for assembling buses and trucks at the cost of US\$ 250 million. This will be a plant to be operated under the so-called “modular consortium” system, in which suppliers will work inside the plant and will be responsible for the production of all components. There will be a number of modules, each one operated by a major supplier.

Actually, the “modular consortium” works as if there were several plants within a plant. The supplier of autoparts, member of the consortium, will set into action the whole process for which he is responsible. In other words, suppliers will be responsible for complete sets of components in the assembling line, and according to Lopez (international vice-president of Volkswagen) “there will be no Volkswagen worker in the assembling lines”. (Folha de São Paulo, September 10, 1995).

Undoubtedly, the adoption of similar systems by other assemblers, which according to Mark Hogan, president of General Motors do Brasil, is the “tendency of the industry worldwide”, will imply in further decline of employment, both direct and indirect (in the autoparts industry). Volkswagen itself which in 1980 employed 44,000 persons for assembling 1,000 units/day, employs nowadays 23,000 for an output of 1,500 units/day (Folha de São Paulo, September 10, 1995). Table 1 shows that between 1990 and 1994 production increased 72.8%, whereas direct employment fell 9.5%.





## **Appendix 2**

### **MERCOSUR**



# MERCOSUR

*Fernando Sarti*

## **1 General background**

Regional integration is an old Latin-American aspiration. During the initial stage of the industrialization processes of the region's countries, the studies of the Economic Commission for Latin America – ECLA already pointed to the constraints of its continuation in an isolated way and the advantages of economies of scale and of the regional division of tasks. In this sense, the process of integration between Argentina, Brazil, Paraguay and Uruguay, aiming at a common market (MERCOSUR), is not the sole nor the first Latin-American experience.

The Latin-American Free Trade Area – LAFTA, established in 1960, was the first experience of integration in Latin America. The main cause of its failure was the premise that its initial objective would be the formation of a free-trade area in all of Latin America, for which unrealistic instruments were adopted, which attempted to transform in multilateral relations the concessions and bilateral preferences, in accordance with the GATT's most favored nation clause.

The Latin-American Integration Association – ALADI, established in 1980 by the Treaty of Montevideo, sought to overcome the errors and obstacles of LAFTA, starting from more modest objectives that aimed at stimulating commercial relations in Latin America, although the long term objectives pointed to the formation of an extensive free-trade area. For that purpose partial accords and bilateral or regional commercial concessions were accepted without the imposition that such measures should be extended to all remaining countries. Such an exception was accepted in accordance with Article XXIV of the GATT Tokyo Round, also known as “eligibility clause”, which created the principle of preferential and more favorable treatment to developing countries. The greatest obstacle to the advancement of ALADI was the deep Latin-

American economic crisis in the eighties, mainly the needs of generating foreign exchange for the settlement of the high foreign debt and for the equilibrium of the balance of payments of member countries, in a context of paralysis of international financial flows. In this sense, the fall of imports of Latin- American countries was inevitable, thus reducing the intra-regional trade.

However, the ALADI allowed the ripening and proliferation of commercial relations between the region's countries. Besides the MERCOSUR, it was also possible to observe other **recent experiences of integration in Latin America and Caribbean**: the Andine Pact (Bolivia, Colombia, Ecuador, Peru and Venezuela), the Center-American Common Market and the Community of the Caribbean. Undoubtedly, among these, the integration process that advanced most was the MERCOSUR.

### 1.1 Background to MERCOSUR

In 1985, already with the return of civilian governments both in Brazil and Argentina, the presidents of the two countries - Raul Alfonsín (Argentina) and José Sarney (Brazil) – signed the Iguazu Declaration, where it was made explicit the political will to promote the bilateral integration, being then established a High Level Joint Commission. But the great impulse to the integration process began after July 1986 with the Minutes for Integration Brazil/Argentina, which created the Program for Integration and Economic Cooperation – PICE, whose main objective was to augment the bilateral trade in a balanced way, favoring and stimulating the **intra-industrial** complementarity. The principles which guided such a program and their respective protocols (twenty four),<sup>49</sup> mainly the sectoral protocols (specially number 1 – capital goods, number 2 – wheat,

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(49) In the first stage of the PICE which started in July 1986 twelve protocols were signed: capital goods, wheat, food supplying, trade expansion, bi-national firms, financial matters, investment funds, energy, biotechnology, economic studies, information and cooperation on nuclear accidents and aeronautical cooperation. In the second stage, as of December 1986 and until April 1988, ten additional protocols were signed: steel making, inland transportation, maritime transportation, communication and nuclear cooperation, culture, public administration, money, automobile industry, food industry. In the third and last stage two more protocols were signed: regional frontier and economic and social planning.

number 12 – aeronautics, number 13 – steel making, number 21 – automotive , and number 22 – foodstuffs) were gradualism, equilibrium, flexibility and reciprocity.

Subsequently, in December 1990, already within the Treaty of Integration, Cooperation and Development – TICD (signed in 1988), these protocols were put together in a single instrument, the Agreement on Economic Complementarity n. 14 – ACE 14, within the context of ALADI. The TICD set a maximum time schedule of ten years for the constitution of a common market and the new adopted documents reflected the liberalizing changes (specially the reduction in the participation of the State through privatization and deregulation and the process of opening of the economy) that took place in the economic policy of Brazil (Collor administration) and Argentina (Menem administration). With the Minutes of Buenos Aires, of July 1990, the presidents of Brazil and Argentina decided on the shortening of the time period for the completion of the period of integration from 10 to 5 years and the relinquishment of the selective and gradual opening strategy of their respective markets, opting instead for a progressive opening, but linear and automatic of import tariffs, simultaneously with the elimination of non-tariff barriers.

In August 1990 Uruguay and Paraguay were invited to become members of MERCOSUR. In March 1991 the Asuncion Treaty is finally signed with the primary objective of the formation of a common market between Argentina, Brazil, Paraguay and Uruguay. All agreements and protocols signed by the member countries were put together in the Agreement on Economic Complementarity n. 18 – ACE 18 in the context of ALADI. There was defined a transition period which would terminate on December 31 1994, when all countries would form a common market.

In an integration process one can distinguish at least four main stages. The **Preferential Agreements** are bilateral or multilateral agreements for specific sectors, and had been frequently used within the ALADI by Brazil and Argentina in the initial phase of integration. A second, more advanced stage is the one that constitutes a **Free trade zone** (the best known example is the NAFTA), that forms an economic space

between two or more countries with exemption of customs duties and the absence of non-tariff barriers for the circulation of goods and services. A third stage would be the formation of a **Customs Union**, where it is additionally adopted a common tariff policy and a common tariff structure. Finally, the formation of a **Common Market**, with the adoption of common policies (foreign exchange, fiscal, monetary, industrial, labor, etc.), common currency and free movement of production factors (capital and labor).

## **2 Motivations and objectives**

For Fishlow & Stephan (1992), the concept of regionalism is used for expressing two different phenomena. The first would be an economic process in which the trade and investment flows within a given region grow more rapidly than in relation to the flows of the region and of the rest of the world (economic integration). The second phenomenon would be the formation of groups or political blocs which aim at reducing intra-regional barriers to stimulate trade and investment (political cooperation). Both definitions, rigorously speaking, can be complementary, since on the basis of political decisions it is created a propitious environment for the advancement of economic integration.

Political and diplomatic motivations were crucial for the first steps in the integration process (Hirst, 1990; 1992). On the one hand, both Brazil and Argentina sought to overcome old geopolitical and military divergencies, transforming the integration into a sharp and adequate instrument for the deepening of the democratization process in the two countries. On the other, the formation of a political-economic bloc would make possible increase the political bargain of member countries in the international forums. Mainly because the international trend already pointed to regionalization processes, in a transition framework marked by the loss of hegemony of the USA and lack of definition about the emergence of one or more hegemonic countries, politically and economically.

Although political and diplomatic motivations have been crucial, the economic dimension appears to have been the determining factor. Not so much relative to the existence of a strong flow of trade and investment, but by the necessity of facing out the crises of external debt and the restructuring of the industrial sectors. In the case of Brazil and Argentina, the two largest economies of the Southern Cone, which, jointly with Mexico play a leadership role in the economy of all Latin America and the Caribbean, the industrial sector had a central role in the economic development pattern over the last decades.

Therefore, utilizing the taxonomy developed by Fishlow & Haggard (1992), the MERCOSUR would be an experience of regionalism where the economic perspectives would explain the emergence of the regional political cooperation, with the objective of supplying governance structures (here used as the conditions of governance of the integration process through the building of an institutional apparatus) for attaining a growing economic integration. Ever since the initial targets that were established in the 24 commercial protocols in the context of the Program of Integration and Economic Cooperation – PICE between Brazil and Argentina in 1986 until the Treaty of Asunción in 1991, it could be observed the predominance of the economic issues (chiefly the increase in the interchange of industrial and agricultural products), synthesized in the search of higher competitiveness in the sectors (industry and agriculture) through greater competition and amplification of the market (regional) with the generation of economies of scale and scope. Besides, the common diagnosis was that the import substitution industrialization process itself adopted by the Latin-American countries led consequently to a low degree of complementarity between the productive structures of the region's countries (Araújo Jr., 1988).

According to the Treaty of Asunción the main objectives of the MERCOSUR would be:

- reach an adequate international insertion of these countries taking into account the evolution of international events, particularly the consolidation of large economic spaces;
- favor economies of scale, making possible productivity gains;

- stimulate trade flows with the rest of the world, making more attractive investments in the region. In this sense, it is not the case of replicating regionally an import substitution policy;
- promote the international opening in the four economies with a view to a gradual integration with the rest of Latin America;
- delimit actions of the private sectors and of society as a whole, transforming them in the main engines of the integration process;
- coordinate the positions of member countries in external negotiations undertaken during the transition period.

### **3 Institutional and normative framework**

#### **3.1 The transition period**

The main instruments and norms of the transition period were the process of tariff reduction, the institution of the origin regime, the solution of controversies (regulated by the Protocol of Brasilia through the decision 1/91 of the Council of the Common Market – CMC, the institution of the clauses of safeguard (regulated by decision 2/91 of the CMC) and of the sectoral agreements, established to facilitate and stimulate a greater participation of businessmen and workers in the process of integration (regulated by decision 3/91 of the CMC).

Since the signature of the Treaty of Asunción a program of linear and automatic tariff reduction was started, aiming at the constitution of an intra-MERCOSUR free trade area, namely, not charging tariffs on regional imports. The process of tariff reduction consisted in a progressive reduction of tariff rates charged between member countries, which in practice meant the concession of a growing margin of preference vis-a-vis imports from third countries. The time-schedule and the percent tariff reductions were the following:

47% on 6/30/1991  
54% on 12/31/1991  
61% on 6/30/1992



68% on 12/31/1992  
75% on 6/30/1993  
82% on 12/31/1993  
89% on 6/30/1994 and  
100% on 12/31/1994.

Since the beginning of the process of tariff reduction it was agreed that products that were considered “sensitive” were included in a list of exception. As “sensitive” were understood those products with a notorious lack of competitiveness relative to the other member countries, jeopardizing the whole productive sector/segment. On these products the margins of preference or the time-schedule of tariff reduction were not applied. However, the number of products on the list would have to be reduced by 20% a year. Initially, Argentina had 394 items on the list, Brazil 324, Paraguay 439 and Uruguay 960.

In order to help in carrying out the integration process, the following eleven sub-technical workgroups were established :

- n. 1 commercial affairs
- n. 2 customs affairs
- n. 3 technical norms
- n. 4 fiscal and monetary policies related to trade
- n. 5 inland transportation
- n. 6 maritime transportation
- n. 7 industrial and technological policy
- n. 8 agricultural policy
- n. 9 energy policy
- n. 10 coordination of macroeconomic policies
- n. 11 labor relations, employment and social security

### **3.2 The present period**

The present institutional framework of the MERCOSUR, generally speaking, maintained the structure and the criteria that directed the process of transition. The organizations have intergovernmental

characteristics, namely, all their member-governments (and their respective specific institutions) are represented at the institutions of the MERCOSUR. Because the frameworks do not have a supranational characteristic, as they would face greater obstacles for their constitution, and this could represent loss of national sovereignty, decision making has been by consensus. The option of decision making by voting was rejected in order to reduce conflicts and not weaken the decisions (Almeida, 1955). The present institutional framework, subordinated to the Council of the Common Market, is the following:

- Common Market Group – GMC: is the executive institution of the MERCOSUR, being free to take initiatives and is composed by four main representatives and four alternate by country, who act for the Ministry of Foreign Affairs, of Economics and the Central Bank of each country. The Executive Secretariat of the Common Market Group is located at Montevideo.
- Trade Commission of the MERCOSUR – CCM: in charge of handling the instruments of the common commercial policy of the MERCOSUR – Common External Tariff, regime of origin, and instruments against unfair trade practices. It is composed of ten Technical Committees.
- Joint Parliamentary Commission: composed of members of the parliament of the four countries, who are responsible for harmonizing the legislations and for conveying the decisions on the MERCOSUR to the Legislative power of each country;
- Consultative Economic and Social Forum: composed of representatives of several segments of the civil society, in charge of formulating recommendations to the GMC;
- Administrative Secretariat of the MERCOSUR: in charge of supporting the process of negotiation.

According to Almeida (1995), “the decisions of the Council, the resolutions of the GMC and the Guidelines of the CCM constitute juridical sources of the MERCOSUR and are mandatory, *de jure*, for the Member States; the decision making is by consensus and the main

coordination is done between the Ministries of Foreign Affairs of the four countries” (1995:3).

- **Present instruments of MERCOSUR**

The main measures and instruments of industrial and commercial policies defined at the II Meeting of the Council of the Common Market – “Las Leñas Time-Schedule” – were to be implemented before December 1994, deadline of the transition period and beginning of the customs union. In fact, this did not occur, or did occur only partially, in the case of a few instruments. Below are listed the measures/instruments related to the industrial and foreign trade policies, and the respective Technical Sub-workgroup where they were discussed and the results that were obtained:

- a) Regulation on the defense against imports which are deemed to be object of dumping or subsidies from non-member countries of MERCOSUR (SGT – Commercial Affairs): regulation approved.
- b) Common Policy of Safeguards (SGT – Commercial Affairs): regulation approved.
- c) Systems and instruments of promotion and stimulus to exports (SGT – Commercial Affairs): not yet harmonized in accordance with the rules of the WTO. The objective is to adopt only three modalities of incentives to exports: exemption or reimbursement of indirect taxes; graded financing for capital goods and drawbacks for products not included in the TEC.
- d) Elimination (surtaxes, requisites of previous permission for imports) or harmonization (security norms, environmental protection norms, phytosanitary norms) of non-tariff restrictions in the regional trade (SGT – Commercial Affairs): partial elimination and harmonization approved.
- e) Flexibilization and elimination of restrictions to capital movement and investments (SGT – Fiscal and Monetary Policies related to trade): partially implemented.
- f) Liberation of the foreign exchange market (SGT – Fiscal and Monetary Policies related to trade): not yet implemented.

- g) Promotion and reciprocal protection of investments (SGT – Fiscal and Monetary Policies related to trade): regulation approved.
- h) Harmonization of regional or sectoral industrial promotion and reconversion policies (SGT – Industrial and Technological Policy): not yet implemented.
- i) Common technological policy: laws on intellectual property, laws on transfer of technology, etc. (SGT – Industrial and Technological Policy): not yet implemented.
- j) Harmonization of quality and productivity policies (SGT – Industrial and Technological Policy): not yet implemented.
- k) Common policy for micro, small and medium sized enterprises (SGT – Industrial and Technological Policy): not yet implemented.
- l) Diagnosis of sectoral competitiveness at the level of the MERCOSUR (SGT – Industrial and Technological Policy): carried out.
- m) Harmonization, restructuring and reconversion of agricultural & livestock and agroindustrial activities. Diagnosis of sectoral competitiveness at the level of the MERCOSUR (SGT – Agricultural Policy): not yet carried out.
- n) Common external tariff (SGT – Coordination of Macroeconomic Policies): partially implemented.
- o) Harmonization of national, provincial, state and municipal tax systems (SGT – Coordination of Macroeconomic Policies): not yet implemented.
- p) Follow up and harmonization of macroeconomic policy (including studies and proposals to avoid instability in the trade flows caused by the variation of reciprocal foreign exchange parities) [SGT - Coordination of Macroeconomic Policies): not yet implemented.
- q) Harmonization of the legislation on the defense of the consumer in the MERCOSUR (SGT – Coordination of Macroeconomic Policies): not yet implemented.

- **The Common External Tariff and the Adequacy List**

The definition of the Common External Tariff – TEC certainly is one of the principal and more polemical issues, becoming one of the fundamental instruments of **industrial policy (common)** to be adopted in an integration process. On the one hand, the setting of a tariff at adequate levels may have a positive impact on entrepreneurial expectations, propitiating more stable scenarios for production and investment decisions and for the definitions of strategies on associations and mergers. On the other hand, its functionality as an instrument of commercial policy appears to be rather limited if not articulated with other policies and instruments, mainly, with the certificate of origin, but also with antidumping and antisubsidies mechanisms, with the regime of valorization of the products, with the foreign exchange and tax policies, with intellectual property, etc. As regards the certificate of origin, the authorities reached an agreement, in the second semester of 1994, establishing a coefficient of 60%, below the Brazilian proposal of 70% and above the Argentinian of 50% and the Paraguayan of 30%. Steel making, chemicals and informatics will have specific coefficients.

The TEC may be used not only as an instrument of commercial policy, but also as an instrument of industrial policy. However, this function becomes extremely complex in the case of economies with different productive structures, resulting from distinct industrialization patterns, as in the economies of the MERCOSUR.

Table 1  
Average annual growth rate of industrial production in MERCOSUR countries  
(%)

	1970/80	1980/85	1985/90	1990	1991	1992	1993	1994
Argentina	1.6	- 3.2	0.4	2.0	11.9	7.3	4.5	4.2
Brazil	9.0	- 0.6	0.2	- 9.5	- 2.4	- 4.1	8.0	7.8
Paraguay	8.3	1.1	3.2	2.5	1.1	0.4	2.0	1.5
Uruguay	3.3	- 5.4	3.7	- 1.5	- 0.5	1.5	- 9.0	3.1
Latin America	5.6	- 0.6	1.4	- 2.0	2.9	1.2	4.2	4.9

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 2  
Average annual growth rate of the gross domestic product in MERCOSUR countries  
(%)

	1970/80	1980/85	1985/90	1990	1991	1992	1993	1994
Argentina	2.8	- 2.1	0.3	- 0.1	8.9	8.7	6.0	7.4
Brazil	8.7	1.4	2.0	- 4.4	0.2	- 0.8	4.1	5.8
Paraguay	8.7	2.4	4.0	3.1	2.3	1.7	3.9	3.0
Uruguay	3.0	- 2.7	3.7	0.9	3.2	7.7	1.5	5.1
Latin America	5.6	0.6	1.9	0.3	3.5	3.0	3.2	4.6

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 3  
Share of the industrial production in the gross domestic product of MERCOSUR countries  
(%)

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	32.8	29.3	27.6	27.8	28.6	28.3	27.9	27.0
Brazil	32.2	33.2	30.0	27.5	26.8	25.9	26.9	27.6
Paraguay	17.1	16.5	15.5	14.9	14.8	14.6	14.3	14.1
Uruguay	27.5	28.2	24.5	24.5	23.6	22.2	19.9	19.3
Latin America	26.0	26.1	24.6	24.0	23.9	23.5	23.6	23.7

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 4  
Share of the metalmechanic sectors in the total industrial production  
(%)

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	26.3	28.9	23.2	17.8	n.a.	n.a.	n.a.	n.a.
Brazil	18.5	24.7	20.5	21.3	20.2	19.2	21.2	22.5
Paraguay	3.2	3.3	5.5	4.1	4.2	3.3	2.6	1.6
Uruguay	6.9	10.5	12.4	12.9	12.1	11.5	11.6	11.6

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

The degree of openness (the lowest) and the level of protection of the Brazilian structure (the highest) are different from those of the neighboring countries. These differences, together with the greater resistance of the industrial sector, contributed to avoid that Brazil embarked upon a process of desindustrialization similar to the one that

took place in Argentina, started in the middle of the seventies and accentuated in the last years (Ferrer, 1991a; 1991b; Lopes & Porta, 1991; Arceo, 1991; and Chudnovsky, 1990). This process of desindustrialization can be observed in the lack of proportionality in the evolution of the industrial product (Table 1) relative to the gross domestic product (Table 2), which resulted in the fall of the share of industry in the generation of the GDP (Table 3) and by the decreasing share of the metalmechanic sectors in the industrial product (Table 4). Besides this, the greater degree of integration and diversification of the Brazilian industrial sector, as well as a greater representation of the political forces associated to it, impart to the Brazilian industry a more important role than the one imparted to the industry of the neighboring countries in the definition of a future development pattern (Hirst, 1993).

In this sense, the degree of openness and protection desired for the region has led to strong divergencies between countries and sectors. This is the case of the Brazilian capital goods industry, which despite the recent weak performance and its heterogeneity, is much more diversified, integrated and technologically dense than the one of its neighbors. This sector was hard hit by a continuous shrinking, followed by a period of stagnation of overall investments (Table 5), but mainly by the sharp fall of industrial investments in the 1980's (Table 6). Whereas in the 1970's the gross fixed capital formation increased more than 164% (141% for machinery and equipment), in the following decade, it was observed a significant reduction (-23%), chiefly in expenditures on machinery and equipment (-59%). In the Argentinian case, the indicators are still more dramatic, with the gross fixed capital formation falling 51% in the 1980's.

Table 5  
Value of gross fixed capital formation, US\$ Million at 1980 prices

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	21,023	29,092	16,017	14,140	17,694	23,165	26,337	31,472
Brazil	21,086	55,752	41,450	42,925	41,544	37,760	41,468	45,475
Paraguay	216	1,107	886	1,227	1,298	1,215	1,245	1,302
Uruguay	639	1,401	480	638	793	945	1,057	1,075

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 6  
Value of expenditures on machinery and equipment, US\$ Million at 1980 prices

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	5,940	9,328	5,162	4,569	6,042	8,801	10,426	12,803
Brazil	9,106	22,025	13,596	13,066	11,770	10,474	12,040	15,657
Paraguay	107	452	341	675	696	395	415	452
Uruguay	239	493	131	224	304	369	408	413

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 7  
Share of machinery and equipment in the gross fixed capital formation  
(%)

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	27.9	32.2	31.1	32.2	34.0	37.8	39.4	40.7
Brazil	43.2	39.5	32.8	30.4	30.6	28.6	31.9	34.4
Paraguay	49.8	40.8	38.5	55.0	53.6	32.5	33.3	34.8
Uruguay	37.5	35.2	27.3	35.1	38.3	39.1	38.6	38.4

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

The divergencies for the definition of a Common External Tariff – TEC for a few products postponed the creation of a customs union scheduled for 1995. The TEC was defined for 85% of the 9,000 items of the Nomenclature of the Common Market, ranging between 0 and 20%. For these products which are imported from other countries, it is allowed, once applied the TEC, reexportation to the other countries of the MERCOSUR. As regards the remaining products, each member country selected a group of products for one list of exception in the context of the “Final Adequacy Regime to the Customs Union”, under which will continue the incidence of national differentiated tariffs, according to the importing country. However, their rates are to converge to a value common for the majority of the products till the year 2,001, and until 2,006 for a few remaining products<sup>50</sup>. In the case of the capital goods sector, one of the more polemic in the negotiations of the MERCOSUR,

(50) The Meeting of the Council of the Common Market was held at Ouro Preto in December 1994 and defined an exception list in each country for the common external tariff. Uruguay defined 212 products (milk products, chemicals, rubber, textiles and steel products), Paraguay 210 products (chemicals, agricultural, steel products, textiles, electric & electronic and toys), Brazil 175 products (chemicals, petroleum products, textile raw-materials, agriculture, rubber), and Argentina 232 products (steel products, chemicals, pulp & paper and footwear).



differentiated rates will be maintained until 2,001. The present agreement foresees that in 2,001 all the countries are to charge a tariff of 14%. Currently in Brazil the average tariff is 20% and in Argentina (was recently raised to 10%, because of the foreign exchange crisis), Paraguay and Uruguay is 0%.

Strictu sensu, besides the MERCOSUR becoming only a partial customs union in the foreseen time- schedule (December 31, 1994), the integration was not complete in the intra-MERCOSUR trade, namely, the constitution of a free-trade area was also partial. Any product that is not adequate to the Regimen of Origin will not enjoy tariff exemption. But, besides these ones, a few products were listed in the "Regimen of Adequacy" and will have an additional time of four years (until 2,000) to progressively reduce their rates to zero in the intra-Mercosur trade, which means a growing margin of preference vis-a-vis the imports from third countries.

#### **4 Characterization of member countries**

Any process of integration between countries entails several problems, difficulties and oppositions. Its acknowledgement is a basic condition for overcoming them. In the case of MERCOSUR, there is a combination of traditional difficulties of any integration with others, at different levels: territorial, demographic, of the long term economic development and of the recent historical process. The countries that make up the MERCOSUR have great differences, which start from their more basic aspects – territory and population. Argentina and Brazil are countries relatively big in territorial and populational terms, Paraguay and Uruguay are much smaller. The difference between the extremes in terms of territory and population reaches almost 50 times (Table 8).

Table 8  
Area and population of the MERCOSUR countries

-	Area (a)	Population (b)
Argentina	2767	34.6
Brazil	8511	161.8
Paraguay	407	5.0
Uruguay	177	3.2

Note: (a) thousand square kilometers; (b) in millions

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Brazil as a "continental economy" has a share of foreign trade (exports + imports) in the gross domestic product inferior to the one of the other member countries. This is an international trend, since as a rule the relative importance of exports and imports is lower in the larger countries. Furthermore, her economic policy of a smaller openness to the rest of the world, chiefly of imports, contributed to accentuate this reduced share (Tables 9 and 10).

Table 9  
Import coefficients of the MERCOSUR countries share of imports of  
goods and services in the GDP at the prices of 1980  
(%)

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	9.4	15.4	7.0	4.5	6.8	10.2	10.9	12.2
Brazil	12.3	11.4	6.5	8.5	9.2	9.6	12.0	14.0
Paraguay	19.3	20.7	22.9	45.8	45.4	46.3	62.0	64.6
Uruguay	26.5	32.2	18.9	22.0	24.8	28.2	33.4	37.6

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 10  
Export coefficients of the MERCOSUR countries  
share of exports of goods and services in the GDP at the prices of 1980  
(%)

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	12.3	11.6	19.6	17.9	15.5	14.1	14.0	14.8
Brazil	9.2	9.0	13.5	13.7	14.2	17.1	17.9	18.1
Paraguay	15.8	13.9	15.5	30.0	33.4	31.1	47.0	38.1
Uruguay	16.8	22.9	31.1	33.1	32.7	35.0	36.3	36.1

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Another decisive aspect is associated with the important differences between Brazil and the other countries of the MERCOSUR in terms of the industrialization process. Argentina and Brazil advanced more in their industrialization processes, building up relatively integrated and diversified productive structures. The higher degree of Brazilian and Argentinian industrial development can be demonstrated by the comparison of the absolute values of the manufacturing output (Table 11), and within it, by the higher share of the metalmechanic sectors (table 4), where are concentrated the generation and diffusion of technological progress. Nevertheless, it is necessary to single out the better performance of the Brazilian industry, over the last decades, in comparison with the Argentinian one. Besides the crisis of foreign debt and the balance of payment that plagued Latin America as a whole by the end of the 1970's and throughout the 1980's, in the Argentinian case, the disastrous policy of commercial opening in the mid 1970's, contributed to the poor performance of the industrial sector, leading, among others, to a process of desindustrialization.

Table 11  
Value of industrial output in the MERCOSUR countries, in US\$ million at 1980 prices

	1970	1980	1990	1993	1994
Argentina	37,632	45,348	36,070	46,917	49,946
Brazil	41,824	99,882	98,778	98,983	106,340
Paraguay	342	935	1,123	1,184	1,209
Uruguay	1,557	2,322	1,922	1,879	1,950

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

The higher degree of the Brazilian industrial development is also reflected in the exporting performance of the MERCOSUR economies. The larger exported volume (Table 12), the generation of trade surpluses, the higher degree of diversification and the larger value added of the exported products – are expressed in the higher share of manufactured products (Table 14) – and the higher degree of diversification of the destination markets – is expressed in the higher share in the markets that are more dynamic and competitive (Table 16). These are some of the elements that corroborate that assertion.

Table 12  
Value of exports of MERCOSUR countries  
US\$ million

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	1,773	8,021	8,396	12,354	11,978	12,235	13,090	15,740
Brazil	2,739	20,132	25,639	31,414	31,620	35,862	38,597	43,558
Paraguay	65	400	465	1,382	1,117	1,031	1,215	1,739
Uruguay	224	1,058	853	1,692	1,604	1,702	1,645	1,913

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 13  
Value of imports of the MERCOSUR countries  
US\$ million

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	5,043	9,394	3,918	3,132	5,783	10,257	15,545	19,880
Brazil	2,507	22,955	13,153	20,661	21,041	20,554	25,711	33,168
Paraguay	290	675	920	2,287	2,312	2,380	2,671	2,857
Uruguay	1,083	1,668	766	1,286	1,540	1,937	2,118	2,585

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 14  
Share of basic and manufactured products in the total exports of MERCOSUR countries  
(%)

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina								
basic	86.1	76.9	79.2	70.7	71.8	73.7	68.1	67.0
manufactured	13.9	23.1	20.6	29.3	28.2	26.3	31.9	33.0
Brazil								
basic	84.6	62.8	56.1	48.4	45.2	43.1	41.2	45.2
manufactured	15.4	37.2	43.9	51.6	54.8	56.9	58.8	54.8
Paraguay								
basic	91.9	95.6	94.5	90.1	88.7	84.8	83.3	n.a.
manufactured	8.1	4.4	5.5	9.9	11.3	15.2	16.7	n.a.
Uruguay								
basic	84.6	62.1	64.6	61.5	59.9	59.2	57.8	57.0
manufactured	15.4	37.9	35.4	49.7	40.1	40.8	42.2	43.0

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 15  
Share of exports to industrialized countries in the total exports of MERCOSUR countries  
(%)

	1970	1980	1985	1990	1993
Argentina					
Indust. countries	69.1	43.1	42.0	49.6	40.0
EUA	8.9	8.9	12.2	13.8	9.1
Brazil					
Indust. countries.	79.4	57.3	63.3	67.9	55.6
EUA	23.9	17.4	26.9	23.4	20.7
Paraguay					
Indust. countries	48.3	46.3	53.7	37.7	n.a.
EUA	11.6	5.5	1.2	4.1	n.a.
Uruguay					
Indust. countries	59.5	40.2	41.6	36.8	32.1
EUA	8.6	7.8	15.1	9.8	9.1

Source: IMF. Direction of Trade Statistics Yearbook (1995).

Another important asymmetry that exists between the MERCOSUR countries regards the higher and growing dependency of Argentina, Paraguay and Uruguay on the regional market, both for exports and imports (Tables 16, 17, 18 and 19). This dependency tends to increase the importance of the integration process in the future performance of the external sector of these economies.

Table 16  
Share of exports to ALADI in the total exports of member countries  
(%)

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	21.0	23.6	18.6	26.0	29.2	32.9	41.4	44.9
Brazil	11.6	18.1	9.6	11.3	16.5	22.3	24.9	23.5
Paraguay	33.1	45.3	27.4	52.4	46.7	50.2	49.0	57.7
Uruguay	12.6	37.3	28.0	39.5	40.7	41.8	51.2	54.0

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 17  
Share of imports from ALADI in the total imports of member countries  
(%)

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	20.9	19.0	32.0	26.6	28.1	31.2	31.9	30.3
Brazil	10.8	11.7	11.2	16.3	15.3	16.7	19.2	20.0
Paraguay	39.5	59.2	58.6	39.2	41.2	48.8	54.2	46.9
Uruguay	29.3	37.4	38.4	48.1	44.7	50.3	57.2	50.4

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 18  
Share of exports to MERCOSUR countries in the total exports of the countries  
(%)

	1970	1980	1985	1990	1991	1992	1993	1994
Argentina	10.3	14.2	8.0	14.8	16.5	19.0	28.1	30.3
Brazil	8.3	9.0	3.9	4.1	7.3	11.4	13.9	13.6
Paraguay	28.7	40.2	27.4	39.6			39.6	52.0
Uruguay	8.8	32.9	25.0	34.6			41.2	46.7

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

Table 19  
Value of gross domestic product in the countries of MERCOSUR, US\$ million at 1980 prices

	1970	1980	1990	1993	1994
Argentina	88,247	116,067	105,947	132,958	142,739
Brazil	106,127	243,500	287,315	297,541	311,854
Paraguay	1,768	4,067	5,554	6,009	6,190
Uruguay	4,943	6,661	6,973	7,870	8,366

Source: ECLA. Statistical Yearbook for Latin America and the Caribbean (1995).

## 5 Recent evolution

The initial years of the present decade signaled a rupture in the situation of economic stagnation faced by most Latin American countries in the 1970's and 1980's. The growth of the agricultural and industrial production, the higher share of fixed capital investments in the GDP, the return of international financial flows, more than offsetting the recurring trade deficits (with a few exceptions, as in the Brazilian trade balance), and the reduction of inflation rates were pointed as the direct and unequivocal results from the liberalizing policy adopted in the majority of Latin American countries, supporting and benefiting from the globalization process.

Still within this diagnosis, the simultaneous occurrence of the regionalization process (formation of economic blocs) would not be antagonic, since these regional integration processes would allow the harmonization of instruments and economic policies at the regional level, facilitating and conditioning future global negotiations and, therefore, encouraging the globalization phenomenon. In this sense, the processes of

integration would be decisive for the materialization of these policies, signaling the irreversibility of the chosen path.

One of the positive aspects stressed by the proponents of the liberal prescriptions – with emphasis on the commercial opening and the reduction of the State participation through processes of privatization and deregulation – was related to the restructuring and redynamization of the productive basis, mainly the industrial one. However, the Mexican and Argentinian balance of payments crises in 1994 placed under suspicion this diagnoses and made more pessimistic the future perspectives, baring the obstacles and the intrinsic limits **to the processes of industrial opening** as instruments leading to efficiency and dynamism. In this circumstance, the **processes of economic integration** were, on the one hand, confused or directly associated by some people with the processes of commercial opening and, therefore, were severely criticized. On the other hand, other people stood reverently before them, redefining and overstating their functions and proposals.

Table 20a  
Share of the exports of selected industrial sectors in the exports to Argentina  
(%)

	1980	1986	1990
Machinery & equipment	24.5	17.6	18.4
mechanical	16.6	10.0	12.8
electric	7.9	7.6	5.6
Transportation equip.	8.2	7.4	10.2
vehicles	8.2	7.3	10.0
Chemicals	17.1	27.1	28.3
Metallurgy	10.4	10.7	11.3
steel making	7.7	4.9	8.5
Sub-total	60.2	62.8	68.2
Grand total	100.0	100.0	100.0

Source: MEFP/DECEX.

The growth of the intra-MERCOSUR trade accelerated after 1990. Nevertheless, this growth was accompanied by two undesired tendencies. The first was the aggravation of the inter-sectoral specialization pattern that was favorable to Brazil, which concentrated its exports on metalmechanic products, chiefly electric and mechanical machinery & equipment and automobiles, whereas the other partners

concentrated theirs on basic products (Table 20a and 20b). The second tendency was the generation of disequilibria in the trade balance, which resulted in growing favorable surpluses for Brazil.

Table 20b  
Share of the imports of selected industrial products in the imports from Argentina  
(%)

	1980	1986	1990
Machinery & equipment	7.3	3.7	9.4
mechanical	5.3	2.8	8.5
electric	2.0	0.9	0.9
Transportation equip.	2.6	4.7	4.3
vehicles	2.5	4.6	3.4
Chemicals	15.3	15.1	11.7
Metallurgy	1.3	0.3	2.3
steel making	1.0	0.1	1.1
Sub-total	26.5	23.8	27.7
Grand total	100.0	100.0	100.0

Source: MEFP/DECEX.

As was seen in the previous section, a few instruments and important rules for the integration process were not implemented according to the time-schedule. In this sense, during the transition period the commercial character prevailed in detriment of the decision related to production (specialization, complementarity), investment (restructuring, modernization or association of enterprises) and even of technological development/cooperation, which require longer periods and an environment of lower risks and uncertainties.

The diplomatic strategy of not granting privileges to some mechanisms and instruments which are common in the industrial and commercial policies (foreign exchange policy, policies of promotion and industrial reconversion, long term financing, incentives to the technological capability and to quality and productivity programs, support to small and medium sized firms, government purchases, regulation of the labor market, industrial property, antitrust legislation) that would need harmonization and/or represent loss of national sovereignty and/or would bring about restrictions and conflicts among enterprises and trade unions, eventually hampering the advance of negotiations, bestowed on



integration a **basically commercial character**, more adequate to the liberalizing vision of its policy-makers, and consequently, made it more vulnerable to economic fluctuations.

Table 21  
Annual growth rate of Brazilian exports and imports, total and MERCOSUR  
(%)

	1994		1993		1992		1991		1990	
	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.
Argentina	13.0	44.4	20.5	57.6	108.0	4.5	128.8	15.4	-10.7	13.0
Paraguay	9.7	28.3	77.0	45.4	9.1	-16.4	30.5	-33.9	17.6	-7.2
Uruguay	-5.7	54.1	50.8	13.5	53.4	-21.0	14.2	-26.2	-11.9	-1.5
MERCOSUR	9.7	44.2	31.8	49.9	78.8	-2.4	74.9	-2.2	-4.3	5.7
World	12.8	31.7	7.8	24.6	14.5	-2.6	0.7	1.8	-8.6	13.1

Source: MEFP/DECEX

This weakness may be observed in the exceedingly fast growth of Brazilian exports to Argentina in 1991/92, not followed by an equal rise of imports, and generating a surplus of over US\$ 1.3 billions in 1992 and US\$ 945 millions in 1993 (reduced to US\$ 216 millions in 1994). This was the outcome of foreign exchange disequilibria (Tables 22 and 23) and of the inarticulate export drive, aggravated by the Brazilian recession until 1993. Such a growth arose understandable reactions and retaliations from the Argentinian authorities and businessmen. This can be exemplified in the numerous processes of dumping, safeguards (import quotas) and countervailing duties which were started against the Brazilian exports,<sup>51</sup> besides the raising of the Argentinian statistics rate.<sup>52</sup>

(51) Some of the Brazilian exports which faced processes/charges of practising dumping: spark plugs, hot rolled steel plates, cold rolled steel plates, artificial sweeteners, tires, inner tubes, fresh chickens, motorcompressors, refrigerators, compressors, metallic shelves, thermal insulators. Safeguards were applied on: paper (kraft, newsprint, cardboard, etc.), agricultural machinery and tires. Countervailing or specific duties were applied on: wall and floor tiles, textiles and apparel.

(52) The statistics rate is in fact a tax charged on Argentinian imports. It was originally established for financing the Institute of Statistics and Census of Argentina. Its raising from 3 to 10%, including the Mercosur countries, aimed at reducing the Argentinian trade deficit. However, its effect was more negative for the partner-countries, since it lowered their margins of preference. This is because the program of tax reduction did not include special tariffs like the statistics rate.

Table 22  
Index of the foreign exchange ratio between the Brazilian and the Argentinian currencies

Period	Dec./88	Dec./89	Dec./90	Dec./91	Dec./92
Ratio Cr\$/P\$	100	272.2	98.0	112.1	117.6

Source: FUNCEX. Balança Comercial e Outros Indicadores Conjunturais. (several issues).

Table 23  
Foreign exchange lag between the Brazilian currency and the basket of currencies  
of the ALADI, relative to the 1991-92 average  
(%)

	1991	1992	1993	1994
jan.	4.4	-4.3	-3.0	3.7
feb.	15.1	-3.3	-6.3	5.0
mar	16.5	-6.9	-2.1	8.8
apr.	16.2	-9.9	-2.2	5.0
mai	11.5	-8.9	-0.2	1.0
jun	9.9	-8.3	-0.3	1.2
jul	10.6	-8.9	1.0	11.1
aug.	12.7	-5.4	1.3	19.3
sep.	11.3	-3.2	3.0	26.1
oct.	3.3	-3.7	1.7	31.8
nov.	2.2	-3.9	2.3	34.4
dec.	-3.6	-3.6	2.8	

Source: FUNCEX. Balança Comercial e Outros Indicadores Conjunturais (several issues).

## 6 Difficulties and challenges to the process of integration and to a “positive” industrial restructuring

To a large extent the previous discussion and information are associated with the preoccupation regarding the possibilities and limits set to an integration policy as contributions to the development of the national productive sectors, through decisions to resume and rise the levels of production (including definitions regarding specialization and complementarity) and investment (which comprises decisions on restructuring, modernization and/or association of enterprises). Our view on this issue is grounded on two main propositions. The first one refers to the necessity of differentiating from an analytical standpoint the policies of commercial opening and regional economic integration, in which this one takes up a more ample dimension than the simple commercial dimension. The second proposition is that the contribution of the integration process to the restructuring of industry of the involved

countries will be more intense and positive the more comprehensive and coordinated is the definition and the implementation of a **common industrial policy**.

In the conventional analysis of the theory of integration an integration process, upon reducing the existing tariff and administrative barriers, expands the number of competitors and the size of the market, promoting a **higher degree of specialization** of the productive structures, which, consequently, would imply higher levels of productivity and economic efficiency in the allocation of the production factors. Therefore, in the classic vision of the theory of integration, any process of regional integration should be regarded not as a protective instrument but instead as a unified and amplified economic space, **becoming a first step towards a more ample globalization process**, ie. of a process of internationalization of production, trade and capital flows (Baumann, 1993).

A first more general critique of the liberal prescription is that, given the internal and external conditions and the complexity of the objectives and motivations involved in the processes of restructuring and integration, it should not be transferred to the “market mechanisms” alone the responsibility for carrying out these processes. As to the process of specialization – the outcome of an ample and unrestrained commercial opening –, although it does not eliminate the option to invest and/or advance the process of industrialization towards the more dynamic and complex sectors, what the Latin-American experience has demonstrated goes in the direction of remaining or retreating (process of desindustrialization) to sectors/activities located at the first stages of the productive chain, which characterizes an **inter-sectoral specialization**.

Some of the main negative results caused by an excessive inter-sectoral specialization would be: a) deverticalization, reduction of the index of domestic content of products, greater specialization in the line of product, abandonment of segments and shutting down of enterprises with impacts on the productive capacity and the level of employment; b) licensing of imported technology in detriment to an effort of its own

capability, thus increasing the dependency of the country/enterprises; c) deterioration of the trade balance among others.

The previous discussion is important since the advancement or retrogression in the industrial structure implies necessarily in different results in terms of dynamism of production, investment, technological innovation and the international insertion and, therefore, of income and employment. The preoccupation is that an isolated commercial opening does not lead to an adequate productive restructuring and to the redynamization of production and investments, but, on the contrary, it may result in or deepen the degree of **inter-sectoral specialization**, with an international labor division favorable to the more advanced countries, inside or outside of the region, accentuating the heterogeneity of productive structures and the economic and social inequalities. These effects run counter one of the basic objectives of the process of integration, particularly for developing economies, which is to seek a greater **intra-sectoral specialization** (Baumann, 1993).

Another group of criticisms is centered on the liberal proposition that the expansion of the market and the increase in the number of competitors, impeding or reducing the formation of oligopolistic structures, unequivocally tends to raise the productive efficiency. A first hypothesis not contemplated by the conventional theory refers to the reinforcement of oligopolistic practices even under the conditions of an expanded economic space. Moreover, in the context of the negotiation process of the MERCOSUR it was already possible to observe a few agreements aiming at the reserve and the protection of national or regional markets – through non-tariff barriers (sanitary issues), setting of quotas, reference prices and antidumping policies – oligopolistic and oligopsonistic strategies, both as regards producers/buyers from member-countries as in relation to third countries.

Another undesired effect – and not contemplated in the conventional vision – of an ample commercial opening would be the change in the output mix of firms, transforming national producers in commercial representatives of imported products (inputs, parts or final goods) and promoting a demobilization of the productive basis, in lieu of

a sharpening of competition. The sectors of informatics and consumer electronics would be notorious examples. The effect will be more damaging the deeper are the processes of desinvestment and desindustrialization (industrial relocation) and when concentrated in the more dynamic and technologically complex sectors. In this sense, the final results of industrial restructuring would be the permanence in activities less exposed to international competition, situated in basic stages of the productive process or only related to assembling activities.

The previous analysis leads us to a complementary discussion, but no less important or pertinent. What should be the profile of a policy of economic integration in order that it does not cause the undesired and negative effects of a broad commercial opening? Or still, which are the possibilities and conditionalities so that an integration policy might accelerate and deepen a process of industrial restructuring, which to a greater or smaller extent would condition the development pattern of each national economy as well as of the regional economy, avoiding the **old distortions**, like excessive degree of protectionism and endogeneity, and **new distortions**, such as a high degree of inter-sectoral specialization? The answer to this enquiry depends necessarily on the definition of an industrial and commercial policy sufficiently wide to encompass the complexity of the involved phenomena, and whose operationalization be harmonic and takes into account the principles of selectivity, transparency, flexibility and gradualism.

According to Araújo (1993) three are the predictable impacts of an integration process. In the first there would only be growth of the intra-sectoral trade stimulated by product differentiation and segmentation of markets, without any alteration in the productive structures of the involved countries, which assumes the existence of relatively competitive structures. The second possible impact would be an industrial restructuring resulting from changes in the output mixes of enterprises through mergers, associations and incorporations brought about by a **process of intra-sectoral specialization**, based on the exploitation of economies of scale and scope. Finally, the undesired impact of **industrial relocation**, as a result of the existing differentials of competitiveness between enterprises and sectors.

Therefore, the existing differences and asymmetries between the economies of the MERCOSUR countries and, particularly between the industrial sectors, in several aspects, represent the difficulties in the integration process. And what is more serious, the profile of the policy adopted in the context of the MERCOSUR has not been adequate to revert the situation. On the contrary, it has contributed to aggravate it. Summarily and on the basis of information from previous sections, our proposition is that in the case of MERCOSUR, the determinants have been preponderantly economic, and mainly commercial, and very little political; the objectives too ample for the time-schedules, instruments and the existing institutional framework.

- **The need for an ample industrial policy**

The greater efficiency of the Brazilian protective system was not only associated with import tariffs, but also with incentives and export subsidies, non-tariff barriers and the handling of the foreign exchange policy. For a better balanced evolution of the integration process, the standardization of the tariff structure will be insufficient if the other recurring problems of exchange rate instability are maintained. The greatest difficulty to be overcome is that the exchange rate is a variable that has direct effects not only on trade (exports and imports), but also on the other international transactions (investments, financing, etc) and on the main macroeconomic variables. Furthermore, the harmonization of the exchange rate policies involves a relative loss of autonomy of the national economic policy.

In the concept of a wider industrial and commercial policy, given the strong asymmetries that exist intra-MERCOSUR and of its countries vis-a-vis the more advanced economies, an adequate process of industrial restructuring would have to count necessarily with promotion and financing policies for investment and technological development. Regarding the advantages of a process of regional integration related to the physical proximity they would be compounded if joint investments in infrastructure (ports, highways, telecommunications, electric power) were carried out. On the other hand, the benefits from a higher competition vis-

a-vis an expanded market (regional) would have to be ensured by antitrust policies (or incentives to mergers and associations whenever technically and economically needed), of defense of the consumer, of foreign direct investment, code of intellectual property, among others. In turn, these issues would require a revision of the role of the State, which should not be omnipresent as in the past, but not so minimal as envisaged by the liberal posture that predominates nowadays in the MERCOSUR countries.

The privatization programs should also be articulated with the strategies of industrial policy, directed by criteria of industrial restructuring and complementarity, both at the national and the community levels, besides attending to the minimum requirements of investment, quality, etc.; and not attend only to the private strategies of patrimonial restructuring, being active in services (gas, telephones, air transportation, electric power, etc.) or in industrial sectors not (or little) affected by the commercial opening.

Finally, the stabilization policies themselves in the MERCOSUR countries tend directly and indirectly to make difficult the integration process. This is because the economic programs have been grounded on liberal instruments, keeping subordinated the other decisions of economic policy, mainly those of industrial policy. The greater opening to imports and the recurring exchange rate revaluations not only have brought about strong oscillations in the intra-regional trade, but also did reduce the margin of preference between member-countries, reducing the regional dimension and amplifying the possibilities of adhesion to a more global inter-sectoral integration. An example would be the proposal of formation of a free-trade area in the whole of the American continent in the light of the Initiative for the Americas<sup>53</sup> (Pereira & Presser, 1993).

The unsuccessful experience of commercial opening of a few Latin-American countries – like Mexico and Argentina – were not to affect negatively the efforts towards a regional integration. As previously discussed there are important differences between the processes of

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(53) The recent attempts of Argentina to seek a greater approximation with the USA, even signaling the intention to join the NAFTA or expand the regional integration in the context of the American proposal of the Initiative for the Americas corroborate this argument.

commercial opening and the economic integration. The latter cannot be reduced to its commercial dimension and be seen only as a first step towards a more ample commercial opening – in the pattern of a proposal like “The Initiative for the Americas”.

The final objective defined in the Treaty of Asunción, signed in March 1991, of which Brazil, Argentina, Paraguay and Uruguay are signatories, is the constitution of a common market, namely, going beyond a free trade zone or a customs union. This is not only a semantic question; on the contrary, it has important implications for the industrial pattern of the involved countries. Besides the absence of barriers (tariff or administrative) to the intra-regional trade and of the adoption of a common tariff policy (structure and level of protection), a common market requires harmonization of industrial and foreign trade, fiscal, monetary, exchange rate, tax, etc policies – and the regulation of the movements of workers and capitals. As a consequence it will require a greater interdependency and loss of autonomy of governments/national policies and, specially, the adoption of common industrial and foreign trade policies. At present what has been observed is that the national policies of each country, besides differing from each other, impose themselves on the communitary policies and instruments, imposing in some cases restrictions and obstacles to the integration process.

Besides the comprehensiveness, the intensity and the speed of the integration process, the profile and the nature of this process also constitute themselves important aspects. The most desired scenario for the end of a process of integration would be the one in which the more ample interests of society were contemplated. For that, it is necessary that such a process raises the commercial interchange but that it also advances in other dimensions – productive, technological, cultural and social – between member-countries and between these and third countries. The expected outcome would be that countries like Brazil and Argentina maintained a diversified and integrated productive structure, advancing as well in the development of new sectors with higher technological content, within a scheme of **intra-industrial specialization and complementarity**, and also ensuring a growing and sustained international insertion.



## **Appendix 3**

### **Statistical**



Table 1  
 Brazil, growth indices of GDP, GDP per capita and industrial production, 1948-1995  
 Base: (1990 = 100)

Year	GDP	GDP per capita	Industrial production	Year	GDP	GDP per capita	Industrial production
1948	8,8	25,4	7,2	1972	46,9	68,5	53,7
1949	9,5	26,7	7,9	1973	53,4	76,2	62,6
1950	10,1	27,8	8,9	1974	57,8	80,5	67,5
1951	10,6	28,4	9,4	1975	60,8	82,6	70,0
1952	11,4	29,6	9,9	1976	67,1	89,0	78,4
1953	12,0	30,0	10,9	1977	70,3	91,2	80,3
1954	12,9	31,4	11,8	1978	73,9	93,6	85,2
1955	14,0	33,2	13,1	1979	78,9	97,6	91,2
1956	14,4	33,2	13,9	1980	86,1	104,2	99,6
1957	15,5	34,6	14,6	1981	82,4	97,7	89,4
1958	17,2	37,3	17,1	1982	82,9	96,4	89,4
1959	18,9	39,7	19,4	1983	80,1	91,5	84,8
1960	20,7	42,2	21,4	1984	84,1	94,4	90,8
1961	22,5	44,6	23,8	1985	91,1	99,8	98,5
1962	23,9	46,1	25,7	1986	97,9	105,2	109,2
1963	24,1	45,2	25,7	1987	101,5	106,8	110,2
1964	24,9	45,4	27,1	1988	101,4	104,8	106,7
1965	25,5	45,2	26,0	1989	104,6	106,2	109,8
1966	27,2	46,7	29,0	1990	100,0	100,0	100,0
1967	28,3	47,4	29,7	1991	100,2	98,7	97,4
1968	31,1	50,5	33,9	1992	99,4	96,4	93,8
1969	34,1	53,8	37,7	1993	103,5	99,0	100,7
1970	37,6	57,7	42,2	1994	109,5	103,3	108,4
1971	41,9	62,6	47,1	1995	114,0	106,0	110,6

Source: IBGE.

Table 2  
 Net factor income payment abroad (A); exports (B); imports (C); consumption expenditures (D);  
 gross domestic investment (E); external saving (F); domestic saving (G), 1948-1995 (% GDP)

Period	(A)	(B)	(C)	(D)	(E)	(F)	(G)	Period	(A)	(B)	(C)	(D)	(E)	(F)	(G)
1948	-	-	-	-	-	-	-	1973	0,9	7,8	9,0	79,1	22,1	2,0	20,0
1949	0,7	8,9	8,8	87,6	12,3	0,6	11,7	1974	0,8	7,7	13,3	81,3	24,3	6,5	17,9
1950	0,6	9,2	7,6	86,1	12,3	-0,9	13,2	1975	1,4	7,2	11,0	78,1	25,7	5,2	20,5
1951	0,5	9,6	11,3	86,8	14,9	2,2	12,7	1976	1,5	7,0	9,4	79,4	23,0	3,9	19,1
1952	0,2	7,1	9,9	87,6	15,2	3,0	12,2	1977	1,6	7,3	7,9	78,6	22,1	2,3	19,8
1953	0,7	6,6	5,6	84,4	14,6	-0,2	14,8	1978	2,3	6,7	7,9	78,2	23,0	3,5	19,6
1954	0,6	6,7	6,8	83,5	16,7	0,8	15,9	1979	2,7	7,2	9,3	79,0	23,1	4,8	18,3
1955	0,7	7,6	6,8	84,0	15,2	0,0	15,2	1980	3,3	9,0	11,2	79,0	24,1	5,4	18,7
1956	0,7	6,8	5,8	84,6	14,4	-0,2	14,7	1981	4,2	9,6	10,0	77,2	24,1	4,5	19,6
1957	0,3	5,6	6,2	83,2	17,4	1,0	16,4	1982	5,2	7,9	8,6	79,2	22,2	5,9	16,3
1958	0,6	5,7	6,1	82,2	18,2	1,0	17,1	1983	6,0	12,2	9,7	80,4	17,6	3,5	14,2
1959	0,6	6,0	6,6	80,1	20,6	1,3	19,3	1984	5,9	15,0	8,8	77,7	16,6	0,0	16,6
1960	0,7	5,3	6,4	84,1	17,0	1,8	15,3	1985	5,3	13,0	7,5	75,7	19,2	0,1	19,1
1961	0,5	5,8	6,2	85,3	15,1	0,8	14,2	1986	4,7	9,2	6,6	82,3	20,0	2,1	18,0
1962	0,8	6,7	8,0	83,7	17,7	2,0	15,7	1987	3,9	9,8	6,4	73,4	23,2	0,5	22,7
1963	0,5	8,6	9,0	82,3	18,0	0,7	17,4	1988	4,2	11,7	6,1	70,1	24,3	-1,4	25,7
1964	0,5	6,5	5,6	82,2	16,9	-0,6	17,5	1989	3,3	8,9	5,5	69,7	26,9	-0,3	27,1
1965	0,9	7,6	5,4	79,4	18,4	-1,6	20,0	1990	2,8	7,8	6,1	75,3	22,9	0,9	22,0
1966	0,8	6,5	5,8	80,9	18,4	-0,2	18,6	1991	2,8	8,9	6,9	78,4	19,6	0,4	19,3
1967	1,0	5,7	5,8	83,8	16,3	0,8	15,5	1992	2,5	10,5	6,9	76,9	19,6	-1,7	21,3
1968	0,8	6,0	6,7	81,8	19,0	1,5	17,5	1993	2,8	9,8	7,6	77,4	20,4	0,2	20,2
1969	0,8	6,7	6,7	78,0	22,0	0,8	21,3	1994	1,9	8,5	7,4	78,0	20,8	-0,3	20,5
1970	1,0	7,0	7,5	79,9	20,5	1,3	19,2	1995	1,8	-	-	79,8	21,6	-	18,9
1971	1,0	6,5	8,2	80,5	21,3	2,7	18,6								
1972	1,0	7,3	8,9	80,4	21,2	2,5	18,7								

Source: IBGE and Banco Central.

Table 3  
Share of construction, machinery and equipment expenditures on Gross Domestic Fixed Capital Formation (GDFCF), 1947-1994  
(%)

	1947	1950	1955	1960	1965	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	
GDFCF - current value	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
construction	58.3	62.5	59.6	62.2	65.2	58.0	57.5	60.5	63.2	65.9	66.6	67.6	68.0	70.5	71.8	67.1	71.2	66.6	69.5	70.3	69.5	69.5	69.8
total machinery and equipment	39.5	34.4	37.7	36.1	33.0	40.9	41.2	35.7	33.5	31.5	30.3	31.0	29.7	26.1	25.6	30.3	26.2	30.2	26.5	25.5	26.4	28.6	28.6
domestic machinery and equipment						29.7	30.8	30.5	29.7	28.3	26.3	27.8	26.8	23.0	22.4	27.6	23.8	27.5	22.5	21.2	21.8	23.1	23.1
imported machinery and equipment						11.2	10.4	5.1	3.8	3.2	4.0	3.2	2.9	3.1	3.1	2.7	2.4	2.7	4.0	4.3	4.6	5.5	5.5
others	2.3	3.1	2.6	1.7	1.8	1.1	1.3	3.9	3.4	2.6	3.1	1.4	2.2	3.3	2.6	2.6	2.6	3.2	4.0	4.2	4.1	1.6	1.6
GDFCF - constant value						100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
construction						58.4	54.6	60.5	64.9	68.1	69.8	69.6	67.8	65.3	66.8	68.1	69.5	69.2	70.5	72.5	69.3	66.9	66.9
total machinery and equipment						40.5	44.1	35.6	31.8	29.3	27.0	29.0	33.5	31.4	30.6	29.3	27.9	27.6	29.4	27.5	30.7	33.2	33.2
domestic machinery and equipment						34.0	33.8	30.5	26.7	25.0	23.6	25.8	29.9	27.7	26.4	24.9	23.3	21.5	18.5	14.2	15.1	18.3	18.3
imported machinery and equipment						6.5	10.3	5.1	5.1	4.3	3.4	3.2	3.6	3.7	4.2	4.3	4.6	6.2	7.0	9.1	11.5	13.3	13.3
others						1.1	1.3	3.9	3.3	2.6	3.1	1.4	2.2	3.3	2.6	2.6	2.6	3.2	4.0	4.3	4.2	1.6	1.6

Source: Conjuntura Económica and IBGE.

Table 4  
Share of Gross Domestic Fixed Capital Formation (GDFCF) IN GDP, 1947-1994  
(%) .

	1947	1950	1955	1960	1965	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	
GDFCF - current value	14.9	12.8	13.5	15.7	14.7	18.8	23.3	22.9	22.9	21.4	18.1	16.9	16.9	19.1	22.3	22.8	24.9	21.7	19.6	19.6	20.4	24.3	
construction	8.7	8.0	8.0	9.8	9.6	10.9	13.4	13.9	14.5	14.1	12.1	11.4	11.5	13.5	16.0	15.3	17.7	14.4	13.6	13.8	14.2	17.0	
total machinery and equipment	5.9	4.4	5.1	5.7	4.9	7.7	9.6	8.2	7.7	6.7	5.5	5.2	5.0	5.0	5.7	6.9	6.5	6.5	5.2	5.0	5.4	7.0	
domestic machinery and equipment				5.6	7.2	7.0	7.0	6.8	6.1	4.8	4.7	4.5	4.4	4.4	5.0	6.3	5.9	6.0	4.4	4.1	4.4	5.6	
imported machinery and equipment				2.1	2.4	1.2	0.9	0.9	0.7	0.7	0.7	0.5	0.6	0.6	0.7	0.6	0.6	0.6	0.8	0.8	0.9	1.3	
others	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.9	0.8	0.6	0.6	0.2	0.4	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.8	0.4	
GDFCF - constant value				20.6	25.8	22.9	21.0	19.5	16.9	16.3	16.4	18.7	17.9	17.0	17.0	16.7	16.0	15.0	13.7	14.5	15.0		
construction				12.0	14.1	13.9	13.6	13.3	11.8	11.3	11.1	12.2	11.9	11.6	11.6	11.1	10.6	10.0	10.0	10.0			
total machinery and equipment				8.3	11.3	8.2	6.7	5.7	4.6	4.7	4.9	5.9	5.5	5.0	4.7	4.4	3.8	3.2	3.9	4.7			
domestic machinery and equipment				7.0	8.7	7.0	5.6	4.9	4.0	4.2	4.3	5.2	4.7	4.2	3.9	3.4	2.8	1.9	2.2	2.7			
imported machinery and equipment				1.3	2.6	1.2	1.1	0.8	0.6	0.5	0.6	0.7	0.7	0.7	0.7	0.8	1.0	1.0	1.2	1.7	2.0		
others				0.2	0.3	0.9	0.7	0.5	0.5	0.2	0.4	0.6	0.5	0.4	0.6	0.5	0.4	0.4	0.5	0.6	0.6	0.6	0.2

Source: Conjuntura Económica and IBGE

Table 5  
Industrial production by branches of industry, 1972-1995  
Annual growth rate (%)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total	14.0	16.6	7.8	3.8	11.9	2.5	6.1	7.0	9.2	-10.2	0.0	-5.2	7.1	8.5	10.9	0.9	-3.2	2.9	-8.9	-2.6	-3.7	7.4	7.6	1.7
Mining					2.8	-3.5	7.5	12.1	12.8	-2.5	6.9	15.5	30.5	11.6	3.7	-0.8	0.4	4.0	2.7	0.9	0.8	0.6	4.7	3.1
Manufacturing industry	14.0	16.6	7.8	3.8	12.1	2.3	6.1	6.9	9.1	-10.4	-0.2	-5.9	6.2	8.3	11.3	1.0	-3.4	2.9	-9.5	-2.4	-4.1	7.9	7.9	1.6
Nonmetallic minerals	13.8	16.3	14.8	9.0	12.4	7.1	5.6	5.9	7.7	-5.2	-2.8	-16.3	-0.2	8.0	17.2	2.3	-4.2	3.8	-11.0	0.6	-7.7	4.8	3.0	4.2
Metallurgy	12.3	9.4	5.2	9.2	9.6	6.6	5.4	8.2	12.5	-17.0	-3.7	-2.6	13.8	7.3	12.0	0.4	-3.2	5.0	-12.6	-5.7	-0.6	7.7	10.8	-1.6
Machinery	19.9	28.5	11.7	15.1	9.2	-6.7	1.7	7.7	14.5	-19.7	-17.3	-13.4	18.8	10.4	22.0	4.0	-8.6	5.0	-16.9	-10.3	-9.5	17.4	21.3	-4.5
Electric and Communications equipment	22.1	27.9	10.3	0.5	17.7	0.3	17.0	7.7	12.3	-15.4	2.8	-11.1	2.0	19.0	22.6	-2.2	-4.4	5.7	-5.5	-6.6	-12.6	14.9	18.9	14.7
Transportation equipment	22.5	27.6	18.9	0.5	8.7	-0.3	10.4	6.7	4.5	-22.9	-3.0	-6.7	4.6	11.7	12.5	-10.2	9.1	-2.8	-15.9	-0.2	-2.2	19.6	13.5	2.1
Wood products																					-1.2	6.7	-2.6	-3.7
Furniture																					-11.6	20.7	1.3	6.1
Paper and Cellulose	7.5	9.4	4.3	-14.8	21.0	2.4	11.2	13.2	11.2	-6.9	7.2	1.7	6.8	6.5	10.5	3.6	-1.6	5.6	-6.3	6.7	-2.0	4.8	2.7	0.3
Rubber products	13.0	22.3	18.2	4.7	11.1	-2.0	7.6	7.2	9.4	-14.6	-6.0	3.8	7.8	8.5	13.6	3.6	2.1	-1.9	-4.4	-1.2	-0.1	8.5	3.9	-0.2
Leather products																					-3.1	12.9	-4.6	-16.8
Chemicals	17.0	23.4	5.4	2.4	16.2	5.3	7.5	9.4	5.0	-1.2	8.1	-1.5	9.6	6.2	1.5	5.5	-3.0	-0.3	-8.1	-7.7	-0.5	4.4	7.0	-0.5
Pharmaceuticals					13.2	-16.2	1.4	5.5	11.7	2.6	0.7	-7.8	8.9	5.2	22.9	2.4	-14.2	4.7	-9.7	-2.4	-11.2	12.2	-2.9	18.2
Toiletries	9.1	6.6	11.5	3.7	15.2	-3.3	11.4	15.1	9.1	1.4	3.6	1.3	-1.1	15.9	20.0	12.3	-7.8	11.5	-5.7	7.0	-0.6	4.4	2.4	5.3
Plastics	18.3	28.3	23.2	5.1	20.7	0.3	9.3	6.5	14.5	-20.9	9.1	-10.2	4.3	11.5	21.6	-4.2	-7.2	12.4	-15.6	-0.2	-11.3	7.6	4.1	10.3
Textiles	3.8	6.9	-3.5	2.3	4.9	2.1	6.5	8.5	6.5	-13.7	5.0	-10.6	-3.6	13.5	13.5	-0.6	-6.1	0.5	-10.1	2.8	-4.5	-0.5	3.6	-5.7
Clothing, footwear	5.0	14.1	2.1	7.2	10.5	-0.6	7.7	5.1	10.7	-0.7	3.0	-13.1	2.2	6.4	7.3	-9.6	-6.8	1.9	-14.0	-13.2	-7.7	8.8	-2.7	-7.2
Food products	16.2	9.6	5.5	-0.1	12.8	6.6	-1.1	-0.4	8.4	2.7	1.3	3.3	-0.7	0.2	0.4	6.8	-2.4	1.3	1.8	3.6	-7.4	8.2	1.6	7.8
Beverages	4.8	17.8	8.3	5.5	13.2	13.0	7.1	4.6	2.0	-7.6	-2.4	-5.1	-0.5	11.0	23.2	-3.4	2.4	14.7	2.3	18.0	-16.7	9.5	10.4	17.4
Tobacco	6.0	6.4	12.8	7.9	9.2	8.2	5.7	7.5	-3.9	4.1	4.2	-1.7	3.3	11.7	7.5	2.1	1.0	5.1	-1.4	7.3	17.7	4.4	-4.7	-5.1

Source: IBGE.

Table 6  
Industrial production by categories of use industrial goods,  
1976-1995 Annual growth rate  
(%)

Categories of Use	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Capital goods	10.0	-5.3	0.1	7.8	8.6	-19.4	-14.8	-19.2	14.8	12.4	21.9	-1.9	-2.1	0.3	-15.5	-1.3	-6.9	10.2	18.8	0.4
Intermediate goods	12.9	7.0	6.9	9.2	9.2	-11.1	2.9	-2.4	10.3	7.3	8.4	1.1	-2.1	2.4	-8.7	-2.2	-2.4	5.5	6.6	0.3
Consumer goods	11.3	0.2	7.3	4.2	7.5	-3.9	3.1	-4.2	0.3	9.1	11.1	0.1	-3.5	3.6	-5.3	2.1	-5.4	10.0	5.7	
Durable	17.6	0.2	20.8	7.5	18.2	-25.0	8.0	-0.9	-7.5	15.6	20.4	-5.4	0.6	2.4	-5.8	4.7	-13.0	27.7	16.3	12.0
Semidurable and nondurable	10.3	0.2	5.1	3.5					2.1	7.7	9.0	1.4	-4.4	3.9	-5.2	1.8	-3.8	6.7	2.3	4.1

Source: IBGE.

Table 7  
FIESP productivity indices, 1975-1995  
(Base:1980 = 100)

FIESP Indicators	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Employment (paid worker) (a)	83.6	89.0	90.7	93.2	96.5	100.0	93.1	88.5	81.6	81.5	88.4	97.2	99.3	97.3	98.3	96.3	88.7	83.0	80.0	78.1	76.9
Worked hours (b)	81.6	87.3	86.7	92.3	95.7	100.0	87.7	82.5	74.2	77.2	87.9	98.2	98.6	97.0	94.6	87.6	78.7	73.9	74.2	73.4	72.8
Paid hours (c)	83.3	90.3	90.7	93.7	96.3	100.0	91.0	87.3	80.8	81.9	89.1	97.5	99.8	99.0	99.0	93.3	83.5	78.8	76.9	74.7	74.2
Level of Activity Indicator (d)	71.1	78.7	80.7	88.8	94.5	100.0	91.5	92.0	97.0	104.3	107.1	120.1	119.2	118.9	119.7	106.5	81.9	100.2	113.7	120.8	125.4
Index Productivity 1 (d/a)	85.1	88.4	89.0	95.3	98.0	100.0	98.3	103.9	118.8	128.0	121.2	123.5	120.1	122.2	121.8	110.6	92.3	120.8	142.1	154.6	163.1
Index Productivity 2 (d/b)	87.2	90.1	93.1	96.2	98.8	100.0	104.3	111.6	130.6	135.1	121.8	122.3	120.9	122.7	126.5	121.5	104.1	135.6	153.2	164.5	172.2
Index Productivity 3 (d/c)	85.4	87.2	89.0	94.8	98.2	100.0	100.5	105.4	120.0	127.3	120.2	123.2	119.4	120.2	121.0	114.2	98.0	127.2	147.8	161.7	169.0

Source: FIESP.

Level of activity indicator: composed of level of capacity utilization, production, work hours, employment and industry sales-real billing.



Table 8  
 FIESP indicators, 1975-1995 Annual average growth rates  
 (%)

FIESP Indicators	1980/75	1985/80	1990/85	1995/90
Employment (paid worker) (a)	3,65	-2,45	1,73	-4,40
Worked hours (b)	4,14	-2,55	-0,06	-3,63
Paid hours (c)	3,72	-2,28	0,91	-4,48
Level of Activity Indicator (d)	7,05	1,38	-0,12	3,32
Index Productivity 1 (d/a)	3,28	3,93	-1,82	8,08
Index Productivity 2 (d/b)	2,79	4,03	-0,05	7,22
Index Productivity 3 (d/c)	3,21	3,74	-1,02	8,15

Level of activity indicator: composed of level of capacity utilization, production, work hours, level of occupation and industry sales-real billing.

Source: FIESP.

Table 9  
 IBGE Productivity indices by branches of industry, 1980-1995  
 (Base: 1980 = 100)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total	97.5	104.6	107.6	117.5	120.6	120.4	120.1	121.3	122.4	120.0	130.1	137.4	151.4	166.5	171.4
Mining	93.2	99.5	118.5	156.7	170.5	179.6	189.9	213.9	242.8	283.4	339.3	368.4	410.1	459.6	514.3
Manufacturing industry	97.6	104.7	107.0	115.8	118.6	118.6	118.3	119.1	120.0	116.8	126.9	133.5	147.8	162.8	168.4
Nonmetallic minerals	101.8	106.2	102.6	112.2	117.0	120.0	117.7	115.3	119.1	111.5	126.3	117.0	129.5	144.3	156.9
Metallurgy	93.7	100.6	109.1	119.6	122.5	121.4	117.8	117.4	124.8	118.2	126.3	147.6	167.0	188.5	181.5
Machinery	88.2	86.5	89.8	103.4	103.3	111.4	114.5	110.8	116.8	108.8	112.5	106.4	129.9	150.6	147.2
Electric and Communications equipment	96.6	113.6	117.0	130.2	139.0	145.1	132.1	138.0	142.7	153.1	166.9	170.5	201.1	243.0	268.7
Transportation equipment	88.6	94.1	93.1	98.6	96.5	92.8	82.1	92.4	87.9	73.0	81.2	83.2	97.7	107.7	109.4
Paper and Cellulose	102.2	117.7	124.3	136.2	139.5	139.0	138.2	145.9	150.9	176.1	206.9	211.0	223.0	251.4	262.1
Rubber products	98.2	103.7	106.8	104.4	102.0	105.5	105.9	106.1	103.3	98.4	102.5	136.9	186.2	199.1	210.1
Leather products	n.a.	n.a.	n.a.	n.a.	n.a.	137.2	139.6	138.8	138.1	133.2	135.0	143.1	159.9	175.2	180.9
Chemicals	104.5	120.8	124.0	133.5	138.1	156.1	149.4	133.5	136.5	121.7	115.2	104.7	118.8	118.9	139.9
Pharmaceuticals	104.8	110.7	107.3	128.4	139.3	159.4	174.6	169.3	181.3	167.7	169.7	194.2	208.2	215.6	203.3
Toiletries	104.7	106.4	116.2	127.2	151.1	105.9	98.3	101.7	107.3	87.6	101.1	100.4	98.4	105.3	120.8
Plastics	92.6	106.9	100.8	105.2	106.1	119.5	109.0	104.8	104.4	98.9	112.5	126.1	127.8	136.4	133.1
Textiles	98.6	108.9	109.5	114.7	119.8	102.8	106.7	103.5	100.7	97.4	99.6	108.6	114.3	114.1	120.1
Clothing, footwear	102.3	103.8	93.8	97.3	103.6	103.0	110.2	108.0	102.0	110.7	119.4	123.5	132.0	141.9	151.7
Food products	103.1	106.1	108.6	110.7	111.0	137.2	124.6	130.9	142.1	143.5	170.7	150.7	180.0	211.2	231.3
Beverages	98.7	101.8	100.7	107.0	119.0	165.4	163.8	177.5	180.7	191.1	213.9	221.5	262.7	276.1	273.6
Tobacco	112.0	117.9	127.4	138.6	153.2										

Source: IBGE..

Table 10  
 IBGE productivity indices by branches of industry, 1980-1995 Annual average growth rates  
 (%)

	1985/80	1990/85	1995/90	1995/80
Total	3,8	-0,1	7,4	3,7
Mining	11,3	10,7	12,7	11,5
Manufacturing industry	3,5	-0,3	7,6	3,5
Nonmetallic minerals	3,2	-1,0	7,1	3,0
Metallurgy	4,1	-0,7	9,0	4,1
Machinery	0,7	1,0	6,2	2,6
Electric and Communications equipment	6,8	1,9	11,9	6,8
Transportation equipment	-0,7	-5,4	8,4	-0,6
Paper and Cellulose	6,9	4,8	8,3	6,6
Rubber products	0,4	-0,7	16,4	5,1
Leather products	n.a.	n.a.	n.a.	n.a.
Chemicals	6,7	-0,7	6,3	4,0
Pharmaceuticals	6,9	-2,7	2,8	2,3
Toiletries	8,6	2,1	3,9	4,8
Plastics	1,2	-3,8	6,6	1,3
Textiles	3,7	-3,8	6,1	1,9
Clothing, footwear	0,7	-1,2	4,3	1,2
Food products	2,1	-0,1	6,5	2,8
Beverages	3,5	3,8	10,0	5,8
Tobacco	8,9	4,5	7,4	6,9

Source: IBGE.

Table 11  
Industrial investment - distribution by branches of industry as a percentage of total in selected years  
(%)

	1959	1970	1975	1980	1985
Total	100,0	100,0	100,0	100,0	100,0
Mining	1,7	6,0	3,2	3,3	2,1
Manufacturing industry	98,1	94,0	96,8	96,7	97,9
Nonmetallic minerals	3,9	9,7	6,4	5,6	1,8
Metallurgy	14,4	9,7	19,2	17,7	33,5
Machinery	5,9	5,6	9,4	6,9	4,1
Electric and communications equipment	5,6	4,6	4,2	3,7	2,5
Transportation equipment	24,0	9,0	5,0	5,3	2,6
Wood products	1,8	3,0	2,7	3,2	0,9
Furniture	0,9	1,2	1,2	1,1	0,3
Paper and Cellulose	2,2	3,7	3,1	3,7	1,6
Rubber products	2,4	1,5	1,8	1,1	0,7
Leather products	0,6	0,5	0,6	0,4	0,2
Chemicals	6,3	9,5	10,2	15,3	35,9
Pharmaceuticals	1,6	1,0	1,0	0,8	0,4
Toiletries	0,7	0,6	0,5	0,5	2,6
Plastics	0,6	2,0	2,4	2,7	1,0
Textiles	7,5	10,4	7,1	4,8	1,4
Clothing, footwear	1,3	1,8	2,1	2,2	1,3
Food products	12,8	12,0	11,5	10,8	5,0
Beverages	1,9	3,3	1,9	1,8	0,7
Tobacco	0,5	1,0	0,9	0,2	0,1
Printing	2,0	2,2	1,7	1,9	0,6
Miscellaneous	1,0	1,5	1,2	1,0	0,8

Source: IBGE.

Table 12  
Industrial production - distribution by branches of industry as a percentage of total in selected years (%)

	1939	1949	1959	1970	1975	1980	1985
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Mining	1,3	0,9	1,2	1,6	1,4	1,4	4,7
Manufacturing industry	98,7	99,1	98,8	98,4	98,6	98,6	95,3
Nonmetallic minerals	3,7	4,4	4,5	4,1	4,0	4,1	2,9
Metallurgy	6,2	7,5	10,4	12,3	13,1	13,5	13,3
Machinery	1,0	1,6	2,8	5,6	7,8	7,5	6,5
Electric and Communications equipment	0,9	1,4	3,9	4,6	4,9	5,1	5,5
Transportation equipment	2,9	2,3	6,7	8,1	8,9	7,7	7,0
Wood products	2,8	3,4	2,6	2,2	2,2	2,0	1,2
Furniture	1,6	1,6	1,8	1,8	1,5	1,4	1,1
Paper and Cellulose	1,7	2,0	2,9	2,4	2,3	2,6	2,7
Rubber products	0,6	1,6	2,5	1,7	1,6	1,5	1,6
Leather products	1,9	1,5	1,1	0,6	0,5	0,5	0,6
Chemicals	5,7	5,1	8,9	10,7	15,1	19,0	19,8
Pharmaceuticals	1,6	1,9	1,9	2,1	1,5	1,1	1,1
Toiletries	2,0	1,7	1,5	1,4	1,0	0,8	0,8
Plastics	0,0	0,2	0,7	1,6	1,8	2,0	1,8
Textiles	22,7	18,5	12,4	9,1	6,6	6,3	5,5
Clothing, footwear	4,6	4,3	3,4	3,3	3,4	3,8	4,2
Food products	31,0	31,7	23,9	19,9	16,0	13,7	15,2
Beverages	2,6	3,1	2,3	1,9	1,2	1,0	1,0
Tobacco	1,8	1,4	1,1	0,9	0,8	0,5	0,6
Printing	2,6	2,8	2,3	2,5	2,1	1,6	1,3
Miscellaneous	0,9	1,2	1,3	1,6	1,3	1,4	1,7

Source: IBGE

Table 13  
 Industrial employment - distribution by branches of industry as a percentage of total in selected years  
 (%)

	1939	1949	1959	1970	1975	1980	1985
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Mining	4,2	2,7	2,5	2,4	1,7	1,7	1,9
Manufacturing industry	95,8	97,3	97,5	97,6	98,3	98,3	98,1
Nonmetallic minerals	6,7	9,6	9,1	8,8	8,3	8,7	6,5
Metallurgy	7,2	7,6	9,7	9,9	11,4	10,6	10,1
Machinery	0,0	2,0	3,5	6,7	10,1	10,8	9,8
Electric and Communications equipment	3,0	1,2	3,2	4,3	4,5	4,9	5,6
Transportation equipment	0,0	1,5	4,5	5,9	5,7	5,6	6,1
Wood products	4,4	5,1	4,9	5,0	5,3	5,3	3,9
Furniture	3,4	2,9	3,5	3,9	3,6	3,5	3,3
Paper and Cellulose	1,4	1,8	2,3	2,5	2,2	2,1	2,4
Rubber products	0,5	0,8	1,2	1,2	1,2	1,1	1,3
Leather products	1,7	1,6	1,4	1,0	0,9	0,8	1,0
Chemicals	3,4	3,3	4,3	3,9	3,3	3,3	5,1
Pharmaceuticals	1,1	1,3	1,5	1,1	0,9	0,7	0,9
Toiletries	0,9	0,8	0,8	0,7	0,6	0,5	0,7
Plastics	0,0	0,2	0,5	1,6	2,1	2,4	2,6
Textiles	27,4	25,1	18,2	12,7	8,6	7,5	6,3
Clothing, footwear	5,8	5,7	5,4	6,1	7,8	9,2	11,7
Food products	20,4	17,4	14,8	13,8	12,9	12,4	13,1
Beverages	1,9	2,9	2,4	2,2	1,4	1,2	1,4
Tobacco	1,6	1,0	0,7	0,5	0,6	0,4	0,5
Printing	3,7	3,7	3,4	3,6	3,3	2,8	2,9
Miscellaneous	1,3	1,8	2,1	2,3	2,2	2,2	3,0

Source: IBGE.

Table 14  
Financing to industry by the BNDES System, 1990-94 disbursements in US\$ million (current)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Manufacturing Industry	1,274	1,857	2,185	2,516	2,029	1,383	2,038	1,567	1,553	2,247
Share in total BNDES financing	(42%)	(53%)	(51%)	(61%)	(64%)	(73%)	(66%)	(49%)	(48%)	(41%)
Processing of non metallic minerals	42	65	146	88	48	61	37	55	100	106
Metalurgy	545	673	423	708	304	334	188	190	225	269
Machinery	83	130	211	165	101	82	76	94	126	231
Electric & electric equip.	66	62	185	153	100	71	42	54	63	92
Transportation equipment	25	57	76	79	156	164	128	100	83	199
Lumber & Wood products	0	38	48	26	30	38	16	15	29	84
Furniture	0	29	37	12	10	14	8	6	6	15
Paper & allied products	103	169	149	337	520	788	621	379	299	197
Rubber	0	13	18	9	14	8	14	5	8	14
Leather & leather products	0	15	13	8	10	6	5	4	4	7
Chemicals	151	122	207	333	250	347	429	162	96	129
Pharmaceutical products	0	10	8	5	7	8	4	7	9	7
Perfumes, soaps, etc.	0	3	6	6	15	3	1	2	2	4
Plastic materials	0	57	75	72	74	82	66	53	66	144
Textiles	87	92	139	159	132	109	92	94	101	149
Apparel, footwear & other textile products	0	46	50	34	42	23	25	14	14	32
Food & kindred products	131	171	255	179	149	184	187	184	177	366
Beverages	0	57	93	110	44	40	37	112	112	163
Tobacco	0	1	15	0	0	-	42	9	9	-
Printing & publishing	0	30	27	18	14	11	11	18	15	21
Miscellaneous	40	16	19	14	10	8	8	10	9	15

Note: Items may not add to totals due to rounding.

Source: BNDES. Área de Planejamento.

Table 15  
Brazil - Science and technology expenditures, 1981-89

	US\$ million (1990 prices)								
	1981	1982	1983	1984	1985	1986	1987	1988	1989
Federal Budget	1,369	1,603	1,332	1,291	1,750	2,044	2,327	2,281	2,011
Federal government	1,102	1,287	1,077	1,043	1,434	1,663	1,932	1,922	1,652
State companies	188	241	196	160	249	296	301	281	279
Financial agents	79	75	59	88	67	85	94	78	80
State & Local Govt.	495	458	342	376	370	478	360	310	398
Budget									
Private firms	154	142	115	144	146	173	176	164	163
TOTAL S&T Expenditures	2,018	2,203	1,789	1,811	2,266	2,695	2,863	2,755	2,572
GDP	293,80	294,26	282,96	295,78	319,45	347,11	353,66	342,03	350,83
	1	0	9	4	5	2	8	0	5
% S&T/GDP	0.69	0.75	0.63	0.61	0.71	0.78	0.81	0.81	0.73

Source: Coutinho & Suzigan (1991).

Table 16  
CNPq - Number of scholarships and research grants per year, 1985-1993

	1985	1986	1987	1988	1989	1990	1991	1992	1993
Postdoctoral	24	18	19	37	58	62	57	39	43
Doctoral Studies	819	913	1,287	1,413	1,689	2,138	2,674	3,005	3,474
Master's	3,957	4,200	4,999	5,827	6,601	7,934	8,607	8,309	8,611
Research	4,091	4,532	5,009	5,693	5,764	6,139	6,852	7,790	8,580
Improvement grants	758	807	1,528	2,016	2,013	2,666	2,840	2,507	2,186
Scientific Initiation	1,600	1,510	3,921	5,893	6,349	7,548	9,117	11,440	13,212
Technical Support	736	709	924	1,338	975	0	25	481	568
Others (1)	0	0	0	0	29	55	414	1,420	1,544
Total	13,970	14,675	19,674	24,205	25,467	28,532	32,577	36,983	40,211

(1) Includes: in 1989, "Technological Initiation" grants, and in 1990-93, the same and also grants for "Programas Integrados" (Integrated Research Programs).

Source: MCT. *Relatório de Atividades - 1992-94*. Brasília, n.d. p 24-5.

Table 17  
Main sources of financing for science and technology expenditures, 1980-91 effective disbursements, US\$ million (1991 prices)

YEAR	FINEP	CNPq Grants*	FNDCT	PADCT
1980	134.7	36.2	188.0	---
1981	135.7	39.5	129.3	---
1982	121.3	56.7	120.0	---
1983	108.1	55.6	78.7	---
1984	84.4	51.4	58.9	1.8
1985	98.2	63.8	62.0	11.8
1986	110.7	71.5	109.4	36.3
1987	234.0	133.5	89.1	30.7
1988	162.0	197.2	101.9	43.4
1989	116.3	239.2	81.8	39.0
1990	90.1	237.5	58.5	58.0
1991	61.5	188.3	30.1	69.5

(\*) Includes grants for graduate studies, research projects, postdoctoral courses and research, undergraduate students' participation in research projects, and other.

Source: Secretaria da Ciência e Tecnologia (formerly MCT), direct information.



Table 18  
Evolution of Brazilian exports, 1970-94  
US\$ million (FOB values)

Year	Total	Basic products	Semimanufactures	Manufactures	Special transactions
1970	2,739	2,049	249	416	25
1971	2,904	1,988	241	581	94
1972	3,991	2,725	310	912	45
1973	6,199	4,097	476	1,465	161
1974	7,951	4,577	917	2,263	195
1975	8,670	5,027	849	2,585	209
1976	10,128	6,129	842	2,776	381
1977	12,120	6,959	1,044	3,840	278
1978	12,659	5,978	1,421	5,083	177
1979	15,244	6,553	1,887	6,645	159
1980	20,132	8,488	2,349	9,027	268
1981	23,293	8,920	2,116	11,883	374
1982	20,175	8,238	1,433	10,253	251
1983	21,899	8,535	1,782	11,276	306
1984	27,005	8,706	2,872	15,132	295
1985	25,639	8,538	2,758	14,063	280
1986	22,349	7,280	2,491	12,404	174
1987	26,224	8,022	3,175	14,839	188
1988	33,789	9,411	4,892	19,187	299
1989	34,383	9,549	5,807	18,634	393
1990	31,414	8,746	5,108	17,011	549
1991	31,620	8,737	4,691	17,757	435
1992	35,862	8,840	5,167	21,396	459
1993	38,597	9,366	5,445	23,473	313
1994	43,558	11,058	6,893	24,973	634
1995	46,506	10,969	9,146	25,563	828

Source: 1970-1979: Banco do Brasil.

1980-1994: Departamento Técnico de Intercâmbio Comercial, Secretaria de Comércio Exterior/MICT.

Table 19  
 Evolution of Brazilian imports, 1970-94  
 US\$ million (FOB values)

Year	Total	Petroleum	Other products
1970	2,507	174	2,333
1971	3,247	251	2,997
1972	4,232	344	3,888
1973	6,192	606	5,586
1974	12,641	2,558	10,083
1975	12,210	2,704	9,506
1976	12,383	3,459	8,924
1977	12,023	3,602	8,421
1978	13,683	4,064	9,619
1979	18,084	6,264	11,820
1980	22,955	9,372	13,583
1981	22,092	10,597	11,495
1982	19,395	9,566	9,829
1983	15,429	7,822	7,607
1984	13,916	6,735	7,181
1985	13,153	5,418	7,735
1986	14,044	2,786	11,258
1987	15,052	3,859	11,193
1988	14,605	3,194	11,411
1989	18,263	3,390	14,873
1990	20,661	4,354	16,307
1991	21,041	3,370	17,671
1992	20,554	3,069	17,485
1993	25,480	2,138	23,342
1994	33,168	2,389	30,779
1995	49,663	2,576	47,087

Source: 1970-1979: Banco do Brasil.  
 1980-1994: Departamento Técnico de Intercâmbio Comercial, Secretaria de Comércio Exterior/MICT.

Table 20  
Trade ratios and trade balance of Brazilian foreign trade, 1980-94

Year	Export ratio <sup>1</sup> (%)	Import ratio <sup>1</sup> (%)	Trade balance (US\$ million)
1980	8.96	11.19	-2,823
1981	9.62	10.01	1,202
1982	7.90	8.59	780
1983	12.24	9.66	6,470
1984	15.04	8.79	13,089
1985	12.95	7.50	12,486
1986	9.22	6.64	8,305
1987	9.83	6.43	11,173
1988	11.67	6.10	19,184
1989	8.93	5.46	16,120
1990	7.82	6.05	10,753
1991	8.94	6.91	10,579
1992	10.45	6.94	15,239
1993	9.81	7.57	13,072
1994	8.24	6.26	10,466
1995	8.26	8.83	-3,157

<sup>(1)</sup> Total value of exports (imports) over GDP.

Source: *Conjuntura Econômica* (1995).

Table 21  
Real exchange rate and real effective exchange rate, 1980-90  
Indices, 1985=100

Year	Real exchange rate		Real effective exchange rate <sup>1</sup>	
	WPI-EUA/ IPA-DI <sup>2</sup>	WPI-EUA/ IBGE-IT <sup>3</sup>	Basket WPI/IPA-DI	Basket WPI/IBGE-IT <sup>3</sup>
1980	87,12	86,17	92,80	91,79
1981	78,84	80,54	80,49	82,23
1982	80,08	75,64	81,30	76,79
1983	98,18	103,85	98,52	104,21
1984	95,95	104,91	95,02	103,89
1985	100,00	100,00	100,00	100,00
1986	89,29	95,23	93,60	99,88
1987	84,60	92,02	90,87	98,84
1988	74,30	84,81	81,47	91,68
1989	59,47	70,42	62,80	74,36
1990	52,17	72,94	56,57	79,08

<sup>(1)</sup> Weighted by the share of the eleven main trade partners of Brazil.

<sup>(2)</sup> USA wholesale price index over Brazilian IPA-DI (Wholesale price index - domestic availability).

<sup>(3)</sup> Implicit manufacturing industry price resulting from IBGE's Monthly Industrial Research.

Source: Iglesias (1992:11).

Table 22  
Special import regimes, 1987  
(%)

Special import regimes	Share in total imports	Tariff rates	
		Calculated	True
Export	17.72	46.75	0.78
<i>Drawback</i>	12.52	45.18	0.00
BEFIEX	5.18	50.57	2.66
Support to Export of Manufactures	0.01	46.44	0.00
CIEX	0.01	35.73	3.56
Development Programs	6.90	52.72	0.91
SUDENE	0.18	42.74	7.44
SUDAM	0.01	47.71	4.70
Zona Franca de Manaus	4.13	58.12	0.04
Carajás	0.07	55.32	0.00
GEIMI	0.10	48.19	1.14
SUNAMAM	0.31	16.56	0.00
CDI	1.16	45.83	2.69
Others	0.94	51.65	1.62
International Agreements	6.54	39.83	6.64
ALADI	4.04	38.72	3.69
GATT	1.61	33.83	17.70
Others	0.89	55.72	0.00
Sectors or Specific Firms	8.79	28.80	0.22
EMBRAER	1.13	36.79	0.00
Radio and Television	0.20	51.16	0.00
Air Transportation	3.64	15.24	0.00
ELETROBRÁS	0.96	52.79	0.00
PETROBRÁS	1.02	35.53	0.00
Others	1.84	48.29	1.55
Others	14.88	27.43	0.85
CPA (contingency system)	11.18	25.56	1.07
Wheat	1.77	45.00	0.00
Government	0.40	31.85	0.00
Other	1.53	31.66	0.75
Without Fiscal Incentives	45.17	13.82	13.82
Full payment	18.49	33.77	33.77
Oil (Petrobrás)	26.68	0.00	0.00
Total	100.00	27.38	7.02
Total with fiscal incentives	54.83	38.56	1.42

Source: Sarti (1990:66-7), with minor changes.

Table 23  
Implicit and nominal (legal) tariff rates by sectors and branches of industry 1988  
(%)

Sectors/Branches	Implicit	Pre-1988 reform	Post-1988 reform	Non-tariff barriers/total <sup>1</sup> 1984
Agriculture & Livestock	-15.0	26.7	14.1	92.0
Industrial sector	16.3	55.6	37.7	63.7
Mining	-10.5	14.1	11.5	92.2
Manufacturing	16.4	56.2	38.1	55.6
Non-metallic minerals	24.6	56.8	34.4	77.4
Metalurgy	24.7	45.6	36.2	53.9
Machinery	17.3	55.3	46.8	33.7
Electrical equipment	44.5	69.7	47.5	90.5
Transportation equipment	9.2	73.5	51.2	60.6
Wood products	22.9	55.0	24.3	98.0
Furniture	53.7	95.1	35.2	100.0
Paper & cellulose	14.4	58.8	27.8	71.4
Rubber products	65.5	75.9	52.8	81.0
Leather products	26.9	71.8	39.5	19.1
Chemicals	20.2	29.3	18.2	19.2
Pharmaceuticals	61.6	37.6	50.4	22.5
Toiletries	46.4	93.2	69.6	92.8
Plastics	68.7	92.9	57.1	92.5
Textiles	60.4	84.6	50.0	99.3
Clothing and footwear	92.7	67.2	68.5	90.5
Foodstuffs	-7.9	53.5	31.8	94.3
Beverages	-9.5	96.2	74.6	65.9
Tobacco	-71.1	98.9	84.4	16.7
Printing and publishing	3.8	30.5	17.8	74.5
Miscellaneous	66.5	76.3	63.6	70.6

<sup>(1)</sup> Share of the products protected by non-tariff barriers in the total number of products classified in each sector/industry (1984).

Source: Kume (1990:59).

Table 24  
 Incentives to exports of manufactured goods, 1969-88  
 Percentages of the FOB value of manufacture exports  
 (%)

Year	Drawback	Befix	Exemption IPI/ICM	Financing subsidies	Fiscal credit	Income tax break	Total
1969	4.0	---	27.91	4.07	6.69	---	42.67
1970	4.0	---	27.68	7.51	13.50	---	52.69
1971	4.0	---	26.89	7.80	13.15	1.3	53.14
1972	4.9	---	28.14	8.22	16.26	1.3	58.82
1973	7.2	---	27.16	6.45	16.16	1.3	58.27
1974	12.6	---	22.67	6.14	11.95	1.8	55.16
1975	8.3	---	22.43	11.51	12.06	1.7	56.00
1976	11.8	3.62	21.47	15.88	11.72	1.3	65.79
1977	12.6	4.60	21.73	19.63	12.41	1.5	72.47
1978	9.1	5.02	22.43	17.00	12.79	1.8	68.14
1979	10.5	5.44	22.82	13.88	12.78	2.1	67.52
1980	9.0	8.11	24.04	2.04	0.00	1.9	45.09
1981	9.4	10.22	25.13	18.73	6.51	1.8	71.79
1982	10.3	7.69	26.26	21.69	9.11	1.6	76.65
1983	8.6	4.89	26.27	9.31	7.79	1.6	58.46
1984	9.1	4.28	27.49	2.67	7.84	1.6	52.98
1985	9.1	5.85	27.69	3.63	1.36	1.6	49.23
1986	13.1	7.45	28.04	3.64	--	1.6	53.83
1987	13.1	9.25	28.04	3.11	--	1.6	55.10
1988	13.1	8.16	28.04	2.69	--	1.6	53.59

Source: Baumann (1989:12), with minor changes. See methodology in Baumann & Moreira (1987).

## Acronyms

ACC	-	Adiantamentos de Contratos de Câmbio (Advances on Foreign Exchange Contracts)
ACE	-	Adiantamentos de Contratos de Exportação (Advances on Export Contracts)
AFRMM	-	Adicional do Frete para Renovação da Marinha Mercante (Surtax on Freight Rates for Restructuring the Merchant Marine)
ALADI	-	Associação Latino-Americana de Integração (Latin American Integration Association)
ANFAVEA	-	Associação Nacional dos Fabricantes de Veículos Automotivos (National Association of Automotive Vehicles Manufacturers)
BACEN	-	Banco Central do Brasil (Central Bank of Brazil)
BB	-	Banco do Brasil (Bank of Brazil)
BEFIEX	-	Comissão para Concessão de Benefícios Fiscais a Programas Especiais de Exportação (Commission for Granting Fiscal Incentives to Special Export Programs)
BNB	-	Banco do Nordeste do Brasil (Bank of the Northeast of Brazil)
BNDE(S)	-	Banco Nacional de Desenvolvimento Econômico (e Social) (National Bank for Economic (and Social) Development)
BNDESPAR	-	BNDES Participações S.A. (BNDES Venture Capital Branch)
CACEX	-	Carteira de Comércio Exterior do Banco do Brasil (Foreign Trade Department (Banco do Brasil))
CADE	-	Conselho Administrativo de Defesa Econômica (Administrative Council of Economic Defense)
CAPES	-	Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Coordination for the Improvement of Human Resources of Higher Level)
CAPRE	-	Comissão de Coordenação das Atividades de Processamento Eletrônico (Commission for the Coordination of Electronic Processing Activities)
CCM	-	Comissão de Comércio do MERCOSUL (Trade Commission of MERCOSUR)

CCNAI	-	Comissão de Coordenação dos Núcleos de Articulação com a Indústria (Commission for the Coordination of Industrial Articulation Centers)
CCPCL	-	Comissão Coordenadora da Política de Compra de Locomotivas (Commission for the Coordination of the Purchasing Policy of Locomotives)
CCRs	-	Companhias de Capitalização Regionais (Regional Venture Capital Companies)
CDE	-	Conselho de Desenvolvimento Econômico (Economic Development Council)
CDI	-	Comissão (Conselho) de Desenvolvimento Industrial (Commission (Council) for Industrial Development)
CEBRAE	-	Centro Brasileiro de Assistência Gerencial à Pequena e Média Empresa (Brazilian Centre for Management Assistance to Small and Medium Sized Enterprise)
CEC	-	Comissão Empresarial de Competitividade (Entrepreneurial Commission for Competitiveness)
CEPAL/BNDE	-	Grupo Misto de Estudos CEPAL/BNDE (Joint Study Group CEPAL (Economic Commission for Latin America)/BNDE)
CEXIM/BB	-	Carteira de Exportação e Importação do Banco do Brasil (Export Import Department, Banco do Brasil)
CFCE	-	Conselho Federal de Comércio Exterior (Federal Council of Foreign Trade)
CIEX	-	Comissão de Incentivo à Exportação (Commission for Incentive of Exports)
CIP	-	Conselho Interministerial de Preços (Interministerial Council for Prices)
CLT	-	Consolidação das Leis do Trabalho (Consolidation of Labor Laws)
CMBEU	-	Comissão Mista Brasil-Estados Unidos (Joint Commission Brazil-United States)
CMC	-	Conselho do Mercado Comum (Council of the Common Market)
CME/SPI	-	Coordenação da Mobilização Econômica/Setor de Produção Industrial (Coordination of Economic Mobilization, Industrial Production Sector)
CMN	-	Conselho Monetário Nacional (National Monetary Council)



CNI	-	Confederação Nacional da Indústria (National Confederation of Industries)
CNP	-	Conselho Nacional do Petróleo (National Oil Council)
CNPIC	-	Conselho Nacional de Política Industrial e Comercial (National Council for Industrial and Commercial Policy)
CNPq	-	Conselho Nacional de Pesquisa (depois Conselho Nacional de Desenvolvimento Científico e Tecnológico (National Research Council (subsequently National Council for Scientific and Technological Development)
COFAP	-	Comissão Federal de Abastecimento e Preços (Federal Commission for Food Supply and Prices)
COFINS	-	Contribuição para o Financiamento da Seguridade Social (Contribution to the Financing of Social Welfare)
CONCEC	-	Conselho Consultivo Empresarial de Competitividade (Consultative Entrepreneurial Council for Competitiveness)
CONCEX	-	Conselho Nacional de Comércio Exterior (National Council for Foreign Trade)
CONEP	-	Comissão Nacional de Estímulo à Estabilização de Preços (National Commission for Incentive to Price Stability)
CONFAZ	-	Conselho de Política Fazendária (Council of State Governments' Finance Secretaries)
CONIN	-	Conselho Nacional de Informática e Automação (National Council of Informatics and Automation)
CONSIDER	-	Conselho de Não-Ferrosos e Siderurgia (Council for Non-ferrous Metals and Steel Making)
CONTEC	-	Programa de Capitalização de Empresas de Base Tecnológica (Technology-based Business Capitalization Consortium)
COPAG	-	Comissão para o Plano de Governo (Commission for the Government Plan)
CPA	-	Conselho de Política Aduaneira (Council for Customs Duty Policy)
CREAI/BB	-	Carteira de Crédito Agrícola e Industrial do Banco do Brasil (Agricultural and Industrial Department, Bank of Brazil)

CTIC	-	Coordenação Técnica de Intercâmbio Comercial (Technical Coordination of Foreign Trade)
CTT	-	Coordenação Técnica de Tarifas (Technical Coordination of Tariffs)
DAP	-	Departamento de Abastecimento e Preços (Supply and Price Department)
DECEX	-	Departamento de Comércio Exterior (Foreign Trade Department)
DIC	-	Departamento de Indústria e Comércio (Industry and Trade Department)
DTIC	-	Departamento Técnico de Intercâmbio Comercial (Technical Department for Trade Relations)
DTT	-	Departamento Técnico de Tarifas (Technical Department of Tariffs)
ECLA	-	Economic Commission for Latin America and the Caribbean
FAT	-	Fundo de Amparo ao Trabalhador (Fund of Support to Workers)
FDI	-	Foreign Direct Investments
FGTS	-	Fundo de Garantia do Tempo de Serviço (Fund for the Guaranty of Service Time)
FIESP	-	Federação das Indústrias do Estado de São Paulo (State of São Paulo's Federation of Industries)
FINAME	-	Agência Especial de Financiamento Industrial, BNDES (BNDES Special Agency for Industrial Financing)
FINAMEX	-	Programa de Financiamento à Exportação de Bens de Capital, BNDES (BNDES Program for Financing Exports of Capital Goods)
FINEM	-	Financiamento à Empresa (BNDES) (Financing of Firms, BNDES)
FINEP	-	Financiadora de Estudos e Projetos (Agency for the Financing of Studies and Projects)
FINEX	-	Fundo de Financiamento à Exportação (Fund for Export Financing)
FIPEME	-	Financiamento à Pequena e Média Empresa (Fund for the Financing of Small and Medium Sized Enterprise)
FNDCT	-	Fundo Nacional de Desenvolvimento Científico e Tecnológico (National Fund for Scientific and Technological Development)

FRE	-	Fundo de Reaparelhamento Econômico (Fund for Economic Reequipment)
FUNAT	-	Fundo Nacional de Tecnologia Industrial (National Fund for Industrial Technology)
FUNCEX	-	Fundação Centro de Estudos de Comércio Exterior (Center for Foreign Trade Studies Foundation)
FUNTEC	-	Fundo de Desenvolvimento Técnico e Científico/BNDE (Fund for Technical and Scientific Development/BNDE)
GATT	-	General Agreement on Tariffs and Trade
GDP	-	Gross Domestic Product
GEP	-	Grupo de Estudos de Projetos (CDI) (Group for the Study of Projects (CDI))
GEPS	-	Grupos de Estudos de Políticas Setoriais (Group for the Study of Sectoral Policies)
GERES	-	Grupo Executivo de Recuperação Econômica do Estado do Espírito Santo (Executive Group for Economic Recuperation of the State of Espírito Santo)
GMC	-	Grupo de Mercado Comum (Common Market Group)
GS	-	Grupos Setoriais (CDI) (Sectoral Groups (CDI))
IBGE	-	Instituto Brasileiro de Geografia e Estatística (Brazilian Institute of Geography and Statistics)
IBS	-	Instituto Brasileiro de Siderurgia (Brazilian Steel Industry Institute)
ICM(S)	-	Imposto sobre Circulação de Mercadorias (e Serviços) (Value Added Tax on Turnover of Goods (and on Services))
IEI	-	Instituto de Economia Industrial (Institute of Industrial Economics)
II	-	Imposto de Importação (Customs Tariff)
IMF	-	International Monetary Fund
INMETRO	-	Instituto Nacional de Metrologia (National Institute of Metrology)
INPES	-	Instituto de Pesquisas, IPEA (Research Institute of IPEA)
INPI	-	Instituto Nacional de Propriedade Industrial (National Institute for Industrial Property)
IOF	-	Imposto sobre Operações Financeiras (Tax on Financial Operations)

IPEA	-	Instituto de Pesquisa Econômica Aplicada (Institute of Applied Economic Research, of the Brazilian Ministry of Planning)
IPI	-	Imposto sobre Produtos Industrializados (Industrial Value Added Tax)
IR	-	Imposto de Renda (Income Tax)
LAFTA	-	Latin American Free Trade Association
MCT	-	Ministério da Ciência e Tecnologia (Ministry of Science and Technology)
MEFP	-	Ministério da Economia, Fazenda e Planejamento (Ministry of Economics, Finance and Planning)
MERCOSUR	-	Southern (Latin American) Common Market
MF	-	Ministério da Fazenda (Ministry of Finance)
MIC	-	Ministério da Indústria e Comércio (Ministry of Industry and Trade)
MICT	-	Ministério da Indústria, Comércio e Turismo (Ministry of Industry, Trade and Tourism)
MITI	-	Ministry of International Trade and Industry (Japan)
MP	-	Medida Provisória (Provisional Measure)
NPI	-	Nova Política Industrial (New Industrial Policy)
PACTI	-	Programa de Apoio à Capacitação Tecnológica da Indústria (Program to Support the Improvement of Technological Capability of Industry)
PADCT	-	Programa de Apoio ao Desenvolvimento Científico e Tecnológico (Program to Support Scientific and Technological Development)
PAEG	-	Programa de Ação Econômica do Governo (Program for the Economic Action of the Government)
PASEP	-	Programa de Formação de Patrimônio do Servidor Público (Program for the Formation of the Patrimony of Public Service Workers)
PBDCT	-	Plano Básico de Desenvolvimento Científico e Tecnológico (Basic Plan for the Scientific and Technological Development)
PBQP	-	Programa Brasileiro de Qualidade e Produtividade (Brazilian Program of Quality and Productivity)
PCI	-	Programa de Competitividade Industrial (Program of Industrial Competitiveness)

PDTA	-	Programa de Desenvolvimento Tecnológico Agropecuário (Agricultural Technology Development Program)
PDTI	-	Programa de Desenvolvimento Tecnológico Industrial (Industrial Technology Development Program)
PED	-	Programa Estratégico de Desenvolvimento (Strategical Development Program)
PGI	-	Programa Geral de Industrialização (General Industrialization Program (CDI, 1952))
PICE	-	Política Industrial e de Comércio Exterior (Industrial and Foreign Trade Policy)
PIS	-	Programa de Integração Social (Social Integration Program)
PLANIN	-	Plano Nacional de Informática e Automação (National Informatics and Automation Plan)
PND	-	Plano Nacional de Desenvolvimento (National Development Plan)
PND	-	Plano Nacional de Desestatização (National Privatization Program)
PRE	-	Programa de Reaparelhamento Econômico (Program for Economic Reequipment)
PROALCOOL	-	Programa Nacional do Alcool (National Alcohol Program)
PROEX	-	Programa de Financiamento às Exportações (Program for the Financing of Exports)
PROGIRO	-	Programa Especial de Apoio a Empresas Brasileiras de Pequeno e Médio Porte (BNDE) (Special Program of Support to Brazilian Small and Medium Sized Enterprises (BNDE))
PRONAEX	-	Programa Nacional de Apoio à Pequena e Média Empresa Exportadora (National Program of Support to Small and Medium Sized Export Companies (CEBRAE))
PSI	-	Programa Setorial Integrado (Sectorally Integrated Program)
R&D	-	Research and Development
RHAE	-	Programa de Capacitação de Recursos Humanos para o Desenvolvimento Tecnológico (Program of Training of Human Resources for Technological Development)

SENAI	-	Serviço Nacional de Aprendizagem Industrial (National Service for Industrial Labor Training)
S&T	-	Science and Technology
SCF	-	Sociedades de Crédito e Financiamento (Agencies of Credit and Financing Associations)
SDI	-	Secretaria de Desenvolvimento Industrial (Industrial Development Secretariat)
SEADE	-	Sistema Estadual de Análise de Dados (State of São Paulo System for Analysis of Data)
SEBRAE	-	Serviço Brasileiro de Apoio à Pesquisa e Média Empresa (Brazilian Service of Support to Small and Medium Sized Enterprises (formerly CEBRAE))
SEI	-	Secretaria Especial de Informática (Special Secretariat for Informatics (later Department for Informatics Policy and Automation))
SEPLAN	-	Secretaria de Planejamento (Planning Secretariat)
SGT	-	Sub-Grupo Técnico (Technical Sub-workgroup)
SNDCT	-	Sistema Nacional de Desenvolvimento Científico e Tecnológico (National System for Scientific and Technological Development)
S(N)DE	-	Secretaria (Nacional) de Direito Econômico (National Secretariat of Economic Right)
SRF	-	Secretaria da Receita Federal (Secretariat for Federal Revenue (Ministry of Finance))
STI	-	Secretaria de Tecnologia Industrial (Industrial Technology Secretariat)
SUDAM	-	Superintendência do Desenvolvimento da Amazônia (Superintendency for the Development of the Amazonian Region)
SUDENE	-	Superintendência do Desenvolvimento do Nordeste (Superintendency for the Development of the Northeast)
SUFRAMA	-	Superintendência da Zona Franca de Manaus (Superintendency of the Manaus Free Trade Zone)
SUMOC	-	Superintendência da Moeda e do Crédito (Superintendency of Currency and Credit)
SUNAB	-	Superintendência Nacional do Abastecimento (National Superintendency of Supply)
SUNAMAM	-	Superintendência Nacional da Marinha Mercante (National Superintendency of the Merchant Marine)
TEC	-	Tarifa Externa Comum (Common External Tariff)

TICD	-	Tratado de Integração, Cooperação e Desenvolvimento (Treaty of Integration, Cooperation and Development)
TMP	-	Taxa de Melhoramento dos Portos (Import Surtax for the Improvement of Ports)
TRIPs	-	Trade Related Intellectual Property Rights
URV	-	Unidade Real de Valor (Real Unit Value)
WTO	-	World Trade Organization
ZFM	-	Zona Franca de Manaus (Manaus Free Zone)
ZPEs	-	Zonas de Processamento de Exportações (Export Processing Zones)





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