The Return of Industrial Policy in Brazil

Chapter · January 2013

DOI: 10.1057/9781137335173_20

David Kupfer
Federal University of Rio de Janeiro

Joao Carlos Ferraz
Federal University of Rio de Janeiro

The Return of Industrial Policy in Brazil≠

David Kupfer

João Carlos Ferraz

Felipe Silveira MarquesΩ

Abstract

Up to the 1970s, Brazil implemented an industrial policy aimed at substituting imports that was consensually acknowledged for being active and strong. After the 1980s, the industrial policy was progressively relaxed and eventually abandoned, due primarily to the macroeconomic difficulties stemming from very high internal and external debt, coupled with ideological obstacles that marred the 1990s in Brazil. In the 2000s, industrial policy made a comeback in Brazil, and with growing importance. Three policies have been put into practice since then: the Industrial, Technological and Foreign Trade Policy (PITCE), from 2004 to 2007; the Productive Development Policy (PDP), from 2008 to 2010, and the Brasil Maior Plan (PBM), launched in 2011 and still underway. This article argues that the lack of macroeconomic and institutional framework conditions and the difficulties in the excessive but much needed attention to the short term management of the economy have hindered the design and implementation of industrial policy which, by definition, is a long term endeavor. It is as if the conditions for activism have been re-established, but some essential pre-requisites for a strong industrial policy have not. Nevertheless since 2011, short term and long term actions are converging, opening the path for new interesting developments in the years to come.

Summary

≠ Presentd in IEA-WB Roundtable "New Thinking on Industrial Policy", WB Headquarters, May 22-23, 2012. Printed in Joseph E. Stiglitz, J. E; Lin Yifu, J. (eds) (2013) The Industrial Policy Revolution I: The Role of Government Beyond Ideology. Palgrave Macmillan (Chapter 19).

Ω By May, 2012, respectively, Associate Professor at the Federal University of Rio de Janeiro (UFRJ) and Advisor to the President's Office, Brazilian Development Bank (BNDES); Vice-President, Brazilian Development Bank (BNDES) and Advisor to the President's Office, Brazilian Development Bank (BNDES).

1. An account of the past experience in Industrial Policy

Up to the 1970s, Brazil implemented an industrial policy aimed at substituting imports that was consensually acknowledged for being active and strong[1]. Such activeness was the result of the broadness and depth with which the Brazilian State was willing to intervene in markets, taking on a leading allocating role in the economy. The strength of the industrial policy at that time stemmed from the meeting of three essential conditions to boost it: i) co-existence with a favorable macroeconomic environment; ii) intensive use of classic instruments (tariff barriers, financial and fiscal incentives for prioritized sectors in two National Development Plans); and iii) use of State-owned companies (some existing since the 1950s, some created in the 1970s) aiming to solve the typical coordination problems of the catching-up process.

This active and strong industrial policy was undeniably successful in industrializing the country, but resulted in hits and misses. The policy was successful in structuring new sectors, such as petrochemicals and pulp & paper, but was unable to boost-up pre-existing sectors, such as textiles and automotives. For sectors with greater technological intensity, and thus more dependent on the capacity to innovate, both positive and negative results have been achieved, having been highly successful in the aeronautics industry, but not so much in the computer industry.

After the 1980s, the industrial policy was progressively relaxed and eventually abandoned, due primarily to the macroeconomic difficulties stemming from very high internal and external debt, coupled with ideological obstacles that marred the 1990s in Brazil. In the middle of this decade, once the hyper-inflation issues were finally subdued, the macro environment, the stabilization of prices based on fiscal contraction and overvalued exchange rates, as well as privatization left little room to engage in a new industrial policy.

In the 2000s, industrial policy made a comeback in Brazil, and with growing importance. Three policies have been put into practice since then: the Industrial, Technological and Foreign Trade Policy (PITCE), from 2004 to 2007; the Productive Development Policy (PDP), from 2008 to 2010, and the Brasil Maior Plan (PBM), launched in 2011 and still underway. Nevertheless, the

[1] For a historical account of Brazilian industrial policy, see Suzigan and Villela (1997).

macroeconomic and institutional framework conditions must evolve further towards explicit actions to promote industrial development.

This article argues that the lack of these elements and the difficulties in the excessive but much needed attention to the short term management of the economy have hindered the design and implementation of industrial policy which, by definition, is a long term endeavor. It is as if the conditions for activism have been re-established, but some essential pre-requisites for a strong industrial policy have not. Nevertheless since 2011, short term and long term actions are converging, opening the path for interesting developments in the years to come.

This paper, over the following sections, analyzes three recent industrial policies enacted during the 2000s, and discusses their connections with the macro environment. With this analysis, the idea is to outline key challenges for Brazilian industrial development for the next few years.

2. Three recent experiences

Since the return of industrial policy to Brazil in 2004, and under a new government with an ideology that was more favorable to this type of action, there were three specific policies:

- The Industrial, Technological and Foreign Trade Policy (PITCE, 2004-2007), which aimed at strengthening the institutional framework by creating agencies and modernizing legislation to make innovation-inducing instruments more effective, focusing on, above all, technology intensive sectors.

- The Productive Development Policy (PDP, 2008-2010), which focused on investment and innovation, but which ended up having an anti-cyclical role that proved crucial in the federal government's efforts to combat the effect of the 2008 international financial crisis.

- The *Brasil Maior* Plan (PBM, 2011-2014), whose main priority is to aggregate value through innovation, but which has tended more and more towards defending the internal market and recovering the systemic conditions for competitiveness, which is evident in the efforts that are more and more focused on reducing the elements that make up the "Custo Brasil" (costs related to doing business in Brazil).

These experiences, despite some similar characteristics, offer distinct importance. On the timeline of Brazilian industrial policies, there is a clear concern to maintain continuity, but lined with flexibility. Innovation and competitiveness, for example, are clear priorities in each case. However, it is equally visible that the focus and the organization in each case were altered to tackle the different economic challenges that each of these policies had to face. The PITCE was conceived to tackle sectors with large and growing trade deficits (capital goods, semi-conductors, software, as well as pharmaceuticals and medication). The PDP, in its turn, was conceived within a context of international growth and an abundance of foreign currency stemming from improvements in the terms of trade. The aim of the policy was to leverage investments and innovation to sustain growth, and the number of sectors benefited rose. The context of the PBM, in its turn, has been marked by the international crisis and fierce international competition including the expansion of imports, while emphasis is being given to innovation and to aggregating local value.

The following sections detail the guidelines of the three policies and establish a connection with the macro environment at the time they were elaborated.

3. PITCE: the return of the Phoenix

The PITCE is a milestone marking the return of industrial policy in Brazil[2]. This happened, however, in a hostile macroeconomic environment, in terms of severe restrictions on external accounts. The sharp devaluation of the Brazilian real against the dollar due to uncertainties in the electoral campaign in 2002[3] put pressure on the balance of payments and the country's sovereign risk, already weakened by deterioration of the balance of payments that had generated a currency crisis at the end of the previous decade. Then the PITCE arose deeply framed by the context of external vulnerability which, again, restricted the development of Brazil.

The policy, launched in November 2004, sought to face this situation by modernizing the industrial structure and make the country's balance of payment more robust. The focus was on technology-intensive industries, such as capital goods, semi-conductors, software and

[2] Coutinho, Ferraz, Nassif and Oliva (2012) analyze the return of Brazilian industrial policy in 2000s.
[3] The exchange rate in 2000 went from R$/US$ 2,5 in May to around R$/US$ 3,8 in October.

pharmaceuticals, which could provide gains in productivity and windows of opportunity to develop robust scientific and technological systems in areas, such as energy, health and agriculture.

The goal of the PITCE was to induce a change in the technological level of Brazilian industry, aiming at more innovation and differentiation of products. The expectation was that developing the country's technology sectors would favor an upgrade in exports, fostering gains in more sophisticated segments in the international market.

Efforts were focused on three different dimensions. The first was related to horizontal actions, mainly: innovation and technological development; exports; industrial modernization and improvements in the institutional environment. The second, referred to as "Strategic Options", was concentrated on the policy's vertical focus: semi-conductors; software; capital goods, and pharmaceuticals. Last of all, the third focus was on the so-called Future Opportunities, favoring biotechnology, nanotechnology and biomass / renewable energy.

Considering the measures as a whole, one of the most relevant outcomes was the improvement of incentive mechanisms for innovation, with the Innovation Law, the "Good Law" (fiscal incentives for innovative activities), the Bio-security Law and the Biotechnology Development Policy. The Trademark and Patents Registration Office (INPI) was restructured to speed up the processing of intellectual property rights, and new sectorial programs for financing were created at the Brazilian Development Bank (BNDES), such as Profarma (pharmaceuticals). Also, the science and technology sectorial funds, which had been created a decade before, but which were then shortened as part of the effort to reduce public spending, were allowed to operate with full budget thus providing sufficient resources for R&D in priority areas.

Another substantial contribution from the PITCE were the important institutional advances to foster the comeback of industrial policy in Brazil. These include the creation of the National Industrial Development Council (CNDI), a three-prong political structure involving government, business sector and workers functioning as an advisory board, and the Brazilian Industrial Development Agency (ABDI), which is responsible for providing technical support for the policy. The two institutions are focused on filling institutional gaps that the dismantling of the industrial policy, which had been taken to the hilt some years earlier, had left as the main negative legacy.

As of 2004, the swift and intense improvements in the terms of trade, linked primarily to the effects of China's growth in markets to which Brazil was exporting commodities, quickly generated robust figures in the trade balance, due to basic products, not sophisticated goods, as had been proposed in the PITCE. The high profitability of these activities attracted foreign investments which, coupled with the strong inflow of short term capital owing to the gains in arbitration stemming from the glaring difference between domestic and foreign interest rates, put the exchange rate on a strong evaluation track.

This gave rise to a rupture in the economic scenario in which the PITCE was based four years earlier. PITCE lasted until mid-2008 when, amidst a new economic and political framework, it gave way to the Productive Development Policy (PDP).

4. PDP: sailing in favorable winds and stormy weather

The PDP was conceived under an international context of strong growth and a national context of abundant reserves due to significant improvements in the terms of external trade. This new framework resulted in some trends which the policy sought to work with, of which three structural changes stand apart.

The first transformation marks the return to the importance of the domestic sources, especially investment, as a strategic engine for expressive and sustained growth, which can be summarized in the idea that a virtuous cycle of inclusive growth had been established in the country.

This change was brought about by many causes. The most important came in the form of a reaction to the effects of income policies adopted by the Brazilian government, among which another virtuous cycle stands out: the restructuring of the labor market. Having started with programs of income transfer and then continued with a intensification of the policy of real increases in the minimum wage, which had been practiced since the mid-1990s, a formidable formalization of jobs took place. This formalization was accompanied by a significant increase in consumer´s credit especially in low income. These combined factors were fostering the most significant of all the changes underway throughout these years: a strong cycle of investments was established in the country the likes not seen since the end of the 1970s.

The PDP sought to foster investment and innovation to maintain growth. With this goal in mind, the policy, launched in May 2008, established four challenges:

i) expand the supply capacity of the Brazilian economy in sustainable and competitive bases to avoid bottlenecks and inflationary pressure;

ii) increase the innovation capacity of Brazilian companies to expand competitiveness in the domestic market and strengthen their foreign insertion;

iii) maintain the robustness of the balance of payments, staying on the path to expand and diversify exports and create favorable conditions to attract direct foreign investments; and

iv) expand access to markets for micro and small companies (MSEs), generating positive competition and distribution effects – in conjunction with initiatives aimed at developing business systems a of larger scale and with compatible governance through better international practices.

With reference to these challenges, four macro-targets were set for the PDP:

i) an increase in the participation of the gross formation of fixed-capital (GFFC) in the GDP from 17.4% in 2007 to 21% in 2010;

ii) an increase in the participation of corporate spending in R&D in the GDP from 0.49% in 2005 to 0.65% in 2010;

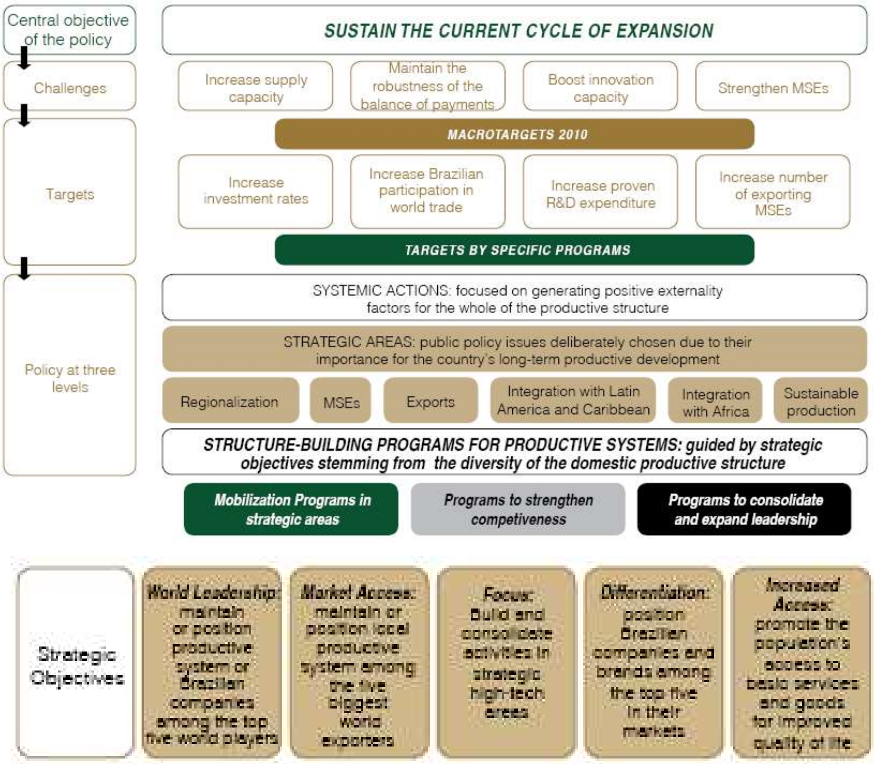
iii) an increase in the participation of Brazilian exports in worldwide exports from 1.16% in 2007 to 1.25% in 2010; and

iv) a 10% increase in the number of exporting Micro and Small Enterprises (MSEs) by 2010 (11,792 in 2006).

To reach these goals, when the PDP was launched, initiatives and all-encompassing programs were announced. On the one hand, initiatives were outlined and aimed at favoring measures that directly affected the aggregate performance of the economy, especially fiscal measures, finance to investment and innovation, and legal security.

At the same time, 34 programs were structured, with implementation slated for the 2008-2010 period, aimed at boosting the short, medium and long-term competitiveness of the Brazilian economy. The task of carrying out each one of these programs, which requires permanent and systematic dialog with the private sector, was given to Executive Committees comprising representatives from several governmental entities, with the plan to integrate and bring together efforts of the programs with the policies underway. These programs were divided into production systems and across-the-board topics. The structure of the Policy is explained in Chart 1.

Chart 1: Structure for the Productive Development Policy



Source: Brasil (2008, p. 29).

Industrial Sectors were organized into three groups:

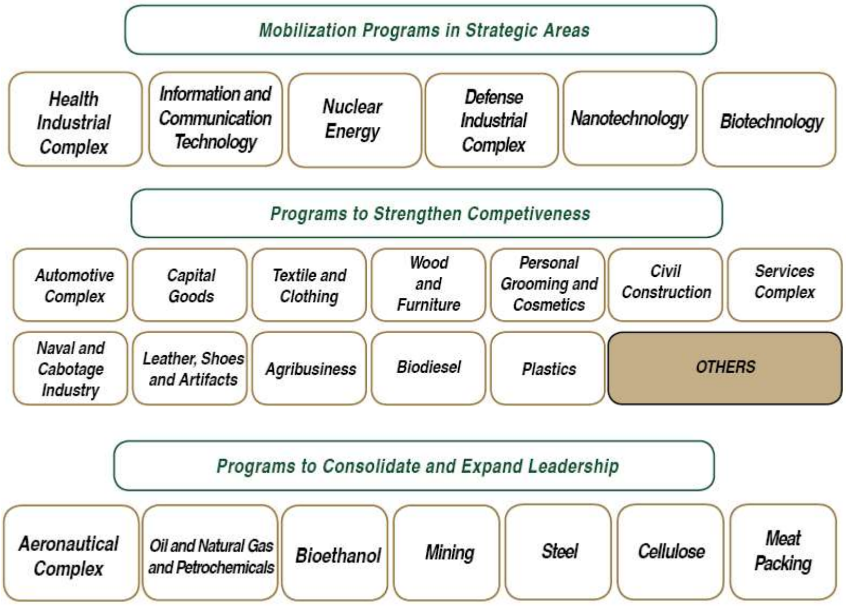
i) Mobilizing Programs in Strategic Areas, chaired by the Ministry of Science and Technology (MCTI), whose focus was to overcome the scientific-technological challenges for innovation;

ii) Programs to Strengthen Competitiveness, chaired by the Ministry of Development, Industry and Foreign Trade (MDIC), whose focus was to increase domestic competitiveness and expand production links;

iii) Programs to Consolidate and Expand Leadership, chaired by BNDES, which brought together sectors with international reach and competitive capacity, focusing on innovation and the internationalization of companies.

The sectors that are part of these three groups are outlined in Chart 2:

Chart 2: Sectorial Dimension of the PDP



Source: Brasil (2008, p. 30).

The PDP contributed to sustaining the growth of the Brazilian economy until the onset of the international financial crisis. The crisis, nevertheless, affected the achievement of the four macro-targets.

Throughout this adverse time, the policy was focused on resisting and overcoming the international crisis, strengthening the structure of Brazilian industry within a more competitive environment. However, these actions occurred concurrently with emerging and undesirable microeconomic transformations. Compared to industrialized nations and, mainly, to emerging Asian countries, the more visible signs of industrial weakening was to be found in the slow evolution of productivity and increasing imports. The result was a sharp increase in imports of manufactured goods, and, as a consequence, the hollowing out of several industrial value chains installed in Brazil. Inverting this undesirable situation became a challenge to be addressed by Brasil Maior Plan (PBM). In 2011, at the end of the Luiz Inácio Lula da Silva 8 years´ administration (two mandates) and the rise of President Dilma Roussef, the PDP was replaced with the PBM.

5. PBM: facing a hostile environment, attention to costs and value added

The Brasil Maior Plan (PBM), launched in August 2011, was aimed at providing answers to challenges arising from slow growth in the international environment. In the internal plan, the Brazilian economy had shown signs of having overcome the most daunting part of the international crisis, which was proven by the 7.5% growth in GDP in 2010. Due to the economy's performance, everything suggested that the constant objective of the different versions of Brazilian industrial policies - add value through innovation-, could be finnally be placed at the helm. Within this context, four guiding priorities were defined.

The first guiding principle is to build and strengthen critical competencies. The aim is to capacitate Brazilian companies to strengthen operations in sectors in which technological innovation plays a fundamental role. There are two main targets in this area. First, large-scale Brazilian companies that already hold strategic positions in national and worldwide markets. Second, companies in technological sectors, associated, or not, with foreign firms, in market niches characterized by design and knowledge-intensive product lines.

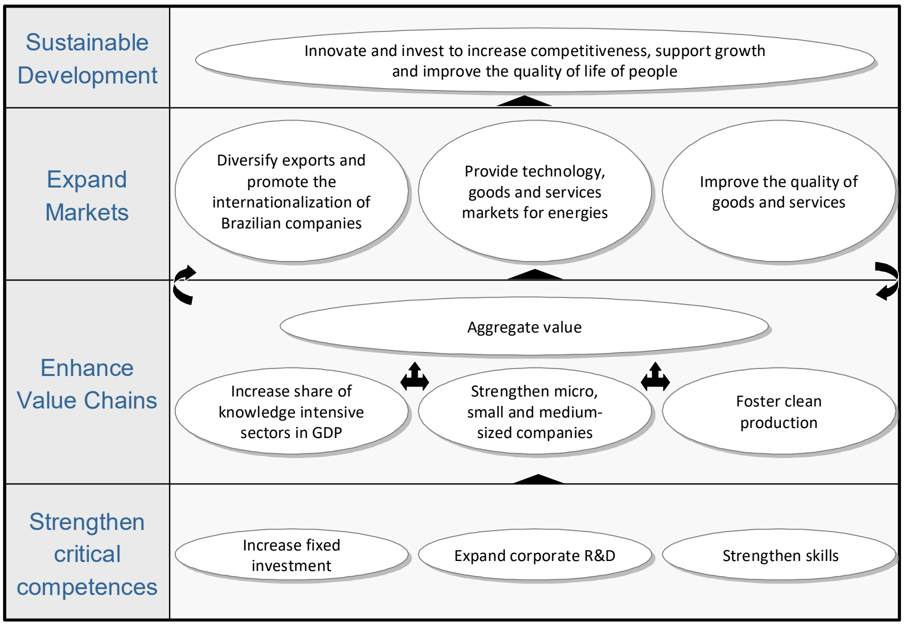
The second guideline is to enhance productivity and technology upgrade along value chains. This is aimed at facing the hollowing out process. This replacement of national products with imports is concentrated in: (i) labor-intensive industrial activities, such as textile production, footwear and toys; (ii) inputs, parts, and components in engineering-intensive businesses, such as the case of several segments in the capital goods sector and auto-parts.

The third guideline is to expand the domestic and foreign markets for Brazilian companies. This guideline seeks to invert the specialization in primary products. Over the last few decades, international insertion of the Brazilian economy has passively reflected the logic of the country's static comparative advantages. This translated into an progress concentrated in primary products and industrial inputs based on natural resources, such as meat production, pulp and paper, mining, steel and agribusiness. Building dynamic and comparative advantages require broad and concerted efforts in terms of industrial policy.

The fourth and final guideline is to ensure socially inclusive and environmentally sustainable growth. There are vast opportunities, especially in energy sectors. The country's large reserves of renewable and non-renewable resources open much room for Brazil to step in as a reliable energy provider for the world. In a similar vein, the rich biodiversity constitute an huge opportunity for industrial development.

Based on these guidelines, ten strategic objectives were outlined with respective goals for the 2011-2014 period[4], as seen in Figure 1.

Figure 1: Strategic Map for the Brasil Maior Plan (PBM)



Source: Brasil (2011, p. 18).

As with the PDP, the organization of the PBM not only has a structural dimension, but also a systemic range. For the PBM, some 19 sectorial committees and 9 systemic coordination teams were created, as shown in figure 2.

The Sectorial Committees were organized into five groups. This organization aims to reflect the different technical and economic characteristics of several sectors that make up the Brazilian industrial sector.

- Group I, which includes Mechanics, Electro-electronics and Health Industries, contains sectors with higher capacity to transform the production structure due their ability to disseminate innovation throughout the economy: suppliers for Oil & Gas industries; Health; Automotive; Aeronautics and Defense; Capital Goods and ICT/Electronics.

[4] The goals are available in Brasil (2011, p. 19s).

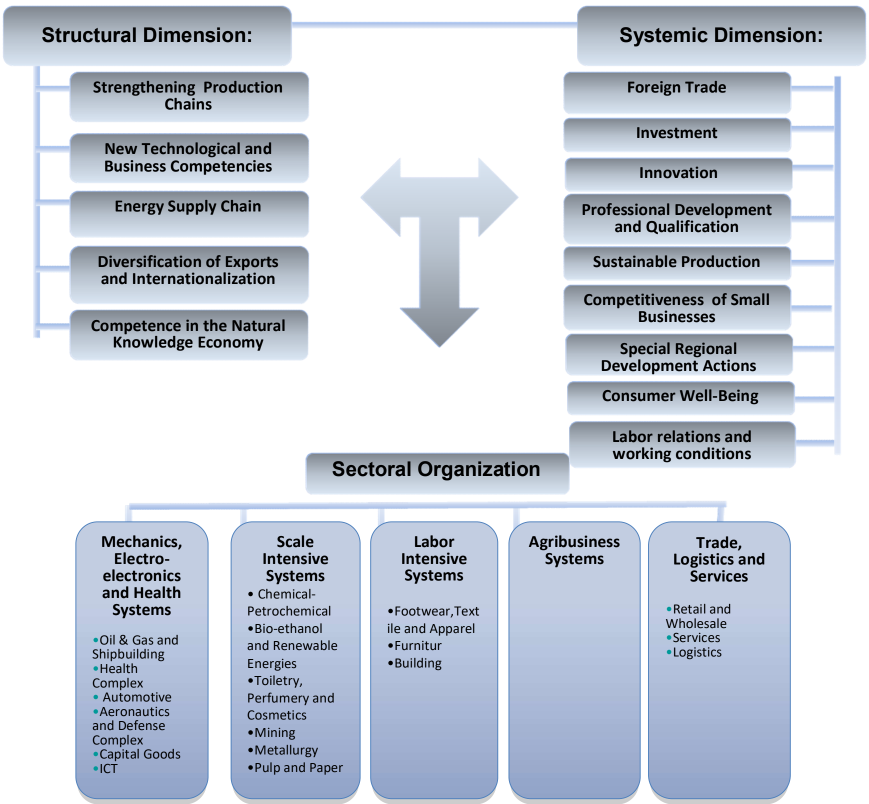
- Group II includes Scale-Intensive Industries, as activities that are at the top of the country's export list: Chemical-Petrochemical; Bio-ethanol and Renewable Energies; Toiletry, Perfumery and Cosmetics; Mining; Metallurgy; and Pulp and Paper.

- Group III includes Labor-Intensive Industries, which concentrate most small and medium-sized companies in the country.

- Group IV, Agribusiness Systems, includes an important part of Brazilian exports that now has been boosted by the science push in biological science and the demand pull brought about by the new geopolitics driven by the problems in food safety and bio-fuels.

- Group V, focused on service activities completes (Wholesale and Retail Trade, Logistics and Business Services), is a pioneering initiative in Brazilian industrial policy to explicitly include services, reflecting the growing importance of these sectors to generate qualified jobs and income.

Figure 2: Sectorial Dimensions and Organization of the Brasil Maior Plan (PBM)



Source: Brasil (2011, p. 8).

Conceived to foster a sweeping restructuring of Brazilian industry, the PBM had to face a challenging national and international economic context. The slacking Brazilian economy revealed an important deterioration in the competitiveness of national industry. Fierce international competition, sweeping protectionist initiatives in several countries and, above all, the loss of exchange rate competitiveness due to the overvaluation of the Brazilian Real at the beginning of 2011, placed the Brazilian industry's capacity to react in check.

Faced with these new constraints, a remarkable novelty in the PBM is the glaring concern with defending the internal market. With this aim, the PBM has put into practice a broad number of short term measures to reduce costs: interest rates reduction for capital goods acquisition), tax cuts on the payroll, investment and exports, and reduction in the energy bill. Associated with these short term actions, the government reinforced the emphasis it has been putting on long term investment plans in infrastructure (urban mobility, highways, railways, harbors and airports, energy). Most of these policies consider the importance of developing a local supply industry. The goal is to guarantee profitability in industrial operations and to encourage positive return on capital investments, which has shown a significant drop in second half of 2011 and first half of 2012.

PBM also acted upon sectors on two fronts. Firstly, the legal framework to enhance preference for national products and services in government purchases was updated and policy action were made more expedient. Second, special sectorial regimes were reinforced or revised with the aim of providing incentives for those firms willing to: invest in innovation; introduce energy and consumer efficient products and foster a local supply industry, all under WTO regulations[5]. In short, against incentives, explicit counterpart efforts are demanded to those firms willing to participate in sectoral program. If successful, initiatives with such references may become a model to be followed up and expanded to other economic activities.

6. Brazilian industrial development: the main challenges

The recent experience in industrial policy in Brazil has shown that, despite efforts to set quantitative targets, mobilize relevant instruments and establish interaction between public and private sectors[6], a series of issues remain unanswered.

[5] Worthy of mention is the Automotive Regime that provides the opportunity for federal tax reductions if firms engage in R&D and engineering investments; internal supplier´s development and energy and environmental efficiency improvements.

[6] Ferraz, Kupfer and Marques (2012), using the Brazilian experience, discuss factors of success in implementing industrial policies, while Perez and Primi (2009) do the same using the Latin-American experience.

First, improvements in the external sector throughout the 2000s led to abundant international reserves. This suggested that the industrial policy could break away from the need for short-term competitiveness, required by the pressure to equilibrate the balance of payments, and move towards building a competence-based economy. Nevertheless, the volatility of the international scenario after the 2007-2008 crisis gave rise to uncertainties which compromised these goals.

Particularly challenging for Brazil is the result of China's growing aggressiveness in international trade. The nature of China's dual role in the world economy – demanding commodities and offering low cost manufactured goods implies the reorganization of international trade and capital flows. The increasing relevance of China has placed Brazil in the corner, evident in the fact that the former's production structure is becoming more and more competitive. Changes in Brazilian trade dynamics, from Europe and the US to China has, at least temporarily, given rise to a trend that goes against local aggregation of value.

The second challenge lies in the institutional dimension. How to combine the traditional catching-up efforts with the new redistributive objectives of the new development model is a question with no clear answer yet. And with a political consensus concerning the future of Brazil's industry still to be consolidated, it may be difficult to mobilize the necessary resources and competences required to put in place projects and initiatives required to upgrade Brazilian productive structure.

The third is the capacity of the policy to adapt to a changing external environment. Short term and long term actions must converge towards a sustained development path that find resonance with interests of the business sector.

Efforts to try to face these questions are essential in a country whose macroeconomic environment has shown continuous improvements, with increasing social inclusion. Competitiveness, nevertheless, remain a challenge to be tackled.

7. Final reflections

The success of an industrial policy depends on strategic pre-requisites. One is the relevance of an explicit vision and strategy, which will provide its essence. Another is its convergence with the macroeconomic policy, which will provide its vital signs of life. A third is the consistency of the institutional model, which will provide the capacity to improve and adapt in light of the varying economic situations that will materialize.

The 2000s were characterized by the return to industrial policy in Brazil, with growing importance and three policies in practice since then (the PITCE, 2004-2007, the PDP, 2008-2010, and the PBM, 2011-2014).

The PITCE and the PDP represented moves ahead in relation to the first pre-requisite, that is, the relevance of strategy. Above all, they represented the overcoming of the debate on the existence and the need for industrial policy, which constituted the basis for the (lack of) industrial policy throughout the 1990s.

The PBM advanced towards the second pre-requisite, that is, the convergence between macroeconomic management and industrial policy. Improvements in the macro environment with the recent fall in interest rates to levels that are more compatible with those in effect in the international financial system pave the way to build more long-term efforts aimed at Brazilian industrial development, with no excessive focus on short-term oscillations.

In fact, throughout these almost ten years of the return of industrial policy in Brazil, the front seat was many times taken up by necessary management of undesired effects derived from economic uncertainties brought about, mostly by the boom of commodity prices and the international financial crisis. .

The time has come to advance into the third pre-requisite: the strengthening of institutions. Effective industrial policies require effective institutional coordination at all levels: coordination among public agencies; among private entities and between public and private sectors. Efforts along these lines should be at the forefront of the agenda of all relevant actors.

References

Brasil. *Productive Development Policy: Innovation and Investment for sustainable growth*. Brasília: MDIC, 2008.

_____. *Brasil Maior: Innovate to compete. Compete to grow*. Brasília: MDIC, 2011.

Coutinho, L.; Ferraz, J.C.; Nassif, A.; Oliva, R. (2012) "Industrial Policy and Economic Transformation" in Javier Santiso and Jeff Dayton-Johnson (eds.) *The Oxford Handbook of Latin American Political Economy.* Oxford: Oxford University Press.

Ferraz, J.C.; Kupfer, D.; Marques, F. (2012) "Industrial policy and development: Lessons from Brazil" in Richard Kozul-Wright and Jose Manuel Salazar-Xirinachs (eds.) *Growth, Productive transformation and Employment: New Perspectives on the Industrial Policy Debate*. UNCTAD/ILO (forthcoming).

Peres, W.; Primi, A. (2009). "Theory and Practice of Industrial Policy. Evidence from the Latin American Experience". *Serie Desarrollo Productivo* nº 187. Santiago de Chile: CEPAL, February.

Suzigan, W.; Villela, A. (1997) Industrial Policy in Brazil. Campinas: Unicamp.