

Foreign Investment, but with Local Content: Development Strategies in Brazil

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Contents

(1) Introduction	4
(1.1) Foreign Investment in Brazil: An Overview	4
(1.2) From Policies to Attract Investment to Policies with Local Content	5
(1.3) This Paper's Structure and Purpose	5
(2) What are Local-Content Policies and How do they Affect Development?	6
(2.1) The Aim of Local-Content Policies	6
(2.2) Impact on Development According to the FDI-D Analysis	7
(2.3) Instruments	8
(3) Production Linkages and the Improved Provision of Private Goods	9
(3.1) Production Linkages in the Automotive Sector	10
(4) Technological Appropriation and Structural Change	12
(4.1) Cooperation and Technology Transfers in the Oil Sector	15
(5) Technical and Scientific Education and Improving the Employment Structure	17
(5.1) Other Employment Opportunities: Tourism	19
(6) Taxation and provision of public goods	20
(6.1) Improvements in the provision of electricity, thanks to private investment	21
(7) Import substitution and equilibrium of the balance of payments	22
(8) Conclusions	24
(9) References	26

Figures

Figure 1. Foreign Direct Investment (FDI), 1980-2010 (net inflows, millions of US\$)	4
Figure 2. General scheme of the FDI-D framework	7
Figure 3. Stock of FDI by sector (by %)	10
Figure 4. Turnover (in millions of current US\$), ratio turnover/GDP (as a %), and distribution of turnover in the auto component sector	11
Figure 5. Growth and development of FDI and GDP per capita, 1990-2010	13
Figure 6. Distribution of value added by macro sectors (% of GDP)	13
Figure 7. Share of foreign companies in Brazil's GDP, by sector (as a %)	14
Figure 8. GDP per person employed, 1990-2010 (1990 US\$, PPP)	14
Figure 9. Unemployment rate by sex (%)	17
Figure 10. Trend of poverty and inequality, 1992-2007	18
Figure 11. Foreign trade in the automotive component industry 2000-2005	24

List of Acronyms

ANEEL	National Agency of Electrical Energy
IDB	Inter-American Development Bank
BNDES	Banco Nacional de Desenvolvimento Econômico y Social (National Bank of Economic and Social Development of Brazil)
BRR	Brazilian Real
TNC	Transnational Corporation
FAPESP	Fundação de Amparo à Pesquisa do Estado de São Paulo
GFCF	Gross Fixed Capital Formation
HRV	Hausmann, Rodrik and Velasco (growth diagnostic methodology)
R&D	Research and Development
FDI	Foreign Direct Investment
HDI	Human Development Index
FDI-D	Foreign Direct Investment and Development Analysis Framework
IPEA	Instituto de Pesquisa Econômica Aplicada
KILM	Key Indicators of the Labour Market
MAEC	Ministerio de Asuntos Exteriores y Cooperación (Ministry of Foreign Affairs and Cooperation)
MERCOSUR	Mercado Común del Sur (Common Market of the South)
ILO	International Labour Organization
ODA	Official Development Assistance
PAC	Plan de Aceleración del Crecimiento (Growth Acceleration Plan)
PIB	Perspectiva do Investimento no Brasil (Investment Perspective in Brazil)
PPP	Purchasing Power Parity
PPSA	Pré-Sal Petróleo S.A.
PSI	Programa de Sustentação do Investimento (Programme to Support Investment)
TFP	Total Factor Productivity
CSR	Corporate Social Responsibility
TIC	Tecnologías Información y Conocimiento (Technology, Information and Knowledge)
LFPR	Labour Force Participation Rate
UPP	Unidades de Polícia Pacificadora (Police Pacification Units)

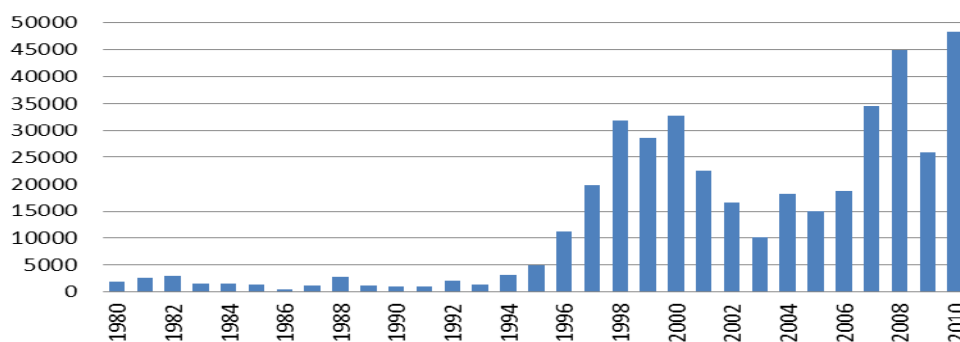
(1) Introduction

(1.1) Foreign Investment in Brazil: An Overview

From the mid 1950s to the early 1960s, Brazil stood out as the recipient of significant amounts of Foreign Direct Investment (FDI), especially in industry and specifically in the automotive sector. Although FDI remained much higher than in other parts of Latin America during the 1980s, the country's financial problems –a voluntary default in 1987 and hyperinflation– dented international confidence and limited the inflows. In 1994, the approval of the *Plan Real* was a turning point for FDI, putting an end to the Brazilian economy's chronic price instability, which along with the elimination of restrictions on foreign capital –some even at the constitutional level– led to a new period of high investment growth.

The improved institutional framework in the latter half of the 1990s and liberal-style reforms, such as a wide-ranging process of privatisation, were catalysts for massive FDI inflows. In particular, they allowed the entry of large amounts of foreign capital into the banking sector and other sectors dominated by large corporations. In these processes, Spain was particularly prominent and is now Brazil's second-largest investor, after having started quite low down in the list of investors.¹

Figure 1. Foreign Direct Investment (FDI), 1980-2010 (net inflows, millions of US\$)



Source: World Bank data.

This new phase of increased FDI was accompanied by a remarkable growth in per capita GDP, despite the problems encountered in the late 1990s and at the start of the new century. In turn, economic growth brought about substantial improvements in social development indicators, as shown by the significant reduction in poverty and income inequality, and better access to education and health. Currently, after suffering a relatively limited negative impact from the international crisis, the stock of FDI continues to grow and is becoming increasingly diversified.

¹ In terms of immediate country of origin, Spain is in third place behind the US and the Netherlands, but Spain ranks second if the ultimate country of origin of the investment is considered. Among the most significant Spanish investments were those of Banco Santander between 1997 and 2000, when it acquired three other banks, mobilizing US\$ 3.5 billion for BANESPA alone. Other Spanish companies involved in privatisation and public concessions since 1996 included BBVA, Telefónica, Endesa, Gas Natural, Iberdrola, Elecnor, OHL, and AGBAR.

(1.2) From Policies to Attract Investment to Policies with Local Content

During the 1990s, political debate on foreign capital focused on entry restrictions and resulted in a much more liberal institutional framework for FDI in general. Current political debate focuses on investment in specific sectors and on other aspects of national interest such as local content and technology transfers. This new perspective often leads to public intervention aimed at improving the impact of a certain economic activity on national development, regardless of the nationality of the capital of the companies involved.

Undoubtedly, the most important instrument of this policy in Brazil in recent years has been the *Banco Nacional de Desenvolvimento Econômico e Social* (BNDES), which has used its financial instruments to complement the various development policies adopted. Thus, in the 1950s the bank financed major industrial projects such as automotive plants; in the 1990s it assisted in the privatisation of basic services; and since 2000 it has been funding all manner of investments, provided they meet certain requirements regarding local procurement and technology transfers, giving priority to sectors and projects outlined in federal government strategies such as the *Programas de Desenvolvimento Produtivo* (Productive Development Programmes) and the *Plano Brasil Maior* (Bigger Brazil Plan).

(1.3) This Paper's Structure and Purpose

This Working Paper is the result of a case study conducted in Brazil which analysed the impact on development of certain foreign investments in the oil, electricity distribution, automotive, and tourism sectors.² The study uses the Elcano Royal Institute's Foreign Direct Investment (FDI-D) analytical framework, to which recourse is made in the second section to explain the rationale underlying the Brazilian government's local-content policy. Subsequent sections explain the actual impact achieved on the sectors analysed in the case study, classifying them according to the framework's categories:

- (1) Structural change
- (2) Improvement in the provision of private goods and services
- (3) Improvement in the provision of public goods and services
- (4) Improvement of the employment structure
- (5) Equilibrium of balance of payments

The case study commenced with an initial phase in which the factors determining the country's institutional and economic framework were analysed, making use of primary and secondary sources. In this phase, information was also collected from sector reports on development mechanisms and trends at the national level. Subsequently, in fieldwork started in December 2011 and completed in March 2012, information on the

² These four sectors have received significant foreign investments, in particular Spanish investment. Among the Spanish companies with sizeable operations in these sectors are Repsol, Endesa, Iberdrola, Cie Automotive, Grupo Mondragón, Iberostar, and Meliá.

model's variables was gathered in semi-structured interviews with key informants from business and government, as well as with specialist researchers from the appropriate fields at universities and think tanks across the country. Fieldwork involved interviewing representatives of both *Cooperación Española* (Spanish Cooperation) and the Spanish Embassy and its Trade Office, meanwhile analysing the possibility of aligning Spanish foreign policy with Brazil's development strategies on the basis of mutually beneficial investments.

This case study, along with similar studies conducted in the Dominican Republic and Bolivia, is part of a project initiated in 2009 with the ultimate goal of improving our understanding of the factors that determine the impact of foreign investment on development in such a way that they can be modified through effective development policies in the countries of destination. This should generate knowledge that might also be useful in the countries where investment originates under the dual aim of aiding development and supporting the internationalisation of businesses.³

(2) What are Local-Content Policies and How do they Affect Development?

(2.1) The Aim of Local-Content Policies

Local content is a term often used in political economy in Brazil and reminds of import substitution and industrial policy. The three policies are in principle very similar in the way they handle tools such as tariffs, public business capital, and public banking. In theory, however, they differ in their views of the global economy. While the latter two notions pursue the substitution of imported products with locally-produced ones, or the development of a particular industry within the nation, local-content policies seek the country's participation in globalised industries in the broadest possible way in terms of added value.

To achieve this objective, Brazil's local-content policies act on a specific phase of the globalised production process by encouraging the forging of economic links at a local level to favour a vertical type of business development. Moreover, as explained below, these policies particularly emphasise technology transfers.

Incentives to local content can range from interest-rate subsidies for industries and strategic projects to contractual obligations in the public sector. For instance, the BNDES can fund, on favourable terms, the construction of wind farms by a Spanish company in exchange for the supplier installing production facilities for wind turbines within the country. Another example would be a state company acquiring ships from a Korean firm in exchange for them being constructed in shipyards –known as virtual

³ This project was made possible thanks to the cooperation and funding of MAEC.

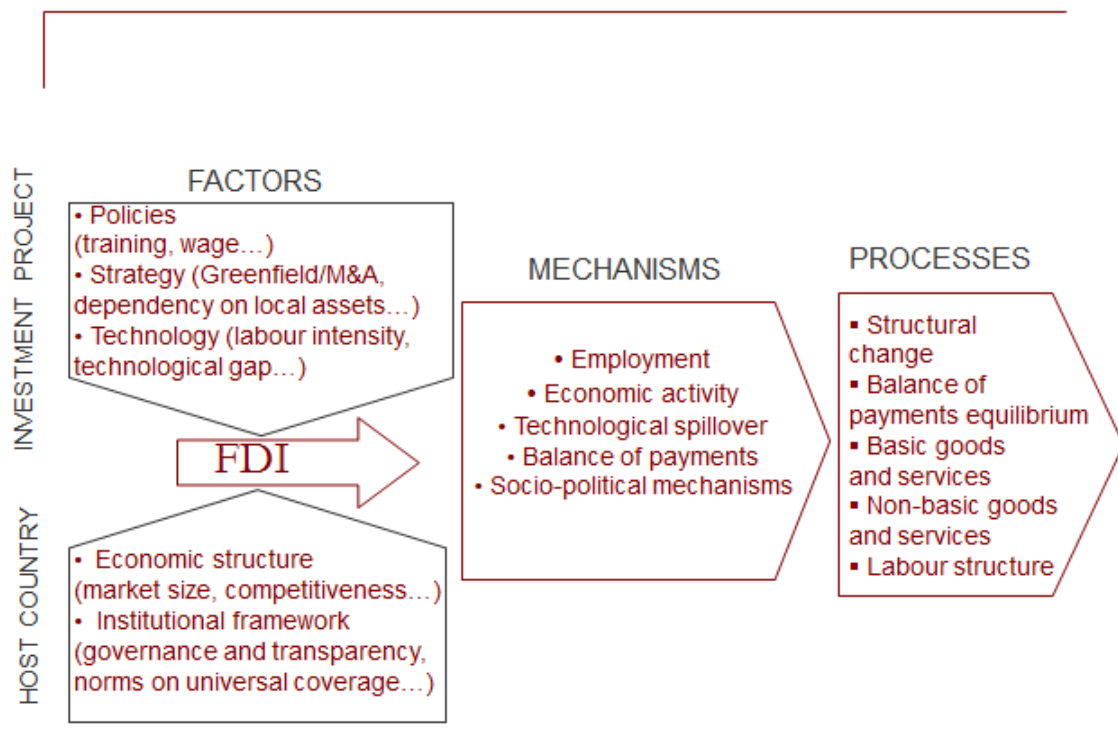
shipyards in the language of tenders– to be built in Brazil at the same time as the ships themselves.

As these examples show, foreign companies are not just allies in local-content policies: they are the springboard from which economic and technological ties can be established to gain access to ever-larger segments of the global production chain.

(2.2) Impact on Development According to the FDI-D Analysis

The FDI-D framework can explain the impact on development generated by these policies. The framework identifies three categories to be considered in this type of analysis: (1) processes, defined as the major routes through which FDI impacts on a country’s development, for instance by improving its employment structure; (2) mechanisms, or typical sequences of events triggered by the FDI and that influence processes, such as indirect job creation; and (3) factors, or characteristics of the investment project and its economic and institutional environment that condition the triggering of mechanisms, for example the intensity in intermediate goods of the activity being invested in, or the capacity to source locally.⁴

Figure 2. General scheme of the FDI-D framework



⁴ For a full discussion of this theoretical proposal see the document on the ‘black box’ about the impact of investment on development, presented at the Congress of the European Association of Development Institutes (EADI) held in York, UK, in September 2011 (Macias *et al.*, 2011).

Local-content policies can be better understood if seen as policies which improve the institutional and economic-structural environment (country-specific factors such as the quality of professional training) and provide incentives to certain business practices (business-specific factors such as establishing a minimum percentage of local suppliers to be used in contracts), to promote local development generated by the activity of foreign firms (e.g., the creation of indirect employment).

From the point of view of the provision of private goods and services (process 2), whose mechanisms and factors are set out in the second appendix of this document, it can be said that Brazil's local content policies emphasise mechanisms that give rise to chains of production. The foreign investment coming into the country, often attracted by the size of the market, is expected to have an impact not only on the sales markets –for example by favouring the mechanism of product innovation– but also on the supply markets, stimulating demand along the entire chain of supply. This is encouraged by the government through its local-content policy, even sacrificing possible improvements in competition that could result from the entry of a foreign company's supply contracts from more competitive markets.

In addition to the chain of production itself, Brazilian local-content policies aim to encourage structural changes (process 1), promoting the transfer of technology from foreign companies to their suppliers, partners, and local customers. In any case, this is also seen as a production chain policy, in that the ultimate aim is to locate in the country the stages of the production chain that have a higher technological content and therefore a greater added value.

In the process of improving the employment structure (process 4), local content primarily involves indirect job creation (since local procurement favours local indirect employment) and the filling of skilled positions with local staff (technology transfers mainly take place between professionals). For this reason, the Brazilian government promotes vocational training and university education of a technical nature over any other type, as well as cooperation between businesses and universities as regards research and development in industrial sectors. According to many foreign companies, this is accompanied by protectionist employment legislation that makes it difficult for foreigners to obtain work permits and have their qualifications recognised.

As for the equilibrium of the balance of payments (process 5), it is clear that the local-content policies have a positive effect on foreign currency inflows, since in addition to the funding provided by FDI, on the trade balance side, foreign companies have the incentive to procure from local suppliers when they would typically tend to resort to imports.

(2.3) Instruments

The *Banco Nacional de Desenvolvimento Econômico e Social* (BNDES) is a public entity that has become the main instrument for the long-term financing of the Brazilian economy. With assets greater than those of the Inter-American Development Bank

(IDB), and in a context of scarce long-term financing, the BNDES's eligibility criteria and financial help shape Brazil's economic framework in accordance with the Federal Government's guidelines. The BNDES is also a major player in the applied economic analysis and research that underpins Brazil's entire development policy. Thus, in 2008, growing awareness of the large inflows of foreign investment to Brazil led BNDES to join forces with the *Federal de Rio de Janeiro* and *Estatal de Campinas São Paulo* universities in a research project entitled *Pespectiva do Investimento no Brasil (PIB)* (Outlook for Investment in Brazil).

The PIB project is serving to systematise the current understanding of the Brazilian production structure, identifying investment trends, threats and opportunities and, finally, making concrete proposals for strategies and actions for industrial and technological policy. The ultimate goal is to promote structural change towards a more technology-intensive sector with a greater ability to generate income and employment in the domestic market.⁵

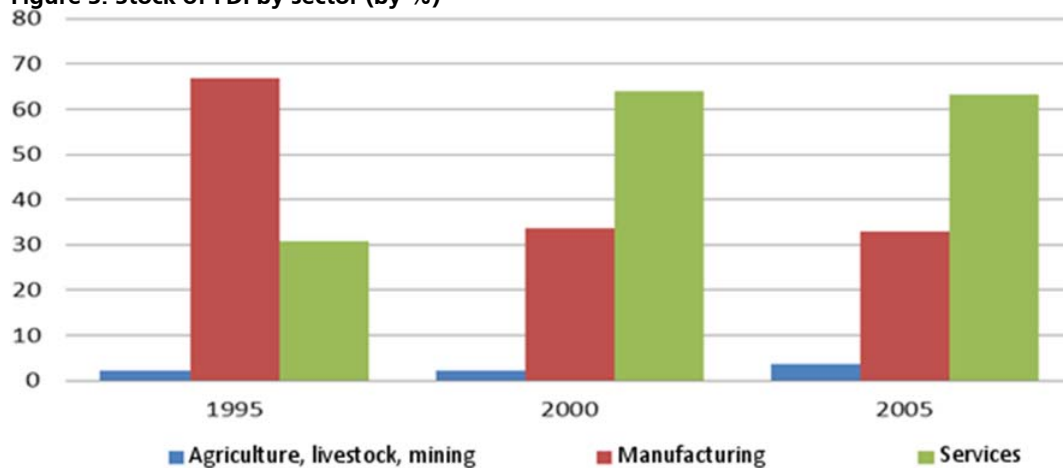
Public funding of private activity is the most important instrument of Brazil's local policies, but not the only one. The purchasing power of public companies such as Petrobras, or the influence of public banks such as the Bank of Brazil or its pension fund, on the boards of large private companies, also serve as a transmission belt for local-content policies.⁶ Moreover, taxes and tariffs can be used strategically to promote local industry, as explained in the following sections regarding the automotive industry.

(3) Production Linkages and the Improved Provision of Private Goods

The size and growth of the Brazilian economy, both in population and purchasing power, have been decisive factors for a domestic-market-oriented FDI. The entry of foreign participations in the primary sector (usually focused on exports) has been minimal compared to investments in the secondary and tertiary sectors, which have accompanied the improvement in the provision of goods and services for the Brazilian domestic market.

⁵ www.projetopib.org.

⁶ For information on the influence of the government on Brazilian private companies, see 'Capitalism of State', *The Economist*, 21/1/2012.

Figure 3. Stock of FDI by sector (by %)

Source: based on data from Fernandez & Gutierrez (2010).

In the service sector, FDI is aimed particularly at trade, business services, mail and telecommunications, and financial intermediation. In the manufacturing sector it is primarily directed at chemicals and motor vehicles. Within the latter, the number of component manufacturers in which stakes are held by foreign investors rose from 24.9% in 1995 to 45.5%, and from just over 50% of production to almost 90%.⁷

(3.1) Production Linkages in the Automotive Sector

In the state of São Paulo, the main hub for the car industry, the advent of transnational corporations in the 1990s improved the competitiveness of their supply chain.

The most visible foreign investment had actually arrived the 1950s and 60s, when companies like General Motors and Ford set up their plants, but the local subsidiary industry underwent a major reorganisation during those years along with the financial and technological backing of foreign companies, some of which were Spanish.⁸ As shown in the graphs below (see Figure 4), this has translated into higher revenues, a greater share of the national income, and a higher rate of exports.

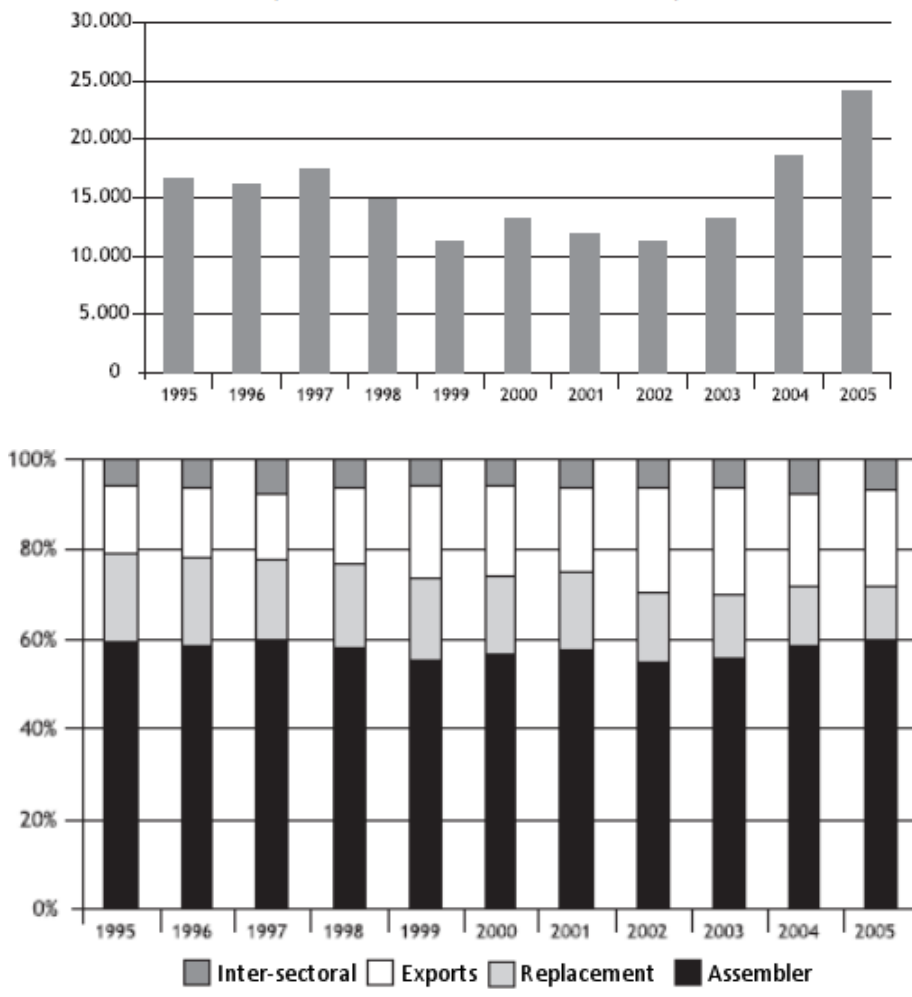
According to industry executives, in the 1990s the global sourcing of the automotive supply chains endangered small local industries due to their lower competitiveness. The sector's European and North American suppliers, often prompted by their own multinational clients, established themselves in Brazil to supply the Brazilian market more efficiently. The same sources explain that the technology gap between the subsidiaries of these groups in Brazil and their factories in developed countries remains significant but is steadily being reduced by the replication of best practices of the groups at an international level.

⁷ Laplane & Sarti (2008).

⁸ GESTAMP in 1997, Fagor Automoción in 1994, Irizar S. Coop. In 1998, and Cíe Automotiva in 1997.

It should be highlighted that the entry of foreign companies occurred through acquisitions, which poses a lesser threat to local businesses but does not ensure a gross physical capital formation as great as investment in new plant. Nevertheless, these operations did not usually end with the acquisition but rather financed the expansion and technological improvements needed in a globalised and competitive market, leveraging domestic resources through stock market flotations or access to BNDES funds.

Figure 4. Turnover (in millions of current US) and distribution of turnover in the auto component sector



Source: Laplane and Sarti (2008).

The development of the car components industry in São Paulo has been followed by third-generation linkages with companies in marketing, finance, law, and other services to businesses, which are sectors that have also received foreign investments. Additionally, the machine tool sector has grown thanks to the boost provided by automotive suppliers, partly due to the influence of the BNDES.

The BNDES-capital goods programme has given rise to more favourable conditions than are found in the market for the acquisition of capital goods, subject to their being of domestic manufacture. Furthermore, the vehicles themselves, the end product of the

supply chain, are purchased by Brazilian companies with funding from the FINAMIC programme. The fund has several lines to finance equipment purchases, including cars, trucks, and buses, but these are available only if the manufacturers can guarantee an average local content of over 60%. Of course, when a request to the BNDES is not merely for the acquisition of equipment but for a fully-fledged business investment project, it will not be accepted unless accompanied by a detailed report on its local content, in which the commitment to acquire domestic goods matches –in the bank’s estimation– the Brazilian economy’s capacity to supply them, or in which there is a commitment to improve the domestic share in less competitive markets.

The difficulties for companies to access long-term financing in the domestic market makes the BNDES a very powerful tool for the promotion of the domestic automotive industry, although, in addition, the government has resorted to tariff measures that have been strongly opposed by countries such as China. In 2011 it not only approved a 30% tariff increase on imported cars but also a similar rise in indirect taxation on cars assembled in Brazil, which can be waived if the manufacturer proves that technological innovation is involved and if local content amounts to at least 65%. With this measure, the Brazilian government limits the impact of competition from Asian car companies, whilst favouring the production linkages generated within the country, mainly through European and US makes.

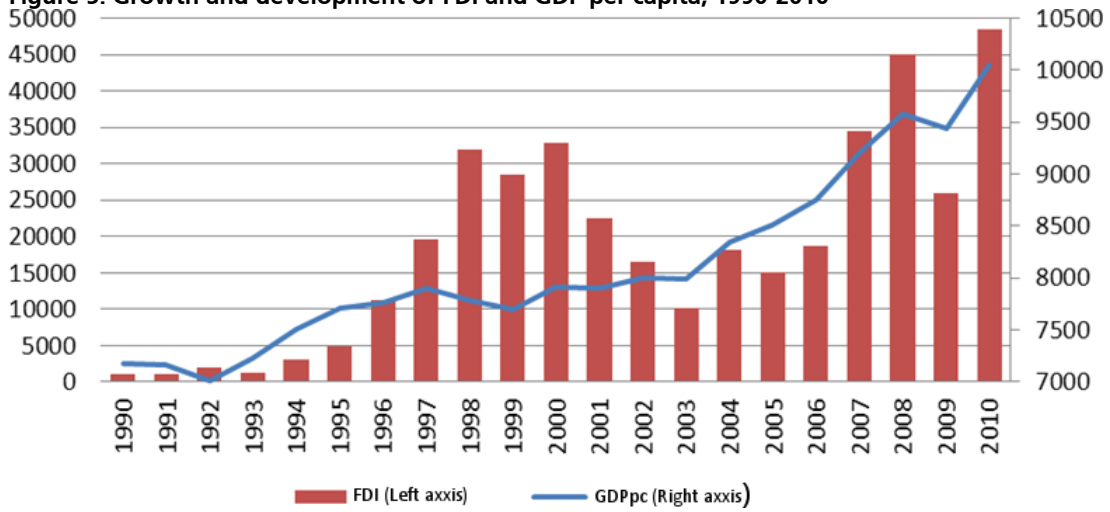
(4) Technological Appropriation and Structural Change

Structural change is understood to be the process of transformation of an economy’s production model that results in a greater production capacity. The latter is reflected in an increase in total factor productivity and therefore in a greater access to goods and services by the population, as reflected in per capita GDP.

Normally, FDI is considered an opportunity for structural change because it can serve to improve the capital/labour ratio and introduce technological improvements that can spill over onto other operators in the sector and other sectors of the economy.

In recent years, the increased FDI in Brazil has coincided with a remarkable growth in GDP per capita, despite the problems experienced in the late 1990s and beginning of the new century.

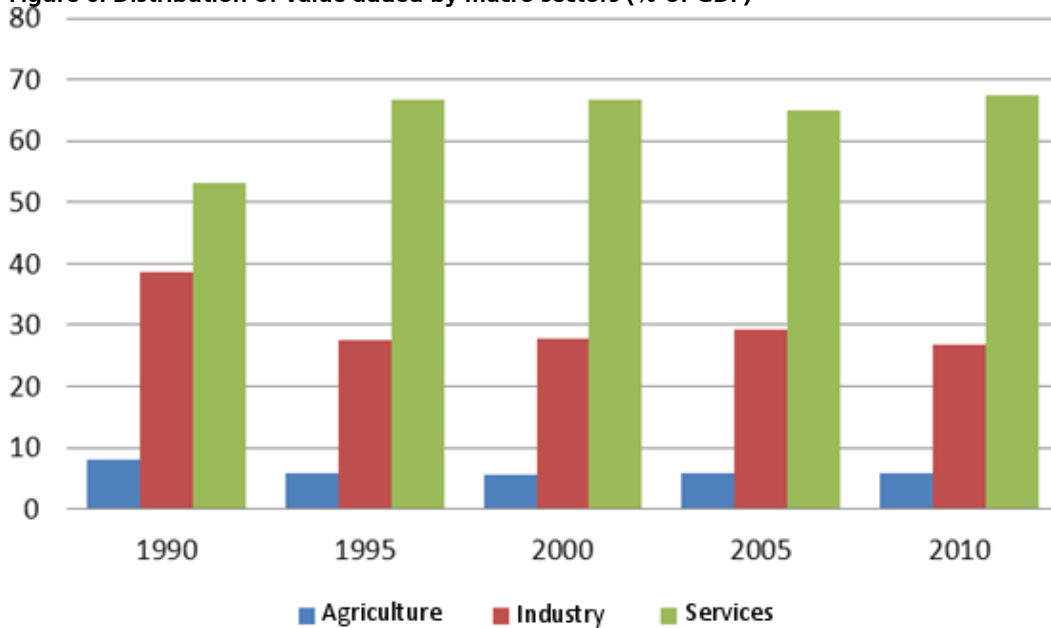
Figure 5. Growth and development of FDI and GDP per capita, 1990-2010



Source: the author, based on World Bank data.

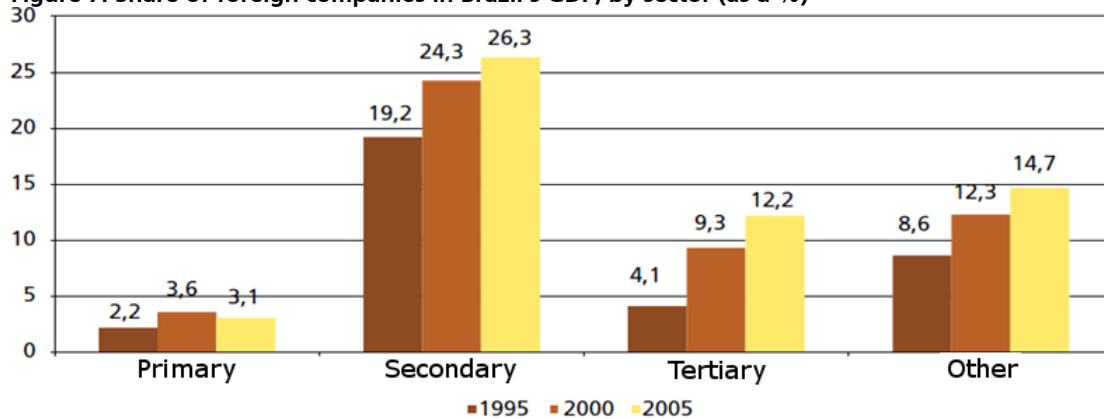
As shown in the following graphs, economic growth has been accompanied by a change in the sectoral distribution of the economy as a whole. In turn, this has been supported by a sectoral redistribution of FDI, with a change in focus between 1995 and 2000 from primarily manufacturing to services.⁹

Figure 6. Distribution of value added by macro sectors (% of GDP)



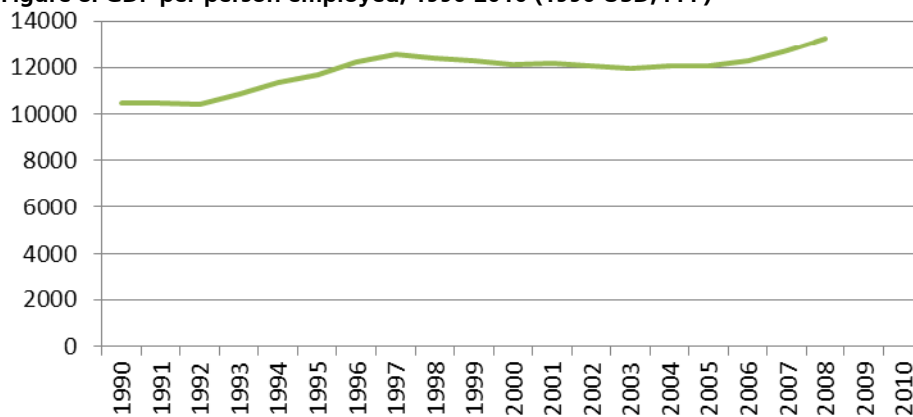
Source: the author, based on World Bank data.

⁹ The Brazilian economy's outsourcing has been reflected in other indicators such as the steady increase in urbanisation rates. In Brazil's case, the proportion of population living in urban areas of over 1 million inhabitants grew from 35% in 1990 to just over 40% in 2010.

Figure 7. Share of foreign companies in Brazil's GDP, by sector (as a %)

Source: IPEA (2010a).

Other indicators of structural change, however, reflect a moderate rise in the Brazilian economy's productivity in recent years. According to the Hausmann-Rodrik-Velasco growth diagnostics applied by Bonelli and Pinheiro (2008), GDP per worker and Total Factor Productivity (TFP) increased in the period 1995-2006 at a rate of 0.5% and 0.9%, respectively, while in the period 1981-94 both indicators registered negative rates, of -0.2% for GDP/worker and -0.5% in the case of TFP. In the same study the authors indicate a fall in the rate of capital accumulation per worker in recent decades.

Figure 8. GDP per person employed, 1990-2010 (1990 USD, PPP)

Source: the author, based on World Development Indicators, World Bank.

However, it should be borne in mind that the data refer to the total Brazilian economy, so high productivity growth in specific regions and sectors might be overlooked. For instance, the entry of international energy groups in the electricity sector significantly raised the gross physical capital formation in generation, transmission, and distribution. This impacted the economy as a whole by way of a more efficient service. Similarly, the auto components sector, as seen in the previous section, survived the pressure of international competition due to the entry of foreign companies.

In any case, improved productivity (and not only output growth) is clearly a concern which the Brazilian government addresses by incorporating local-content requirements for technology transfers into its incentives and fostering innovation within companies

and public-private partnerships. The following section explains how hydrocarbons in Brazil are developed in an institutional framework that facilitates the entry of foreign operators but maintains strategic control in government hands, in order to benefit from oil production royalties as well as from technology.

(4.1) Cooperation and Technology Transfers in the Oil Sector

Brazil's state oil company, Petrobras, lost its monopoly in the sector in 1997 through Law 9487/1997, which established a system of concessions and gave entry to foreign companies. This was considered a measure consistent with the liberal framework for foreign investment, as well as being conducive to the sector's development, potentially improving its performance via additional financial and technological resources from European and American companies such as Exxon, Shell, and Repsol, or Chinese companies such as Sinopec. Brazil has become the second-largest oil producer in Latin America thanks in part to the contributions from these companies.

However, according to Petrobras sources, technological spillovers have historically resulted from the sector's domination by a company that was not under foreign control. When the public company Petrobras was founded in the 1950s, all refineries and facilities were built and equipped with foreign technology, and ever since then the company has promoted R&D to gradually reduce the gap between its technological capabilities and those of foreign companies. As soon as a nascent capital goods industry started to emerge, it received orders from Petrobras; and as it developed it acquired oil-related foreign technology and adapted it to its needs. Today, the Brazilian authorities continue to be aware that the oil companies' large volume of purchases and technological requirements enable their suppliers to gain competitiveness in the domestic and international markets. Inspired by the Norwegian model, they encourage vertical spillovers, favouring the use of local suppliers in the higher value-added sections.

In the new competitive framework, the government's strategies are carried out in close cooperation with Petrobras, given its majority control in the company. But these strategies are also implemented when the operator is a foreign company, since the award of an oil well contract in a bidding round is decided not only in terms of the price but also of political criteria, among which are exploration commitments and local content.¹⁰

Aware of the complexity of obtaining certain supplies in the sector, the Brazilian government has faced the successive bidding rounds as a process of technological

¹⁰ Petrobras, in partnership with IPEA, conducted a research project, *The Purchasing Power of Petrobras*, in order to continue planning a positive impact on the Brazilian economy by taking advantage of relationships with local suppliers to the booming oil industry. IPEA, or *Instituto de Pesquisa Econômica*, is the Institute of Applied Economic Research under the *Secretaría General de Asuntos Estratégicos de la Presidencia de la República* (General Secretariat of Strategic Affairs of the Presidency of the Republic). It was founded in 1967 to perform analysis for the implementation of specific projects within the strategy of import substitution.

appropriation. This has been based on liberal terms, through voluntary reports appraising technology transfer and local content, and ending the imposition of certain fees for each subsystem, based on the productive capacity of the economy estimated using the same method employed by BNDES for the finance of capital equipment.¹¹

This framework is already creating tensions and has been modified to favour even greater control of the production linkages as a result of the discovery of major new oil reserves in the Pre-Salt area.

The Pre-Salt is a geological layer of the ocean bed, located beneath as much as 2 km of salt. The discovery, estimated at 80,000 million barrels of crude, is both an opportunity to turn the country into one of the largest exporters of oil and a technological and logistical challenge, since the distance to and depth of the deposits makes its extraction very complex. To reach these deposits it is sometimes necessary to plumb 2 km of ocean water, 1 km of post-rock salt, and a final layer of salt up to 2,000 meters in depth, all at distance of 150 km from the coast.

Brazil, far from relaxing the conditions of local content to address this challenge, has committed itself to increasing its strategic control of the site with the goal of further technological spillovers, both backwards and forwards. Indeed, the new regulatory framework, Law 22/12/2010, established a system of production share in the Pre-Salt oil field and other strategic sites, such that Petrobras maintains 30% of any operation awarded to another company as well as being able to compete for any contract in its own right. In addition, a new public company was created, Pre Sal Oil SA (PPSA), which defends the national interest reserving half of the Operational Committee members of each consortium to be created between Petrobras and a foreign company to operate a Pre-Salt contract. In addition, a capital injection in Petrobras increased public shareholder interest in the company from 40% to 47%.

According to experts, this challenge is possible only with the participation of a number of foreign companies, which allows a process of competitive innovation to fund applications both in the oil and petroleum industries. The government hopes that joint ventures will support the creation of technology and local ownership.¹² In this regard, it is worth noting that Brazilian universities and Petrobras itself are creating an oil technology cluster at *Ilha do Fundão*, Rio de Janeiro, where technology will be developed to exploit the Pre-Salt oil field. Petrobras has installed an R&D centre next to the Federal University of Rio de Janeiro's Technology Park, and local engineering

¹¹ Also, when a company linked to other areas of the oil and gas chain requires financing from BNDES, it is limited to a percentage of local variable content according to the estimation of local capacities.

¹² On the advantages of multiple operators, see the work of the *Centro de Economia e Petróleo de la Fundación Getúlio Vargas* (Centre for Petroleum Economics and Getúlio Vargas Foundation) (2012th and 2012b), led by Mauricio Pinheiro Canedo.

suppliers who wish to benefit from Petrobras's public-private networks and the presence of several foreign companies have gravitated to this centre.¹³

(5) Technical and Scientific Education and Improving the Employment Structure

The sustained high economic growth in Brazil over the last decade has been accompanied by opportunities and better conditions of employment for its population. As a result, the rate of labour force participation (LFPR), defined as the proportion of the working age population which is within the labour market and is employed or actively seeking employment, increased from 68.3% in 1999 to 70.7% in 2009. This rate is above the world average (64.7%) and the average Latin American and Caribbean rate (65.4%). Also, the reduction in the rate of unemployment in the country has been considerable, from 11% in 2003 to 6% in 2011, despite the recent global economic crisis.

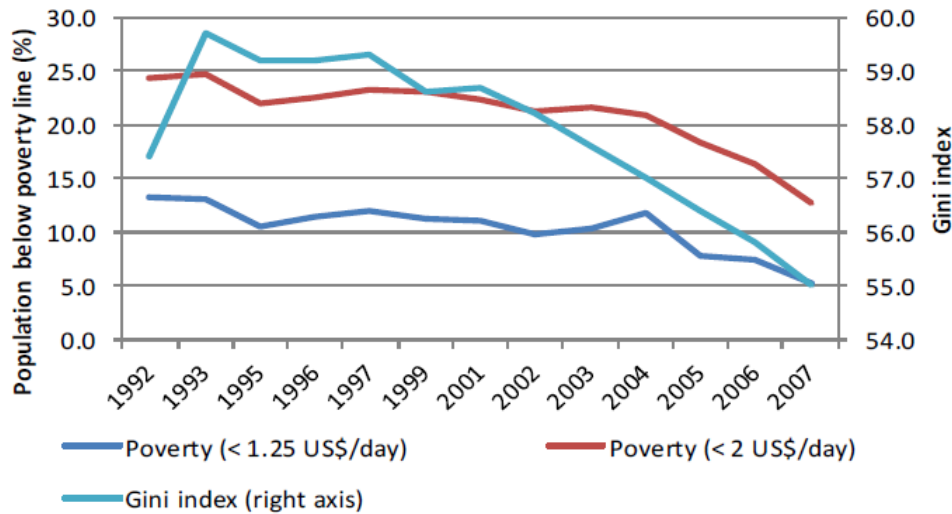
Figure 9. Unemployment rate by sex (%)



Source: based on data from LABORSTA, ILO.

All this is considered as a factor in the lessening of poverty and inequality. It reflects an inclusive growth in the sense that higher income per capita comes with a decrease in the Gini coefficient, which is the main indicator of inequality in income distribution.

¹³ According to information from Petrobras, its investment plan for the R&D centre amounts to \$212,000 million and has been supported by several foreign companies including Schlumberger (the first, set up in 2010), Halliburton, Baker Hughes, FMC Technologies, Tenaris Confab Usiminas, GE, and BG Group, the latter having announced an investment of \$1.5 billion. Although Repsol is not present on the island, it has announced major investments in technology for the site, among which the Kaleidoscope project for seismic imaging survey stands out. This project is conducted in collaboration with Spanish public players such as CSIC and the *Universidad Polit cnica de Catalunya* (Polytechnic University of Catalonia).

Figure 10. Trend of poverty and inequality, 1992-2007

Source: KILM (2011).

Judging by the political dialogue, the employment mechanisms most desired in Brazil are jobs that require local qualified staff and training spillovers. This may occur because there is no pressing problem of unemployment, or because the overall objective is to increase productivity. In fact, staff development plans are another highly valued aspect present in the technology transfer reports that accompany tenders and loans granted by the public sector.

It should be noted that the desired outcome of the structural change of some policies on private investment may have a negative effect on short-term employment. Change of production pattern can be achieved by redistributing human resource activities from one to another, and in the long term this can have a positive effect, but biased towards the population that is better educated, not the neediest.¹⁴ To resolve this dilemma, and to encourage the positive impact of investments of technological superiority, an appropriate policy is necessary. In this case, the Brazilian government is responding with improved access to education – the ‘Science without Borders’ programme, led by President Rousseff herself, stands out. It involves the training of 100,000 Brazilian university students in foreign countries, requiring an estimated investment of \$2 billion. The programme is aligned with the priorities of the various sectors, as per the *Plano Brasil Maior* (‘better Brazil plan’), giving special attention to sectors such as oil, gas, and aviation and focusing on scientific and technological areas, with an emphasis on mathematics, engineering, information science, biology, and nanotechnology.

¹⁴ For example, rationalisation of the automotive components sector reduced its direct employment by 44,000 jobs during the period 1995-2000 (Laplaine & Sarti, 2008), but in subsequent years employment grew and regained covered positions.

Another way to encourage pro-poor employment is to include in the policy a development strategy with more decisive support to sectors that, while not having a significant technology component, can be labour-intensive and can promote direct employment and the integration of disadvantaged groups. As discussed later, this is the case in tourism, which has a great potential for growth in states such as Rio de Janeiro and has not been given priority by the policy on development, at least at the federal level.

(5.1) Other Employment Opportunities: Tourism

In 2005, Brazil recorded over 5 million foreign tourists, the highest figure in Latin America one that has grown by more than 100% compared to levels in the mid-90s. However, it remains a small figure given the size of the country and the length of its coastline.¹⁵

In any case, Brazil is not merely a tropical destination for international tourism, as many foreigners travelling to the country do so for business purposes, focusing mainly on São Paulo, while urban tourism is especially concentrated in Rio de Janeiro. There are also pockets of sun and sand, especially in the northeastern states like Bahia, Rio Grande do Norte, and Pernambuco, but these are just another destination within a diversified offer. Another important difference vis-à-vis other Latin American destinations is the strong weight of domestic demand. As the Brazilian middle class grows, economy hotels are spreading and recording the highest occupancy rates, with averages above 70%. It is expected that foreign demand will grow from other countries in the region such as Argentina and Chile, and not only from the traditional European and North American markets.

The hotel market also differs from that of other countries by the prevalence of independent hotels, which are locally owned and not tied to national or international chains. Such independent hotels make up 56% of the market and comprise 65% of total rooms. It is doubtful whether they can meet the growing demand, not just given the currently high occupancy rates and the dynamics of the internal and regional markets, but also in view of upcoming international events like the 2014 Football World Cup and the 2013 Confederation Cup. In addition to these events, Rio will be hosting the 2016 Olympic Games and the 2013 World Youth Day. In short, it is expected that the sector will experience an annual growth of 4.5% in the coming years, with an annual direct employment impact of +2.8%.

With regard to public policies on tourism, the Investment Promotion Agency (IPA) considers that tourism can generate further opportunities and that, in view of the above-mentioned international events, there is potential to promote the construction of hotels. However, there is no policy around tourism comparable to those in the

¹⁵ For comparative example, the Dominican Republic, with an area of 48,000 km² and around 1,500 km of coastline, receives more than 3.5 million foreign tourists per year (Brazil's area is 8,514,215 km² and its Atlantic coastline extends 7,367 kilometres).

industrial sector. As politicians in the state of Rio explain, the local-content policy only becomes meaningful if destinations and routes are managed around hotel investments, so as to increase the length of stay and average expenditure of visitors. Indeed, while the purchasing power of hotels does not generate high expectations, the attractiveness lies in generating complementary opportunities to other businesses ('crowding in' mechanism) important to the local economy. In this sense, the interviewees point out that the training of staff, both in language and tourism, is one of the main difficulties in starting new businesses that would be complementary to the hotels. At the same time, there is an opportunity to make the growth of the sector inclusive, as the employment structure facilitates the integration of people with less training and experience. Moreover, the map of tourism opportunities rarely coincides with the industrial centres, favouring development in regions and districts outside the growth of sectors based on capital and technology.

This sort of approach to tourism planning, also important to controlling environmental impact, is just beginning in Brazil, and so far there has been no public policy for the sector. But this is changing with the PRODETUR programme, launched with the cooperation of the Inter-American Development Bank, which is providing the states with bases for the development of a policy on tourism. Still, according to the authorities it is necessary to initiate new and broader technical cooperation activities in the sector.

(6) Taxation and Provision of Public Goods

Brazil has a tax burden of around 36% of GDP. This is much higher than in other countries of the region and comparable to that of European countries. This tax fee, along with the complexity of the regulations that support it, form part of what is known in business parlance as the 'Brazil cost', an on-cost with an investment in the country that is comparable to any other in the region due to the peculiarities of the institutions. However, from the standpoint of the impact on development, any investment with positive impact on income enables potential improvements of goods and services by the public sector. If high tax rates are added to local quotas, any sort of foreign investment generates a relatively important national activity.

However, the process of providing public goods is strongly influenced by the efficiency of the public spending process, which in the case of Brazil is considered excessively bureaucratic and not free from corruption¹⁶. In fact, many experts believe that the bottleneck of Brazil's development lies in the lack of investment in physical infrastructure by the State.¹⁷

¹⁶ In relation to corruption, Transparency International scores Brazil at 3.7, similar to countries like El Salvador and Colombia, but far behind others such as Chile. These are countries that Brazil tends to be compared with.

¹⁷ Rodríguez de Castro (2010) and Bonelli and Pinheiro (2008).

¹⁷ Rodríguez de Castro (2010) and Bonelli and Pinheiro (2008).

As explained in the section on structural change, this may be true in general but it does not apply to the power sector, where there is significant physical investment in both generation and transmission and distribution. Some improvements in the provision of public goods have taken place as a result of the openness of the sector to private investment, largely foreign, as explained below.

(6.1) Improvements in the Provision of Electricity, thanks to Private Investment

Along with other liberalizing reforms in the 1990s, the State's monopoly over infrastructure was abolished in Brazil and the electricity sector opened to private investment. In parallel, the vertical structure of the sector was eliminated, as also happened in other countries, in order to promote competition. A spot market and control bodies were developed, including ANEEL, responsible for regulating and controlling electricity services.

The first impact of these reforms was to generate revenue for the State from sales operations. However, the State continues to intervene in the sector through its regulatory agency and by defining the conditions of coverage, security, and price.¹⁸ Regarding price, it is noteworthy that 50% of the electricity rates charged by distributors to end customers are tax deductions: taxes and cross rates. Still, experts say that prices have generated and will continue to generate significant benefits for private companies, creating investment and service improvements and the acceptance of a gradual plan for price reduction based on efficiency gains for the distributors over time.

This programme of incentives, together with BNDES financing and the government's strategic framework embodied in the *Plan de Aceleración del Crecimiento* (Growth Acceleration Plan) and *Plan Electricidad para Todos* (Electricity for All Plan) have expanded production and coverage to the entire sector.

The distribution business is trying to overcome the challenge of provisioning to disadvantaged communities, facing two different problems: the first relates to low-income urban communities, where illegal connections are widespread and may lead to large losses for the companies, and the other concerns remote rural communities, where the low level of consumption does not allow the amortization of investment in transmission and distribution.

In the second case, incentives still exist thanks to a system of cross rates that places the burden of bringing electricity to remote villages on consumers in large cities. Additionally, companies promote small generation projects that can be cost-effective when compared to the cost of transmission. Moreover, although anecdotal, companies' CSR programmes bring their services to excluded rural populations and are

¹⁸ For a complete analysis of the power sector reform and its impact in Brazil, see Adilson de Oliveira's work, in particular his article in Victor and Heller (2007) on reform experiences in Brazil and four other major emerging countries (China, India, Mexico, and South Africa).

thereby supporting social projects that generate income. These take advantage of the arrival of electricity for its implementation and impact, and as a result there is a slight growth of the electricity market.

There have been important improvements in coverage resulting from technical issues related to the poor state of the network in urban communities. Particularly successful was the reduction of non-technical losses in *favelas*. Private energy distribution companies in many other countries of the continent have faced heavy losses in low-income communities because of illegal connections. This situation discouraged investment, reduced coverage, and generated strong local resentment due to the lack of access to energy for more vulnerable people. In Brazil, this problem is being solved by various measures agreed to between the government and energy companies, along with communities, through the actions of CSR. On the one hand, energy companies have developed new technologies to remotely control and detect the theft of electricity, but also to improve the service through a prepayment system that facilitates cost control for less well educated families, the calculation of more favourable rates for households, and the automatic notification to customers of excess consumption. Moreover, the public-private agreement regarding this issue has led to the formalization of access to energy in many neighbourhoods, combining the control and prosecution of fraud by *Unidades de Policía Pacificadora* (Police Pacification Units), with dialogue between the power companies and the community, assistance in the replacement of equipments, support for controlling expenditure through prepaid schemes and, finally, the adoption of social tariffs for lower income sectors. It should be noted that the necessary dialogue between the community and the power companies is accompanied by social investment projects, often in energy-related projects.

Several of these good practices are linked to Spanish groups, and with the support of international cooperation organizations they could spread to other countries.¹⁹

(7) Import substitution and equilibrium of the balance of payments

The chronic external instability of the Brazilian economy dissipated in the 1990s. It is evident that FDI had a positive impact on this process, but its impact on the balance of payments can be argued.

Reports from the *Balanza de Pagos del Banco Central de Brasil* (Balance of Payments Department of the Central Bank of Brazil) indicate that the constant supply of FDI since the mid-90s has been remarkable, more than offsetting the trade deficit at that time.

¹⁹ The *Unidades de Policía Pacificadora* is a project of the *Secretaría Estatal de Seguridad Pública* (State Secretariat of Public Security) of Rio de Janeiro. It deploys police commandos exclusive to the *favelas* who are not part of the regular security forces. Their aim is to dismantle the groups that control territories as parallel authorities. For a reading on good practice in the legalization of energy access in shantytowns, please consult the work carried out as part of the *Programa de Investigación y Desarrollo en el Sector Eléctrico* (Research and Development in the Power Sector) of the *Agencia Nacional de la Energía Eléctrica* (ANEEL, National Agency of Electrical Energy) and published in De Mello *et al.* (2011). The Spanish companies Iberdrola and Endesa have generated some of these good practices.

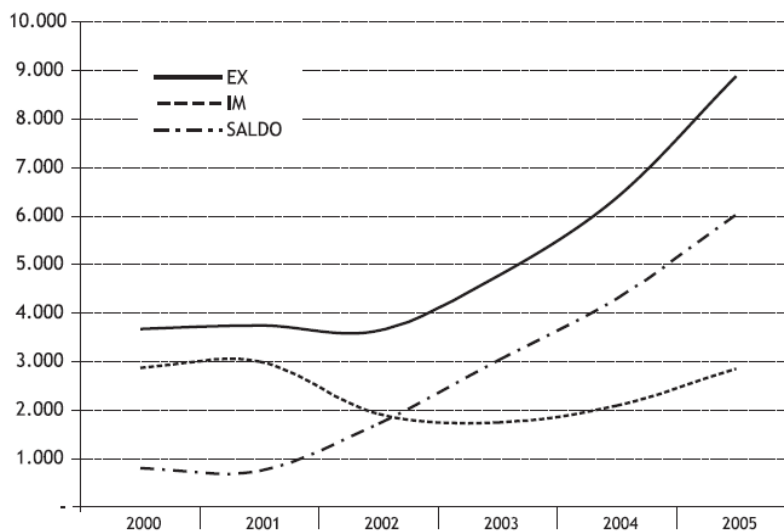
This mechanism is particularly important in the context of Latin American economies in general and Brazil in particular, given the history of the region of strong macroeconomic instability caused largely by external imbalances resulting from high foreign indebtedness.

There was a strong influx of FDI in the 1990s through the acquisition of large privatized companies, especially banks. Subsequently there has been a large net capital inflow, particularly intense from 2005 onwards, not only through permanent investment but also through loans and portfolio investment. Thus, FDI capital share, about 90% of total FDI, rose from \$162,807 million in 2005 to \$579,626,000 in 2010, a factor increase of 3.5 in just five years.

Since that time, there has also been greater internationalization of Brazil with a high growth of exports and imports and a positive trade balance (albeit declining). The good performance of the trade balance is due, in part, to the diversification of the economy and the increasing global demand for commodities, of which Brazil is a net exporter, as with coffee, soybeans, and oil (Bonelli and Pinheiro, 2008.) However, the balance of payments has been negative on the whole due to the weight of services and income.

Some authors explain that the impact of FDI on the trade balance has been negative as TNCs increase exports and imports in absolute terms, but the increased percentage of the latter is higher (Hiratuka, 2005). The participation of foreign firms in importation of goods has grown dramatically since 1995, while their share of exports has increased only slightly. The increasing penetration of imports into Brazilian industry is particularly significant in technology-intensive sectors (such as electrical and communications) and in economies of scale (e.g. the chemical industry), in which TNCs have considerable presence (IPEA 2010a). Hiratuka (2008) points out another negative aspect: the expansion of TNCs has reduced opportunities for national companies that had not yet exported but could potentially export, but it had no effect on the value of national exporting companies.

The most internationalized of all the sectors analysed in this work is the automotive industry. In the years following the influx of FDI, from 1995 to 2000, imports in this area grew faster than exports. This trend changed in the 2001-05 period, probably due to the maturity of some mechanisms such as the production chains and spillovers from subcontracting.

Figure 11. Foreign trade in the automotive and automotive component industry, 2000-2005

Source: Laplane and Sarti (2008).

The case of the automotive industry shows that the impact on the foreign investment trade balance will depend on various factors including the local supply capacity and the institutional framework. In any case, the promotion of local-content policies is of relevance. They analyze foreign investors not only as an entry in the financial account, but also as stakeholders who, depending on these factors, can make a contribution to the balance of payments. In this regard, local-content policies in Brazil, considered by many as a form of protectionism, reduce the propensity to import from foreign companies. It should be noted that the same financial services granted by the BNDES to national market purchases are awarded to sales in foreign markets.

That said, Brazil's concern is currently the capital and financial balance – not in terms of deficit but rather for its large surplus due to excessive capital inflows, which in the context of the international financial crisis are directed to Brazil in search of high returns, stability, and upward currency performance.²⁰ It should be noted that FDI accounting, which continues to show a positive balance in Brazil, could also reflect entries of a similar incentives and that are calculated as inter-company loans within direct investment rather than portfolio investment.

(8) Conclusions

Local-content policies favour a positive impact of investment on development because many of the expected effects of the influx of foreign financing and technology in a developing country can only occur in the presence of backward and forward productive chains. In order that these chains not be broken where the most value is

²⁰ See Steinberg (2012) for an analysis of the effects of the current financial crisis on the Brazilian balance of payments and the appreciation of the Real.

added, it is necessary for the local-content policy to be accompanied by technological and educational policies.

These above statements are part of the dialogue between Brazilian politicians and officials, both at the federal and state levels, as well as among employees of public companies like BNDES and Petrobras. They align their actions with development strategies and development plans such as the *Planes de Desarrollo Productivo* (Productive Development Plan) or *Plan Brasil Maior* (Plan Better Brazil) aimed at economic development based on the promotion of new sectors of greater technological content and higher productivity (i.e. structural change).

That said, the local-content policies favour certain actions over others, in order to reach particular objectives. For example, they favour technological spillovers and the productive chain, which seem to be producing good results to the detriment of other developmental mechanisms such as increased competition – which experts warn may take a toll in the longer run.

The Real Instituto Elcano's FDI-D framework has proven to be an effective tool for understanding the impact on private investment of the design and implementation of strategies by Brazil's public players. It can be useful both for planning economic cooperation within the country and for transferring learning to other countries in the region, possibly in triangular cooperation schemes.

Regarding Spain-Brazil relations, this type of analysis could help direct resources to those aspects of the institutional and economic structures that need special support to unlock the mechanisms that promote development, especially in areas with significant Spanish investment, and where the impact on development can be both an objective of cooperation and a factor of stability for said investments. The Spanish Cooperation resources in Brazil are currently limited and will further reduce when Spanish ODA decreases and the Brazilian HDI increases, but they may yet prove important in some circumstances (for example, when public support is a catalyst for private resources through development partnerships with companies in line with the *III Plan Director de la Cooperación* (Third Plan of Cooperation), or as resources of multilateral cooperation through organizations in which Spain is a member). Moreover, many of the institutional and economic-structural factors needing modification in order to favour development mechanisms in Brazil (apart from the need for financial resources, which could come from other sources) require know-how that can be provided by Spanish technical cooperation.

This is the case with tourism, which by its concentration of employment and its capacity to mobilize resources in remote areas can promote sustainable urban development and the employment of excluded populations. However, his sector lacks a strategic and institutional framework that can exploit its potential. In other sectors, such as the oil and automotive industries, scientific and technological cooperation are

the focus of development strategies in Brazil, and taking part in these can deliver returns to Spanish companies and institutions.

Regardless of the specific recommendations in the case of Brazil, this study has highlighted the importance of private investment and the public policies that accompany such, as well as the fact that its impact can differ, although not entirely unpredictably, case by case and sector by sector.

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