Determinants of the Recent Internationalization of Brazilian Companies

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Abstract

The recent wave of internationalization among Brazilian companies differs from past experiences, in terms of volume, reach, destination and quality. Brazilian multinationals are not restricting their activities solely to regional markets, nor are their first steps entirely directed towards South America. In amount of investment and number of subsidiaries there are signs they increasingly seek to direct Outward Foreign Direct Investment (OFDI) projects to more competitive markets – including Europe, North America and China – where they compete on an equal footing with major conglomerates for a share of these markets. Some Brazilian companies have previous internationalization experience, and a significant portion had been prepared and initiated outward growth in the 1990s, after the economy opened up. However, the boom of internationalization that began in 2004 took place in such unusual conditions as to deserve highlight and special analysis. A substantial portion of academic literature emphasizes individual cases of entrepreneurism and business success stories. These explanations, although pertinent and useful, help to clarify only specific cases and do not address how and why the internationalization movement grew so rapidly, and was incorporated, as a strategy, by a significant number of companies. This paper discusses the recent expansion of Brazilian multinationals as a result of: (i) competitive pressures that led to the emergence of a growing number of companies seeking internationalization as a strategy to expand access to new markets and customers, to exploit natural resources, as well as to absorb innovations and technology, (ii) the functioning of a more responsive and targeted system of financing that allowed Brazilian companies to raise funds for large OFDI projects (iii) the State's performance in several dimensions, especially in financing the implementation of policies which support the creation of large national groups with a presence in the globalized market.

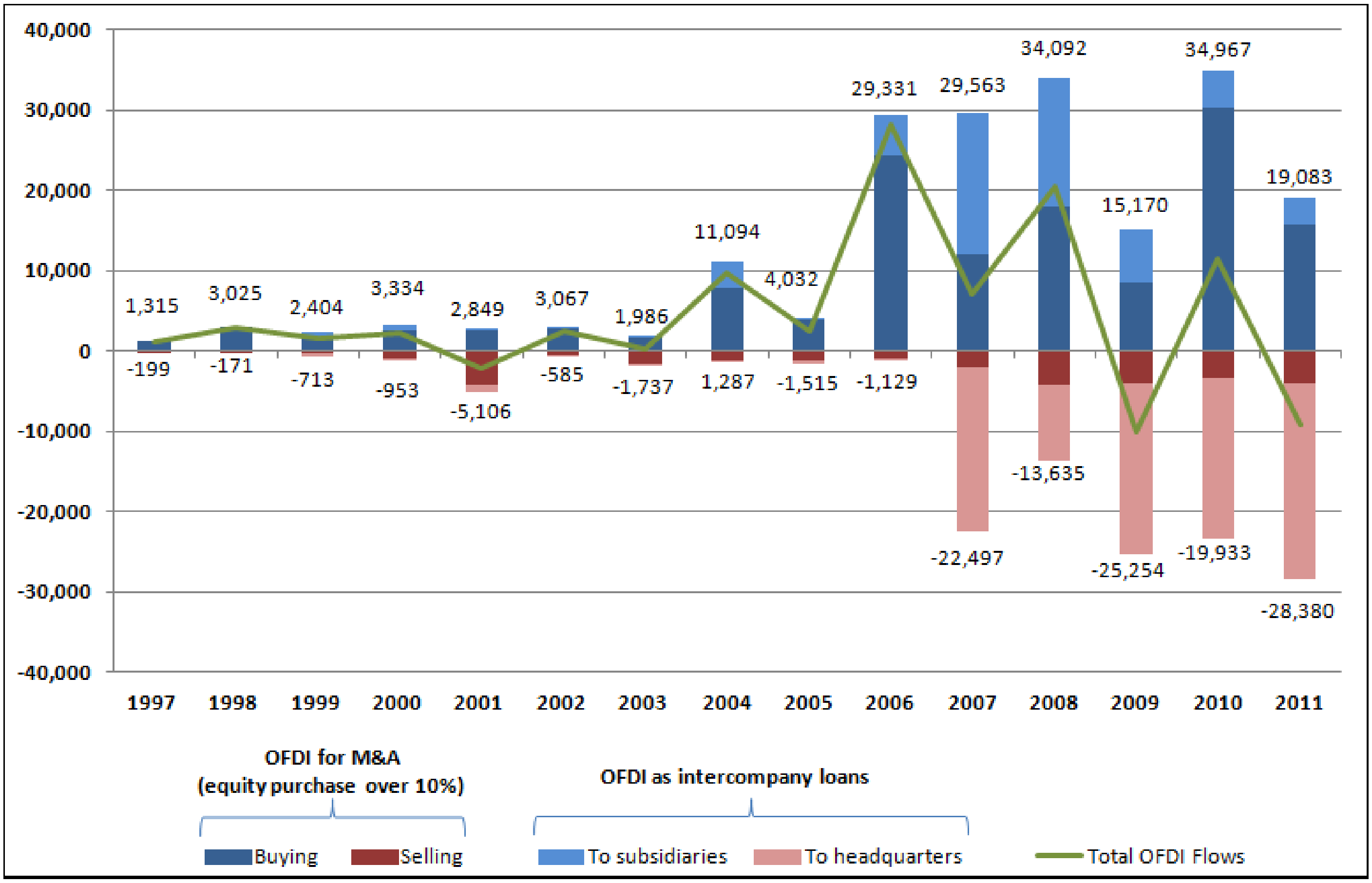
Keywords:

Internationalization, Innovation, Brazilian Multinationals, Emerging Markets, Industrial policy.

Introduction[1]

After the reduction of Outward Foreign Direct Investment (OFDI) flows in 2009 due to the international economic crisis, the rhythm of expansion by Brazilian multinationals abroad quickly accelerated in 2010, accompanied by the resumption of domestic economic growth. Just in 2010, the sum of acquisitions abroad by Brazilian companies totaled US$ 30.2 billion, a value greater than the total sum of international acquisitions made by Brazilian companies before 2004. According to data from the Brazilian Central Bank, was only in this year that a definite and unprecedented acceleration of investments by Brazilian companies abroad started. Before 2004, the annual Brazilian OFDI flows had never exceeded US$ 3 billion. From 2004 to 2008, their annual average reached US$ 13.6 billion.

Figure 1: Brazilian OFDI flows composition, 2004-2011, US$ million



Source: Authors elaboration based on data from Brazilian Central Bank.

In 2009 and 2011, due to the economic recession in the developed world, Brazilian total OFDI flows went negative. This has been interpreted by some market analysts as a temporary backlash in the process of internationalization of Brazilian companies (see Valor, 2010). However, data from Brazilian Central Bank (Figure 1) reveals that this is not true. The negative figures in those two years arise from large capital transfers from subsidiaries abroad to headquarters in Brazil through inter-company loans (US$ 45.7 billion just in 2009 and 2011). That is, some Brazilian companies are obtaining large funds abroad to invest in Brazil, due to the better prospects of Brazilian economy in relation to world economy (Arbix & Caseiro, 2011). Notwithstanding, also in 2009 and 2011, Brazilian headquarters invested US$ 24.2 billion in acquisitions of companies abroad[2], a value that is much higher the historical levels

[1] The authors are very grateful to CNPq and Fapesp for their support.

[2] Equity investments in foreign companies in which the Brazilian investor owns more than 10% of their shares.

of Brazilian OFDI (see figures 1 & 3). This explains why Brazilian OFDI stocks kept growing in those years, despite Brazilian OFDI flows were negative (figure 5).

In this paper, we will present evidence that the recent wave of internationalization among Brazilian companies differs from past experiences not only in volume, but also in terms of destination and quality. Indeed, there are several stories of success behind the impressive aggregated OFDI figures of recent years. When we take a close look to these cases, it is possible to see that the first movements of this new wave had its roots in the 1990s, after the opening of Brazilian economy, a period of modernization and preparation for this more aggressive thrust into the path of globalization that only took place recently due to new competitive pressures and broadly favorable financial conditions. In the last two decades, companies like Petrobras (oil & gas), Vale (mining), Embraer (aeronautic), Braskem (petrochemical) and JBS (meat processing) established themselves as top international players. Other large Brazilian companies, such as Gerdau (steel), WEG (engines), Coteminas (textiles), Marcopolo (buses), BRFoods (food), Marfrig (foods), Votorantim (cement, mining and pulp & paper), Odebrecht (engineering, energy, ethanol, defense) and Camargo Corrêa (textiles, cement, and construction), which already held leadership positions in South America during the 1990s, consolidated, expanded and diversified their internationalization to more advanced markets. Besides those, a number less well known companies from different sectors – for example, Totvs, Stefanini and Bematech (information technology); Randon, Sabó and Ioschpe Maxion (cars and car parts); Lupatech, Romi and Tupy (mechanics); Natura (cosmetics); EMS and Eurofarma (pharmaceuticals), among others – elevated their standards of competitiveness and expanded their activities abroad. In table 1, we present introductory information about the activities of selected Brazilian multinationals.

Table 1: Introductory information about selected Brazilian multinational companies:

Company	Industry	Founded in	Revenues US$ million	Foreign Sales	Offices or subsidiaries in	Main foreign Markets
Petrobras	Oil & Gas	1953	121,837	11%	27 countries in all continents	Americas
Vale	Mining	1942	45,293	57%	20 countries in all continents	Asia, Europe
JBS	Meat Processing	1953	31,460	77%	35 countries in all continents	USA, Asia, Australia
Odebrecht	Conglomerate / engineering, infrastructure	1939	23,734	60%	18 countries in all continents	Latin America, Africa
Gerdau	Steel / long carbon, special steel	1901	17,939	52%	14 countries, Americas, Europe and, recently, Asia	North America
Votorantim	Conglomerate / cement, mining, Pulp, Paper	1918	17,521	20%	23 countries in all continents	Americas & Europe
Braskem	Petrochemicals	2002	15,594	44%	Bolivia, Peru, Mexico, USA, Venezuela	Latin America
BRFoods	Meat Processing	1939	12,961	40%	27 countries in all continents	Middle East, Europe
Camargo Correa	Conglomerate / Footwear Engineering, Cement	1939	10,251	27%	16 countries in Americas, Europe, Africa	Latin America
Marfrig	Meat Processing	1986	9,074	39%	22 countries in all continents	Europe
Embraer	Aeronautics / Regional, executive jets	1969	5,360	87%	China, France, Portugal, Singapore, USA	Europe, USA, Asia
Natura	Cosmetic, fragrances	1969	3,289	9%	Argentina, Bolivia, Chile, Peru, Colombia, Mexico, France	Latin America
Randon	Vehicles / trucks, trailers	1949	2,520	14%	11 countries in all continents	Americas, Europe, Africa
WEG	Electric motors, industrial equipment	1961	2,509	40%	26 countries in all continents	Americas & Europe
Marcopolo	Bus bodies	1949	1,694	30%	8 countries in all continents	India
Coteminas	Textiles	1967	1,367	88%	Argentina, Canada, China, India, Mexico, USA	North America
I. Maxion	Auto parts	1943	1,273	8%	China, Mexico, USA	Americas
Totvs	IT / software, services	1969	691	7%	6 countries in Latin America, Angola, Portugal	Latin America
Stefanini	IT / software, services	1987	583	36%	19 countries in all continents	Americas & Europe
Metalfrio	Electronics / commercial freezer, refrigerators	1960	447	40%	Denmark, Mexico, Russia, Turkey, Ukraine, USA	Americas, Europe
Bematech	IT / hardware, software, services	1989	186	8%	Argentina, China, Germany, Taiwan, USA	Americas

Sources: Companies' annual reports, BM&FBOVESPA, VALOR (2011)

Numerous studies have emphasized these individual cases of success of Brazilian multinationals. Their main focus are the challenges that internationalization represents to companies and management strategies they adopt to overcome them. (Goldstein ,2002; Ghoshal *et al.,* 2002; Rocha, 2003; Aykut & Goldstein, 2006; Bonaglia *et al.,* 2007; Stal, 2007; Miranda, 2007; Rosa & Rhoden; 2007; Vasconcellos 2008a; Vasconcellos 2008b; Nakagawa, 2008; Casanova, 2009, Valor, 2011). These studies are extremely important and useful to clarify specific cases of internationalization of Brazilian companies or industries, but if taken separately are not sufficient to address why the internationalization movement grew so rapidly, and was incorporated as a strategy by a significant number of Brazilian companies from a wide range of industries at the same time. We will build on the work of these authors, and of many others also, to reach a broader perspective of the recent movement towards internationalization of several Brazilian companies. The main objective of this paper is to offer elements to understand the factors that have driven this unprecedented acceleration of international activity among Brazilian businesses. Our hypothesis is that the recent international expansion of Brazilian firms can be understood also through the study of structural changes that has taken place in the Brazilian and in the world economy within the last decades. This paper will emphasize three of those changes:

1. Competitive shocks over Brazilian companies that started with the opening of the economy, at the beginning of the 1990s, and continued with the privatization of state-owned enterprises (SOEs), large amounts of inward foreign direct investment (IFDI), the valorization of Brazilian currency and the accelerated industrialization of export-led emerging economies in East and South Asia, like China and India. The more competitive environment forced Brazilian companies to gradually adopt standards of international competitiveness, to modernize their management processes, to improve the quality of products and services and to increasingly pursue innovation in every step of their operations. These improvements allowed many companies to increase exports, going beyond a business culture previously oriented to the internal market and preparing for a bolder expansion abroad. Data analysis suggests that innovation and internationalization were adopted two complementary strategies. On the one hand, by increasing innovative activities, firms are able to be more competitive in international markets. On the other hand, overseas activities, especially in more competitive markets, put firms in touch with new business practices, market trends, products and production networks that become sources of information for innovation.
2. Availability of affordable long-term financial resources. OFDI is usually a costly and high risk strategy. In the last decade, several and often reinforcing factors contributed to increase the availability of cheaper credit to Brazilian multinational companies expand their activities abroad: (i) low interest rates and financial innovations in international markets; (ii) the boom of international commodities prices, fostered by the rapid industrialization of China and India; (iii) domestic macroeconomic stability and the reduction of Brazilian net external debt, which lowered the costs of external fund raising; (iv) developments in the domestic stock markets that led to an improvement in corporate governance and transparency of Brazilian companies and attracted more foreign and domestic investors.
3. A strong support of the Brazilian government to increase companies' investments both domestically and overseas. Changes in Brazilian Development Bank (BNDES) regulation, sown in 2002, with the first version of the Policy for Industrial, Technological and Foreign Trade Policy (PITCE, MDIC, 2004) and the Productive Development Policy (PDP, MDIC 2008), allowed BNDES to play an increasingly important role in supporting Brazilian multinationals. The Ministry of Development (MDIC), the Bank of Brazil (BB), Petrobras and the Brazilian Agency for the Promotion of Exports and Investments (APEX) also worked towards the same objective.

Our main argument is that the rapid and aggressive emergence of Brazilian multinationals was possible because of these three changes that functioned in a linked and interdependent manner, within an economic environment distinct from the past, from both a domestic and international perspective. To emphasize these structural determinants does not imply to underestimate the entrepreneurship, the effort and the resources of individual companies. On the contrary, the authors recognize these as essential dimensions for the success of overseas investments, and this paper is an attempt to understand some conditions that made them possible. We believe that this shift in perspective may lead to a better understanding of the internationalization of Brazilian companies, as well as to new policy implications. Other relevant structural factors have been also mentioned by the literature, for example, the restructuring of international production networks that has taken place since the 1970s' (Mathews 2002; Fleury & Fleury, 2009). However they are beyond the scope of this paper.

To support our argument, we adopt a historical perspective and provide data analysis for the Brazilian: (i) companies' OFDI, both in volume and in geographic localization of investments; (ii) evolvement of domestic competitive context; (iii) financial resources availability and (iv) state support for OFDI. Due to the lack of detailed reliable and harmonized historical data for all the variables involved in our hypothesis, the analysis is based on different sources, more specifically: (i) an extensive literature survey; (ii) secondary data from the Brazilian Central Bank (BCB), Brazilian Institute for Applied Economics Research (IPEA), BNDES, Brazilian Institute of Geography and Statistics (IBGE), São Paulo Stock Exchange, companies' annual reports, UNCTAD, World Bank and World Federation of Exchanges; (iii) interviews with companies managers and government officials; (iv) three case studies of Brazilian multinational companies.

Beyond this introduction, this paper is structured into five sections, in addition to the conclusion: (1) Internationalization and innovation as competitive strategies; (2) Three case studies on internationalization strategies (3) Destination of Brazilian OFDI; (4) Capitalization and financing of Brazilian multinationals; and (5) State support for Brazilian Multinationals.

Internationalization and innovation as competitive strategies

The opening of the Brazilian economy that began during the government of former president Fernando Collor and continued throughout the Fernando Henrique Cardoso administration, was designed to inject competitiveness into an economy accustomed to protectionism, and generated contradictory or even negative results for many firms in its early phase. While it triggered profound changes in standards of competitiveness in the economy - which drove many companies to restructure to adapt to a more open environment – it destabilized or even lead to the downfall of many companies which could not raise their low productivity to match new times.

During this early reorganization of the economy the Brazilian industrial GDP fell by 12% just from 1990 to 1992.[3] The companies that survived were forced to quickly and often radically restructure production, to learn advanced management practices and incorporate the diversification of products and services into growth plans, expanding their activities and exporting. On the positive side, from the restricted angle of the economy, (without regard to social costs, for example) in the first four years of the 1990s, industry in Brazil reached a relative gain in labor productivity ten times higher than that obtained throughout the 1980s (Bielschowsky & Stumpo 1996:172).

The stabilization of inflation since 1994 stimulated domestic consumption and allowed a significant increase in production. However, together with the privatization of SOEs, it has also attracted more foreign companies to Brazil, increasing local competition (see figure 2). Therefore, modernization of organizational practices among Brazilian companies showed to be insufficient to ensure long term competitiveness in the most dynamic sectors, and many companies began to quickly lose ground to foreign competitors (Coutinho, 1997). Product differentiation and internationalization of activities were alternatives (sometimes complementary) for cost reduction, and for sophistication of business processes and products incorporated by these companies (Arbix, 2007).

Figure 2: Entry of Foreign Capital in Brazil, US$ billions, accumulated for 5-year period, 1971-2011

Source: Authors elaboration based on data from Brazilian Central Bank (2012)

[3] Data available on the site: www.ipeadata.gov.br . Last accessed 01/2012.

Data from the Brazilian Central Bank reveals a significant increase of OFDI among Brazilian companies in the 1990's, even without the same favorable financial conditions and support from governmental policies existent in the 2000's. Figure 4 shows Brazilian OFDI from 1970's to 1990's, by accumulated 3-year period. It draws great attention the backlash suffered by Brazilian OFDI levels after 1982, when the debt crises hit the country. Brazilian OFDI experienced a constant growth in the 1970s, at the same time that domestic economy was thriving, driven by large-scale industrial policies, and there was plenty availability of foreign capital (Castro & Rios, 1985). After the debt crises, severe shortage of capital lowered Brazilian companies' investment levels both in the domestic and international markets. During the crises, some private companies from engineering services, steel, mechanics and auto parts, invested abroad to leverage the skills and capabilities they had built in the previous decade – by working together with the Brazilian government and multinational corporations in executing large scale industrial projects – and to try to sustain their growth during the retreat of domestic economy (BNDES, 1995; Fleury & Fleury, 2009). However, their OFDI levels were relatively low, comparing both with the previous and the forthcoming decades. It was only after the liberalization of the economy that Brazilian OFDI gained new momentum (Figure 4).

Figure 3: First steps of Brazilian OFDI, 1971-2000, accumulated 3-year period, US$ million

Source: Authors elaboration based on data from Brazilian Central Bank (2012)

It was during the 1990's period that several private Brazilian companies intensified their internationalization and innovation activities as a response to the more competitive environment. Gerdau (metallurgy/steel), for example, launched new plants in Canada, Argentina and Chile, from 1995 to 1998. In 1999, after an IPO on the NYSE, it aggressively entered the North American market, acquiring AmeriSteel for US$ 872 million. Since then, it has continually increased its market position via several further acquisitions, becoming the second largest producer of steel throughout the Americas. Gerdau also took advantage of cross-borders acquisitions to diversify its product portfolio, transforming itself into one of the largest worldwide suppliers of special steel products (stainless steel, car parts, tools, hospital supplies). This was done through the acquisitions of Spanish companies *Sidenor* (2005) and *GBS Acero* (2006) that allowed Gerdau to strengthen its innovative activity and obtain market shares in the European's auto parts and machinery industries. (Fleury & Fleury, 2009).

A review of the literature on International Business reveals a possible two-track relationship between internationalization and innovation strategies. According to the classic conception of multinationals, based on the Anglo-Saxon experience (Dunning, 1981; 1988), to internationalize successfully a company had to possess some competitive advantage transferable to the host country. Advantages derived from labor cost or a brand only locally known, for example, would not be transferable to other countries. More appropriate would be the advantages linked to technology and innovation (of products and processes). Therefore, the more innovative the company, the greater its advantage over local firms and the greater its chances of success in internationalization. Recently, however, many studies emphasize other aspects of the relationship between internationalization and innovation, mainly when it occurs in companies from emerging economies (Mathews, 2002; Arbix, Salerno & De Negri, 2004; Child & Rodrigues, 2005; Aykut & Goldstein, 2006; Borba Vieira & Zilbovicius, 2008). For companies based in emerging economies, innovation would not be necessarily a prerequisite, but instead a consequence of establishing overseas subsidiaries. When entering new markets - especially more demanding ones such as the American and European – companies would be able to absorb higher standards of competitiveness, capture new trends, become acquainted with new products and processes and even the tastes, habits and demands of new suppliers and customers.

Some case studies have already shed a light in combining strategies of innovation and internationalization among Brazilian companies. Embraer (aeronautics) is highly innovative in product design and in networks of international partnerships that ensures access to technology and also the most competitive prices (Miranda, 2007). Sabó (auto parts) has specialize itself as a preferred supplier of major car assembly multinationals, installing factories or acquiring firms close to its clients around the world and taking on new challenges and contracts (Aykut & Goldstein, 2006). Overseas acquisitions may be a key strategy to absorb essential technological assets, mainly in developed countries. This path has been taken by many Chinese companies, which rely on strong state support (Rui & Yip, 2008; Luo, Xue & Han, 2010). This was also the strategy adopted by Gerdau when it acquired steel mills in Spain, and by Magnesita (mining) in acquiring LWB Refractories of Germany, the world leader in basic refractory product, in 2008. In addition to technology and brand, a strategy based on acquisitions also allows the company to inherit contracts established with employees and suppliers and a customer portfolio.

In the following section we will analyze how three Brazilian companies adopted complementary strategies of innovation and internationalization to overcome competitive challenges that arisen from globalization. Before that, it is relevant to note that there is also strong quantitative evidence on the complementary relationship between internationalization and innovative strategies in the activities of Brazilian multinationals. In a survey conducted by the Department for Business, Innovation & Skills in the UK in 2008, five Brazilian companies appear among those who invest most in R&D, detailed below (*apud* FAPESP, 2010). These companies are also among the largest Brazilian multinationals:

- Petrobras appears in second place among companies in the oil and gas sector, with investments of £442 million, corresponding to 1% of its revenues, in R&D in 2007. It has subsidiaries in 28 countries and about 10% of its assets and jobs are overseas.
- Vale is in first place in the mining sector, with R&D expenditures of £368 million, or 2.3% of its revenues. It has subsidiaries in 34 countries and 25% of jobs and 39% of assets are outside Brazil.
- Embraer is the 16th among aerospace and defense companies with £131 million in R&D investment, equivalent to 5% of its revenues. It has subsidiaries in six countries and 12% of jobs and 39% of assets are abroad.
- Braskem appears in 90th in the chemical sector, with investments of £22 million in R&D, representing 0.4% of its revenues. It has subsidiaries in eight countries and is part of Odebrecht, which has about 56% of their jobs and assets abroad.
- WEG is the 106th in the electrical equipment and electronics sector, with investments of £21 million in R&D, or 2.1% of its revenues. It has subsidiaries in 26 countries and 11% of jobs and 18% of assets abroad. (FAPESP, 2010 and Valor, 2010).

Although Brazil has fewer companies in the R&D investment ranking than India and China (15 and 9 firms respectively), the above companies are responsible for activities that impact on the entire Brazilian economy. Recent research (De Negri, 2010) shows that about 40% of all engineers with formal work contracts in Brazil work for suppliers of Petrobras, a company that has a business plan to invest US$ 224 billion between 2010 and 2014 and expand its production rates of 10% p.a. Embraer also hires highly qualified professionals in Brazil. In 2010, it employed 4,165 engineers from a total of 17,149 workers (25%), from which 98% were employed in Brazil (Embraer, 2011).

This link between internationalization and innovation is also evident even when the analysis involves the whole Brazilian industry. Arbix, Salerno & De Negri (2004) crossed statistical data from IBGE and BCB corresponding to 72,000 industrial companies in Brazil, relating to the year 2000. The results showed that while 30.5% of the enterprises of the sample claimed to have done some product or process innovation, from 1998 to 2000, that figure rose to 70.4% among the firms that possessed OFDI. The authors also identified a cluster of approximately 250 companies in which their subsidiary abroad was the main source of information for innovative activity. These companies, despite representing only 0.35% of the sample, accounted for 5.8% of total national industrial exports. Their competitiveness was also demonstrated by the fact that they paid higher salaries and hired more qualified labor than average, generating positive impact for the entire Brazilian economy.

Borba Vieira and Zilbovicius (2008) observed a similar phenomenon when conducting case studies of three Brazilian multinationals from the auto parts, petrochemicals and adhesives sectors; they concluded that OFDI is a strategy for them to gain exposure to the most modern technology in foreign markets. Another dimension of the relationship between internationalization and innovation is revealed by two surveys applied by Fundação Dom Cabral in 2002 and 2008 with about 100 Brazilian multinationals. While in 2002 none of the companies interviewed declared they performed R&D activities abroad, in 2008, one third of the sample stated they had adopted this strategy (Fundação

Dom Cabral, 2008).

Three case studies on internationalization strategies

In the following we present a succinct overview of how three companies developed different strategies for innovation and internationalization to overcome competitive challenges brought by 1990's economic liberalization: Embraer (aeronautic), Marcopolo (buses) and Natura (cosmetics). The three are innovative and rapidly growing companies that understood how to respond to the Brazilian changing environment and created dynamic competitive advantages based on product diversification, investment in R&D, and internationalization. These mechanisms continued and intensified in recent times, and explain how these companies came to be recognized as global players (Verma *et al*., 2011).

These companies began their growth with imitation strategies, through intensive licensing of technologies (Embraer), or adapting products from foreign suppliers for the domestic market (Marcopolo), or through hiring executives from large multinationals (Natura). These former fast-followers of larger multinationals had moved into the position of technological prospectors, and, more recently, began to be guided by offensive strategies, based on a quest for global technological leadership (Griffin, 1997; Freeman & Soete, 1997; Goldstein, 2002, 2007). In the last decade, these companies expanded themselves vigorously in the domestic as well as in the foreign market, showing that that foreign and domestic expansion may not mutually exclusive strategies, as the some authors' induced (e.g. Iglesias & Mota Veiga, 2002:19; Cyrino & Tanure, 2009:18), but are usually complement each other. The stronger are companies' profits in the domestic market, more muscle they have to succeed abroad.

a. Embraer

The building of high-technology companies in emerging countries generally involves the incorporation of productive knowledge from foreign markets and a strong support from the public sector. The case of Embraer was not different. Its first commercial successes, the Bandeirante turboprop (commercial aviation, eight seats) and the Ipanema (agricultural spraying) were developed in the 1960s by foreign technicians brought in to work at the Aerospace Technical Center, a state-funded R&D institution, founded with technical support from the United States and with the purpose of supporting the rising of Brazilian aeronautic industry a decade early. In addition to this, in its early years Embraer also learned to manufacture combat jets and entered into the military segment thanks to a partnership with the Italian company *Aermacchi*, using technology transfer for the development of the Xavante ground-attack jet (1971) and afterwards the AMX jet fighter in 1985. It was also through licensing of technology with the North American Piper (1975) that Embraer took its first steps into the executive jet market, now one of its major segments. In both segments, however, the growth of the company was only possible due to continual investment in R&D, and in the diversification of products (Miranda, 2007).

The innovations that Embraer has obtained through its precocious internationalization were as essential for its success as the major state support it received. The company was state-owned and controlled from its foundation, in 1969 to 1994, when it was privatized. It was during its SOE period that the internationalization begun. The first subsidiary abroad was opened in the USA in 1979 and three years later the company already dominated one-third of the North American market for 10-20-seat planes. In 1983, it established a new subsidiary in France, aiming to service the European and Middle Eastern markets, and a couple of years later Embraer was already competing for worldwide leaderships of aircraft of 30-40 seats. The strong dependence on the State, however, brought financial difficulties when serious crises hit the country in the 1980s and 1990s. State management also became problematic when the technological capacity of Embraer began to serve foreign policy interests without proper attention to necessary market demands, as was the case with the CBA-123, an expensive turboprop that revealed itself to be a commercial failure in a troubled partnership with Argentina at the end of the 1980s (Goldstein, 2002).

With the opening of the Brazilian economy in the early 1990s, the financial situation of Embraer became more complicated. In 1994, the year of its privatization, its debts surpassed US$1 billion (Miranda, 2007). After privatization, the company adopted a new organizational structure, with sizeable investments in IT and the establishment of a highly independent management structure for each specific aircraft project, which begun to operate as semiautonomous cells of the company. The result was optimization of learning and enhanced agility for development of new projects (Vasconcellos et al., 2008). The managerial innovations also led the delivery time of the EMB-120Brasília (30-seat commercial aircraft) to fall from sixteen to nine months (Goldstein, 2002).

However, the main innovation of Embraer after the privatization occurred during the ERJ-145 project (commercial jet for 50 passengers) that required the creation of a wide international network of 350 vendors and clients participating in diverse steps of product development. Four of its main suppliers became risk partners, that is, they helped to finance the project. The major clients were invited to participate in a pre-project phase, in order to define the characteristics of the aircraft (Vasconcellos, et al. 2008). Besides capturing market trends, the partnerships made Embraer, as project integrator, the main beneficiary from technological spillovers of the international R&D integration of its suppliers. The strategy was revisited even more intensely with the EMB-170/190 family of jets, for up to 122 passengers, when 16 supplies took on a role as risk partners. These mechanisms were fundamental to stimulate the whole innovation system of the company and could be considered as one of the first successful experiences of Open Innovation, even before the dissemination of this concept by Henri Chesbrough (2003).

The success of the new commercial jets, in turn, pushed internationalization even more. In 1999, a consortium of French companies – Dassault, Aerospatiale/Matra,Thomson-CSF e SNECMA –acquired 20% of the ordinary shares of Embraer, making possible greater financial solidity and generating new opportunities for technological capacity, especially in the military segment. In the following year, the company executed an IPO on the New York Stock Exchange (NYSE) and opened its first commercial offices in China and Singapore. The year of 2002 saw the opening of the first factory in China, in Harbin, near Beijing, for the creation of the ERJ-145 family of jets (Miranda, 2007). In 2004, it bought the Portuguese company OGMA and inaugurate in the same country two new plants in 2011, for production of complex structures and composite materials, both fundamental for the production of more agile aircraft.

The mechanisms of open innovation developed by Embraer reveals that its success – beyond state support – is linked to the sources of its own business dynamism and of the close ties maintained with partners, suppliers, and clients around the world. Embraer is today a global company, the third largest producer of planes in the world by annual delivery and is the market leader in regional jets (Embraer, 2011). To maintain its competitiveness, Embraer is diversifying its portfolio even further, currently moving in the direction of military aviation segment and aeronautical services offerings. In the defense segment, the newest project is a transport and air refueling plane KC-390, with a capacity to transport up to 23 tons. The project expects to generate more than 14 technology transfer contracts with foreign companies[4]. Embraer is also diversifying its geographic presence and increasing sales in East Asia and Latin America, to compensate the loss in revenues caused by the backlash of the US and European markets in the last crises. The latter were responsible for 76% of Embraer sales in 2008, but only for 31% in 2010 (Figure 4).

Figure 4: Embraer annual revenues, by geographic distribution and US$ million

Source: Authors' own elaboration based on Embraer (2011)

b. Marcopolo

The Brazilian bus producer was founded in 1949, initially dedicated to the production of artisanal wooden car bodies. Marcopolo had a trajectory of rapid product upgrade and expansion. At the end of the 1970s, it was exporting steel car bodies to practically all of Latin America and some Africa countries from its three factories in Brazil. Since its first years, the company invested in constant diversification of products for the launch of its lines of microbuses (1972) linked buses (1978) and electric buses (1979). It was also the first company to adapt European bus makers' innovations for South America, as in the case of the high-decker bus in 1984, and the double-decker, launched in the Argentine market in 1996 (Stal, 2007).

[4] "Embraer acelera escolha de fornecedores para o KC-390" in *Jornal Valor Econômico*, 22/09/2010

In 1991, when the industry crisis in Brazil was intense, Marcopolo opened its first factory abroad, in Coimbra, Portugal. The choice of this country was not due just to linguistic and cultural proximity, but the location also functioned as a laboratory to incorporate technology from European factories, mainly through development of new suppliers' network and reverse engineering. Thanks to this intense learning, coupled with its own efforts in R&D, Marcopolo's vehicles became capable of competing in whatever country and the company became a worldwide exporter of technology for production of buses (Rosa & Rhoden 2007). Unlike Embraer, Marcopolo was able to obtain success through an elevated level of verticalization, maintaining direct control over its principal Brazilian suppliers (materials, seats, doors, windows, plastic components, etc.). The direct ownership over its Brazilian vendors facilitated the transfer of technology from European vendors (Rosa, 2006).

Between 1999 and 2001, Marcopolo opened its new productive units in Argentina, Colombia, South Africa, and Mexico, beginning with partnerships with large local chassis manufacturers (*Mercedes Benz in* Argentina and México; *Scania,* in South Africa). This model of entry via a joint venture with major local manufacturers in large Emerging Markets was repeated in India in 2008, when it established joint ventures with *Tata Motors* and in Egypt in 2009 in partnership with *GB Auto*. The joint-venture strategy is often regarded as an entry mode that favors technological learning. Although Marcopolo has possibly obtained some learning from these joint-ventures, according to the company's managers, the Brazilian company was the leading technology supplier in all of them. Joint-ventures were mainly aimed at overcome entry barriers, gaining market share by settling down with a local brand and avoiding fierce competition.

In Mexico, Colombia, Argentina and South Africa Marcopolo started by exporting most of its components manufactured in Brazil and only performed the assembly in the host country. However, since 2004, the company began to work to develop new suppliers abroad, to obtain protection against currency oscillations, as the strategy of internationalization for Marcopolo had as its main focus in large emerging countries that possessed but volatile exchange rates.

Moreover, at each industrial plant, Marcopolo has its own R&D team responsible for adapting products to customer demand. One of the company's competitive advantages is the ability to mount bodies on any type of chassis. The high quality of its products and its flexible development capabilities were fundamental for the Indian giant Tata Motors to be convinced to sign a joint venture with a Brazilian company within its own country. Currently the Indian factory is Marcopolo's leading international operation (see table 2).

Table 2: Geographic Distribution of Marcopolo Production, by number of bus bodies produced in each country

Region	2011	2010	Var 10-11	% total, 11
Brazil	**20,813**	**19,060**	**9.2%**	**67.6%**
- Domestic Market	18,692	16,634	12.4%	60.8%
- Exports	2,121	1,999	6.1%	6.9%
Abroad	**9,953**	**8,964**	**11.0%**	**32.4%**
- Mexico	1,234	1,255	-1.7%	4.0%
- South Africa	241	678	-64.5%	0.8%
- Argentina (50%)	1,306	723	80.6%	4.2%
- Colombia (50%)	1,056	758	39.3%	3.4%
- India (49%)	5,932	5,216	13.7%	19.3%
- Egypt (49%)	184	334	-44.9%	0.6%
Total	**30,766**	**27,597**	**11.5%**	**100.0%**

Source: Marcopolo (2012)

Learning possibilities arises not only from succeeded internationalization projects, but also from failures. In 2008, Marcopolo, following a previously successful strategy, established a joint-venture in Russia with a large local manufacturer, *Ruspromauto*. However, the partnership was dissolved before production started, due to the impacts of economic crises on the country. The Portuguese factory, the first success of Marcopolo abroad, was also closed a year early for the same reason. However, Marcopolo kept pursuing international leadership and in December of 2011 it has changed its strategy and acquired the largest Australian bus body builder Volgren Pity, for US$ 53 million, plus debit compromises.

With installed production in eight countries and exports to more than one hundred, Marcopolo is now a company with global coverage that holds 40% of the Brazilian market and 7.0% of the world market of bus bodies. It is also an exporter of technology and has an internationalization model that is above all pragmatic and flexible. Control and development of supplier networks and aggressive associations with local champions sustains Marcopolo's excellence in design and assembly technology of its car bodies.

c. Natura

Natura is a leader in cosmetics, fragrances and personal hygiene in Brazil, with annual revenues of US$ 3.2 billion in 2011. Like the two other cases seen here, this is a young company that had rapid growth based on constant innovation of products and processes. Its internationalization is less advanced than the previous two cases examined and domestic market accounts for 91% of its revenues – while this figure is 60% for Marcopolo and just 13% for Embraer. Its plans, however, are ambitious, and it is important to note that company always tried to absorb knowledge from abroad and strove to integrate the strategies of innovation and internationalization. It also worth mentioning that Brazil was the third largest market for cosmetics, fragrances and personal hygiene in 2011, accounting alone for 10% of world market, only behind of U.S. (15%) and Japan (11%), and had an average growth rate of 10% on the last 16 years (ABIHPEC, 2012). Therefore, Natura is managing to growth its international presence at the same time that there is a high demand for investments in the domestic market, revealing that there is no necessary opposition between OFDI and domestic investment (see table 3 and 4).

Table 3: Natura revenues and innovative activity

	2009	2010	2011	Var 09-11
Revenues (U$ million)	2,495	3,021	3,289	32%
Investments in P&D&I (U$ million)	**66**	**85**	**89**	**35%**
P&D%I as % of revenues	**2.6**	**2.8**	**2.7**	**4%**
New products launched	**103**	**168**	**164**	**59%**
% of new products in revenues	67.6	61.4	64.8	-4%
Revenues in Brazil	n.a	2,802	2,992	n.a.
Revenues Abroad	n.a	219	297	n.a.
% of Revenues Abroad	n.a	**7%**	**9%**	n.a.

Source: Natura (2012)

Table 4: Natura's salespeople network, thousands

Salespeople	2009	2010	2011	Var 09-11
Brazil	**879.7**	**1,028.7**	**1,175.5**	**34%**
Abroad	**159.2**	**192.4**	**245.2**	**54%**
- Argentina	46.5	53.2	63.7	37%
- Mexico	31.2	41.2	58.5	88%
- Peru	42.6	45.5	54.9	29%
- Chile	24.5	31	37.9	55%
- Colombia	13	19	27.1	108%
- France	1.4	2.5	3.1	121%
Total	**1038.9**	**1221.1**	**1420.7**	**37%**
% abroad	**18%**	**19%**	**21%**	**15%**

Source: Natura (2012)

Natura was founded in 1969 by Antonio Luiz Seabra, a young economist who was manager of a small cosmetic laboratory owned by a French esthetician in São Paulo. Three years later, in 1972, the company hired Anísio Pinotti, an industrial chemist, who had experience in other companies in the cosmetics industry. Pinotti was the responsible to lead the development of new products based on herbal extracts and marine compounds (Ghoshal et al., 2002). The rapid growth of Natura began when it joined Pro-Estetica, a company specializing in direct sales at home, in 1974. This business model was clearly inspired by the U.S. company Avon, already implemented in Brazil for more than a decade. The partnership moved forward. Natura started with few and unknown, but quality products and saw its revenue jump from $53,000 in 1973 to $ 3 million in 1979, when the company had 1,000 sales consultants (Nakagawa, 2008).

Since then, the company's rapid growth has attracted several other entrepreneurs by creating a set of sister companies including a fragrance and makeup company that used the same vendors as Natura, and two distribution companies that send their products to all regions of Brazil. In the late 80's, Natura has merged the operations of these four companies as a way of responding to the crisis that affected the Brazilian economy and prepare itself for the market opening that was already being announced. The merger was followed by a deep organizational restructuring in the early 90's which included the hiring of several executives and consultants who had worked for large multinationals in the sector. Among the new executives hired was Phillippe Pommez, a French citizen, PhD in Physical Chemistry from the Sorbonne who had been vice president at Johnson & Johnson's headquarters. He took on the role of research director at the company and today he is vice president for internationalization and a major contributor to the French subsidiary of Natura[5]. It was also after the hire of Pommez that Natura launched some of its main family of products, such as Simbios in 1991 and Chronos in 1992. The importance of innovation in Natura's success has continued to grow. In 1990, 10% of its revenue was derived on the sale of products created or improved in the previous two years. In 2011, the percentage was 64.8%, revealing a high dependence of innovative activity. Spending on R&D are also well above the average for Brazilian economy and accounted for 2.7% of its revenues (see table 3). In 2012, Natura was nominated the 8th most innovative company in the world by Forbes Magazine, ahead of Procter & Gamble and L'Oreal, based on a methodology that considers companies' market capitalization in relation to current earnings as an expectative of investors for the development of new products (Forbes, 2012).

It was also in the 1990s, when it embarked on its most innovative phase that Natura also obtained success in its internationalization process. In 1994, it opened its own distribution centers in Argentina and Peru, where an intensive training program for its saleswoman and a reward scheme for successful management of operations were developed. The same model was replicated successfully in Chile in 2002 and in 2004 a new regional headquarters was created in Buenos Aires, responsible for operations in the countries of Hispanic America (Lima et al., 2008). It was in 2005, however, that it began its most ambitious international project, entry into the French market, one of the most world's most competitive markets in this sector. That choice, which at first glance appears to be irrational from the perspective of opportunities for growth, was supported by a strategic vision of leveraging its innovative activity. The French subsidiary is part of a project of relative separation of research and development activities. In this project, research teams are moving towards medium and long–term planning, directed towards radical innovations, while development teams are focused on short-term and on fulfilling the yearly plan of launching new products. To optimize the potential for radical innovation, research teams began to be allocated in knowledge-intensive markets (Frederick & Vasconcellos, 2008).

Besides having an R&D center, the European subsidiary also had a distinct business strategy. Anticipating difficulties in implementing its system of direct sales in France, Natura opened a "sensory store" in Paris so that customers could try out their products. Today, in addition to the store, the company already has a network of 3,100 salespeople in the country, more than doubling the figures of two years early. The strategy of opening a "sensory store" was also replicated in Mexico in 2005 and in the Colombian market in 2007 (Lima et al., 2008). For faster penetration in those markets Natura also decided undertake new organizational strategies, such as establishing partnerships with local companies and outsourcing manufacturing of products abroad, more specifically in Argentina, Colombia and Mexico. Natura has also started to develop specific products for different national markets (Valor, 2011:80; Natura, 2012).

Despite internationalization of some R&D and production abroad, Natura still focuses most of its innovative and manufacturing effort in Brazil. Its main laboratory is located in the city of Cajamar, near São Paulo, and houses about 250 researchers[6]. On the one hand, Natura is recognized as an example of Brazilian innovation and has an intense material and symbolic relationship with national biodiversity. On the other hand, one of its strengths is precisely

[5] "Executivos franceses comandam negócio da Natura em Paris" in *Jornal Valor Econômico*, 12/04/2005

[6] "Natura recebe R$ 34,7 milhões do BNDES para construção de centro tecnológico" in *Jornal Valor Econômico*, 30/04/2007.

its longstanding openness to knowledge flows from other organizations from Brazil and abroad. In the 1990s, it restructured its management activity and R&D by hiring several highly qualified professionals from multinationals in the sector. Most recently, in the current decade, it looked to France for a chance to renew its innovative activity.

The trajectories of Natura, Marcopolo and Embraer are all evidence of the double track relationship between internationalization and innovation in developing countries. In their early stages, companies pursued diverse forms of internationalization as a source of technology and product innovation. In recent years they were able to utilize accumulated technological and production capabilities to foster their overseas expansion and increase market shares globally. Although the importance of managerial capabilities, firm-level resources and industry-specific contexts is undeniable, the analysis of different cases reveals quite similar plots. For all of them, as well as for most Brazilian firms, the liberalization of the economy in the 1990's was a critical moment when important decisions had forcibly to be made. Companies that could not adapt to the new business environment, facing and emulating the best practices of international competition, both in management and technological innovation, suffered severe losses and often went bankrupt or were acquired by foreign firms (Bielschowsky & Stumpo, 1996; Coutinho, 1997; Arbix, 2007). The last decade brought once again new competitive challenges to Brazilian companies with strong exchange rate depreciation, fierce competition from Asian exports and, recently, recession in developed countries. To overcome these challenges, Brazilian companies are once more increasing their OFDI, diversifying their production and supplier networks and seeking to conquest new and more dynamic markets. To establish themselves in a global scenario full of large incumbent companies from developed countries and with a growing number of emerging market multinationals may be a difficult task. However, this time Brazilian companies have more accumulated international experience and, as we will see, large availability of financial resources for OFDI.

Destination of Brazilian companies

The predisposition of the Brazilian business elite to follow the path of innovation is also evident if we map out the main destinations of Brazilian multinationals going abroad. Although some authors insist that Brazilian companies concentrate their international activities in South America (e.g. Dunning, Kim & Park, 2008:167), there is no available data to support this hypothesis. Despite the fact that Brazilian multinationals have important influence in this region, evidence suggests that migration is increasingly directed to the more dynamic markets in the United States, Europe, and more recently, China. Official data for Brazilian OFDI is biased by the influence of tax havens and also by European subsidiaries. The latter are often utilized as investments intermediaries due to the presence of double taxation treaties (DDT) and bilateral investment treaties (BIT). From 2007 to 2011, 44.1% of Brazilian OFDI was reportedly located in tax havens and 40.5% in Europe (Figure 5). The main European destinations are Austria, Netherlands, Spain, Denmark and Portugal (Table 5). Due to the European Union, it is likely that part of these investments will remain in Europe, but with rare exceptions, it is not possible to accurately determine their final destination[7]. These assets are also likely to be utilized for acquisitions in distant countries, where it is more difficult to achieve success through organic growth (Goldstein 2007:17). In addition to the assets located in tax havens and Europe, Brazilian companies state they invest more in North America than South America, and that they have more OFDI in US than in South American countries altogether (Figure 5 and Table 5).

Figure 5: Brazil's OFDI stock, by host region and type of investment, 2007-2011, US$ million and %.

Source: Author's elaboration based on data from Brazilian Central Bank (2012)

[7] One example of traceable investment for a tax haven happened in 2006, when Vale acquired Canadian mining company Inco for US$ 19 billion. Although declared Brazilian OFDI in Canada never reached US$ 1 billion, in the same year Brazilian OFDI in Bermuda had an increase of US$ 14.3 billion (BCB, 2012). On the main European receipts of Brazilian OFDI is worth to mention that Netherlands is the home country of Petrobras International, partially due to many BITs signed by the Dutch government, and in Austria it is located the Banco do Brazil headquarters for Europe and Africa, due, among other factors, to a DDT signed between Austria and Brazil (According to interviews made by Luiz Caseiro with high officials of Banco do Brasil and Petrobras).

Table 5: Top 10 destinations for Brazilian OFDI stocks, excluding Tax Havens, 2007-2011, US$ million

		2007	2008	2009	2010	2011
1	Austria	31,221	31,226	36,268	37,524	48,082
2	Netherlands	2,184	2,466	3,768	11,073	21,066
3	United States	8,211	10,556	11,363	14,067	13,816
4	Spain	4,211	5,208	5,296	9,038	11,366
5	Denmark	10,843	8,046	9,701	9,296	9,880
6	Argentina	2,496	3,521	4,445	5,324	5,336
7	Portugal	1,638	1,460	1,967	3,283	3,025
8	Hungary	901	1,827	1,751	2,489	2,513
9	Uruguay	2,030	2,518	2,738	2,654	2,511
10	Peru	584	244	704	2,254	1,902

Source: Brazilian Central Bank (2012)

Given the difficulties in determining the real destination of OFDI, this study sought to identify and map the location of the overseas subsidiaries, offices or acquisitions of Brazilian companies. This exercise was conducted in detail for 88 multinationals across various sectors (figures 6 and 7). It has several limitations because, in the first place, there is no available data on the amounts invested by each company in each destination. Secondly, the sample size is not representative of all Brazilian enterprises with OFDI abroad. However, the authors believe that this is a useful exercise to capture important features of the overseas expansion by major Brazilian groups. According to BCB data, in 2006 there were 887 Brazilian companies with investments abroad[8]. Therefore, our maps accounts for 10% of the total number of Brazilian companies. To build these maps, were included all Brazilian companies[9] that we could identify their active subsidiaries, offices, or acquired foreign companies abroad in the years 2008 or 2009[10]. Any type of industry or size filter was utilized, although it is expected that the access to investment information is likely to be easier for large companies, especially those that trade shares in stock markets.

Since the following maps are focused on the largest and well-known Brazilian multinationals, they also account for most of Brazilian OFDI, as a significant proportion of it is concentrated in a few large commodity-producing companies, especially Petrobras, Vale, Gerdau[11] and JBS Friboi (Fundação Dom Cabral, 2007). However, they visual outcome is very different from what might be expected from a mapping of OFDI. The maps presented here show the number of Brazilian companies with overseas operations (and therefore some type of OFDI) in each country of the world (Figure 6) and the number of Brazilian companies from each industry with operations in each region of the world (Figure 7). These maps emphasize an aspect of the recent internationalization process of Brazilian companies that is not well known: the involvement of a growing number of companies from medium-high and high-technology industries looking at the foreign market as a way to gain competitiveness.

Figure 6[12]: Number of Brazilian multinationals with subsidiaries or offices in each country, 88 firms sample, 2009

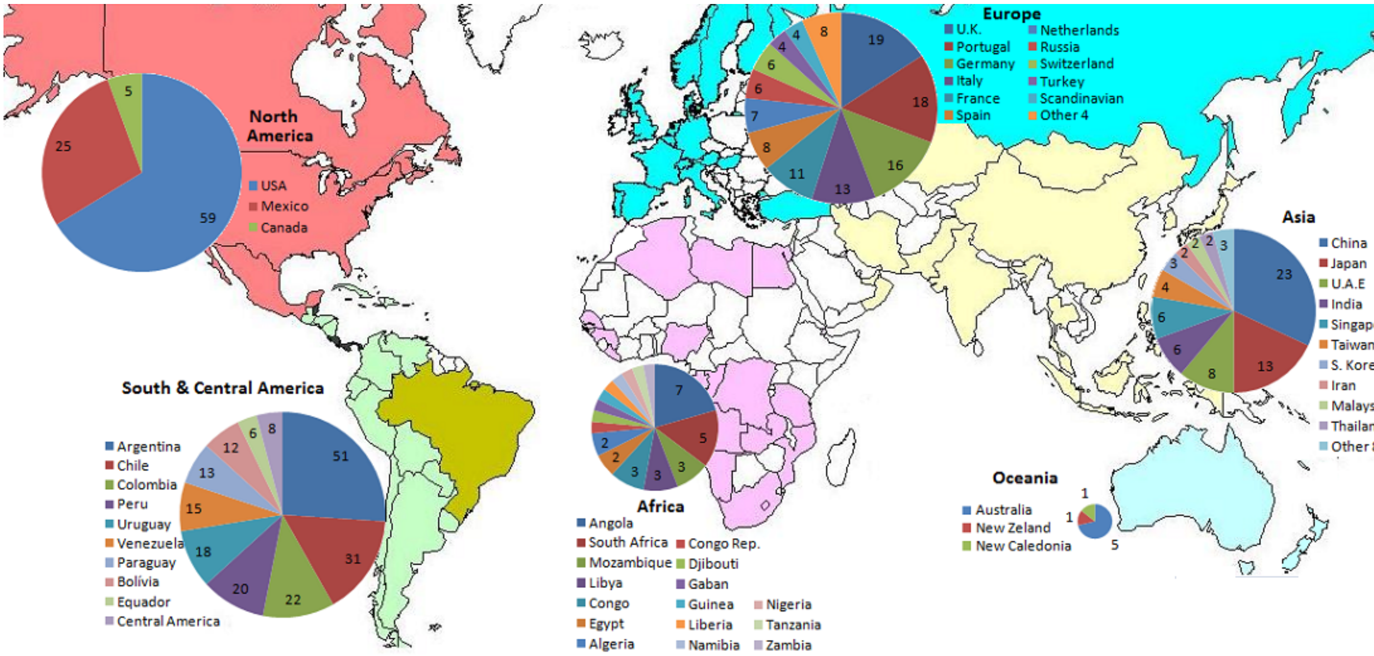
[8] Interview made by Luiz Caseiro with a BCB employee in June 2010

[9] As Brazilian companies, we considerate only those companies that had more than 50% of its capital controlled by Brazilian citizens or entities. Companies that have Brazilian origins, high levels of investments in Brazil and are often considered as Brazilian by the literature, but are controlled by foreigners, such as Ambev (beverages) and Mahle-MetalLeve (car-parts) were excluded from the sample.

[10]The authors are currently working to upgrade data for these two maps, and more recent versions of them shall be presented in September, in the final version of this working paper. Until now, more recent data corroborates the findings already presented here, with a growing number of Brazilian companies seeking for Asian markets..

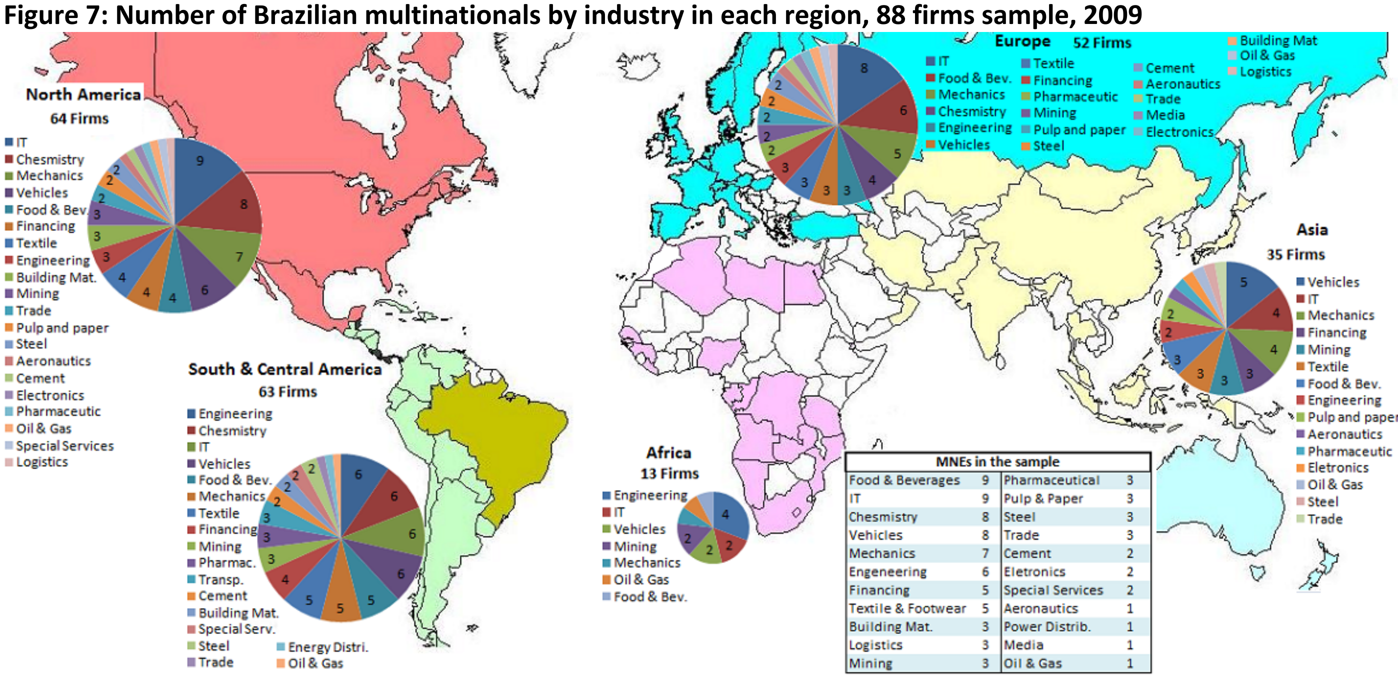
[11] Emphasizing that Gerdau does not produce commodities only, but also special steels, including auto-parts, for the European market.

[12]See note 11.



Source: Valor (2010), Fundação Dom Cabral (2010), companies' annual reports and websites

Figure 7: Number of Brazilian multinationals by industry in each region, 88 firms sample, 2009



MNEs in the sample

Food & Beverages	9	Pharmaceutical	3
IT	9	Pulp & Paper	3
Chesmistry	8	Steel	3
Vehicles	8	Trade	3
Mechanics	7	Cement	2
Engeneering	6	Eletronics	2
Financing	5	Special Services	2
Textile & Footwear	5	Aeronautics	1
Building Mat.	3	Power Distrib.	1
Logistics	3	Media	1
Mining	3	Oil & Gas	1

Source: Valor (2010), Fundação Dom Cabral (2010), companies' annual reports and websites

According to our data, the country that attracts the largest number of Brazilian multinationals offices, subsidiaries and acquisitions is the United States, with 59 companies, in contrast to Argentina, which has 51 Brazilian companies. The Central Bank data also points in the same direction: the U.S. is the third largest destination – excluding tax havens – for Brazilian OFDI, with US$13.8 billion in 2011, while Argentina accounts for a total of US$ 5.3 billion.[13]. This preference for the U.S. market questions the interpretations that identify South America as the preferred area for Brazilian multinationals. In a broader sense, this also calls into question, in the Brazilian case, the validity of the

[13] Available at: www.bacen.gov.br (last access in 6/2012)

gradualist approach of Johanson & Vahlne (1977; 1990), which assumes that firms first internationalize themselves to close countries, geographically and culturally, as a way to reduce risk and uncertainty for business owners and managers. In Brazil, the major multinationals in the country do not necessarily follow this pattern when it comes to establishing subsidiaries.

By observing the European market, we see that Portugal has fewer numbers of Brazilian subsidiaries when compared with the United Kingdom, and Germany also stands out, contrary to the arguments for preference based on access facilitated by language. In the declared value of OFDI, Spain ranks first among Europeans while Portugal is only the fifth destination. In the Far East, a significant number of companies make efforts to serve the Chinese market, which is already the fifth-preferred destination for Brazilian multinationals, in number of subsidiaries, offices and acquisitions. Almost all of the activities in China were implemented in the last decade, with 23 companies, or 26% of the sample, already having a foothold in China. Despite the important role played by cultural factors and linguistic community, it is possible to conclude that Brazilian multinationals, across all continents, show a preference for establishing themselves in the largest and most dynamic markets.

This search for establishing subsidiaries in large and more dynamic markets is due, on the one hand, to the fact that those markets demand a more constant and intense presence from firms that are hoping to succeed there through exports. Fierce competition and high levels of consumers' purchase power pushes to more complex demands and regulations on post-sales services and product adaptation that usually can only be fulfilled with a local foothold. On the other hand, these markets have a strategic value as privileged locus of innovation, construction and dissemination of new knowledge production, emergence of new trends, and of partnerships and synergies with competitive companies. This is precisely the justification that Marcel Malczewski, former president and founder of *Bematech,* a Brazilian multinational in the hardware and automation industry, offers in explaining why his company set up subsidiaries in China and Taiwan in recent years, accepting the challenge to take part in fierce Asian competition: "a very important part of our company, of our business, is in Asia, because if we have a hardware company and we want to innovate, we have a presence there." Malczewski stated that the company invests from 4% to 8% of its net revenues in R&D[14].

A similar phenomenon occurred with the IT services companies, *CI&T* and *Politec* which has subsidiaries in the United States, Britain, China and Japan (Valor, 2009:62; Arruda, Almeida & Casanova, 2009:202), and with the IT sector in general, which tends to always seek the U.S. market. It also occurred with several companies from the industrial equipments and auto parts industries - WEG, Romi, Lupatech, Gerdau, Tupy, Tramontina, Randon and Sabó - that moved into the competitive German market; with Natura (cosmetics) which opened a subsidiary in France; and Renner Sayerlack (industrial paints) which has a factory and R&D center in Italy, among others. From Figure 7, it is possible to note that Latin America and Africa are preferred targets for a larger number of companies in the engineering, mining and textiles sectors. However, the greatest number of companies from the IT, chemical, mechanical and vehicles and auto parts sectors prefer the American, European and East Asian markets. This is another indication that the more knowledge intensive the industry in question is, the more it tends to seek out competitive markets as a source of innovation.

Although the first internationalization activities of some of the leading Brazilian multinationals – e.g. Petrobras, Vale, Embraer, Gerdau, Odebrecht, and Andrade Guitierrez, Coopersucar, Tigre, Duratex, and Alpargatas – had their start in the 1970s and 1980s (Guimarães, 1985; Dias, 1994), the recent expansion, besides being more intense and including a larger number of companies and industries, has three fundamental differences from the past in respect to business strategies:

1. Their expansion in not concentrated in Latin America, as it was in the 1980s and early 1990s. (BNDES, 1995; Iglesias & Mota Veiga, 2002).
2. OFDI is no longer just a tactical movement, as it was during the 80s, when, having a protected domestic market, some companies invested abroad as an alternative to escape the stagnation and instability that plagued the Brazilian economy (Cyrino & Tanure, 2009; Fleury & Fleury, 2009).

[14] Marcel Malczewaki, president of Bematech. Statement collected by Luis Caseiro on 19/08/2009, during the Five-Diamond Conference in Nova Lima-MG, Brazil.

3. Companies do not limit themselves to regional or niche markets, and instead compete openly for larger slices of the market with multinationals that have been traditionally better equipped and more powerful.

This new phase of internationalization of business strategies in Brazil started with the opening of the economy in the 1990's due to the need of becoming more competitive against foreign competition. This strategy is associated with sophistication in production and management standards and a more entrepreneurial stance among the business elite. The argument that Brazilian firms internationalize due to low growth in the domestic market (e.g. Cyrino & Tanure, 2009:18), although it might seem plausible for much of the 1990s, loses strength when we look at the recent boom of Brazilian OFDl, which occurs precisely as the Brazilian economy is growing at a faster pace. Throughout the last decades, OFDI is highest precisely during those years of the greatest GDP growth. This shows that internationalization is no longer merely the result of a tactical choice between domestic and foreign markets. It has evolved into a constant, being incorporated as part of the strategies of a growing group of Brazilian companies, and connected to a global vision of opportunities in the business world, in which the chains of production value and knowledge are extended across countries, with suppliers, customers and competitors being found in the key global markets. The strategic direction of a group of Brazilian companies in search of internationalization and innovation, the fruit of a new commitment to competitiveness, has been fundamental in the success of recent expansion among Brazilian multinationals.

However, it is also important to note that the two-track strategy of combining innovation and internationalization could be more intense among Brazilian companies. The total Brazilian investment in R&D is still only half the OECD average - around just 1.1% of GDP (FAPESP, 2010) - and the country has struggled to raise this level, despite incentives created over the last decade. For the pathways of globalization identified by this study, we are led to believe that the more innovative firms are, the greater the opportunities to grow in the global market. Therefore, strategies to enhance innovation and internationalization can and should be articulated by both firms as well as public policy-oriented development.

Capitalization and financing

In the same moment that Brazilian companies intensified their OFDI flows, Brazil, like many other emerging countries, experienced an extremely positive and rare moment from the point of view of financing conditions, which had not occurred since the 1970s. Starting in 2004, the same year of the OFDI boom, the country benefited from high commodities prices (figure 8) for and from a solid entry of foreign capital (Figure 2). Prices of raw materials, petroleum, minerals, and food have been driven by the accelerated industrialization and vigorous growth of China and India, and also by financial innovations that increase capital flows into future markets. Also contributing to the increased availability of financial capital: (i) low interest rates in the main developed countries, which liberated a major portion of capital seeking more profitable applications in emerging markets, and (ii) a series of financial innovations that allowed for the multiplication of liquidity and the profitability of high-risk financial securities (Ocampo, 2007; Jenkinson, Penalver & Vause, 2008).

Figure 8: Commodities Prices Index, market prices in US$, 1960-2011, 2000=100

Source: UNCTAD (2012)

The boom in commodity prices, in turn, contributed to the valuation of companies producing and marketing commodities, and also attracted a great deal of foreign capital to São Paulo Stock Exchange (BM&FBOVESPA), where these companies have significant weight (Figure 9 and Figure 2). Some of the leading Brazilian multinationals are producers of commodities - including Petrobras, Vale, Gerdau, JBS Friboi, BRFoods, Marfrig, Magnesita – and were directly benefitted from the rise in commodities prices. The greater international visibility of BMF&BOVESPA, however, also benefitted other Brazilian companies listed. From figure 9, it is possible to note that in 2002 the

São Paulo Stock Exchange market value was similar to Mexico's and not too far from the Santiago Stock Exchange. However, in the following eight years, BOVESPA's market capitalization experienced a twelve-fold increase, while Mexican stock exchange market capitalization was multiplied only by four. Argentina is also a major commodity producer, but the gap between the growth of its Stock Exchange and the Brazilian one reveals that Brazil had favorable conditions to take advantage of the rise in commodities prices and to attract large amounts of cheap capital available in international markets that Argentina did not have.

Figure 9: Market Capitalization of Main Latin American Stock Exchanges, 1990-2010, US$ million

Source: Author's own elaboration based on data from World Federation of Exchanges (2012)

Several strategies adopted by both the Brazilian government and private sector prepared the country to maximize this financially favorable moment and use it to stimulate greater competitiveness of the Brazilian economy. On the one hand, BOVESPA and listed Brazilian companies created in 2000 distinctive special listing segments in the São Paulo Stock Exchange to stimulate better practices of corporate governance and attract new investors. To be listed in the new segments of BOVESPA, companies must publish detailed information on their corporate governance, allow the monitoring of their management acts, equalize rights among all shareholders, and decrease uncertainties in the evaluation and investment process (BM&FBOVESPA, 2010). Risk reduction, increase in the transparency of the evaluation process and protection of minor shareholders, in turn, fostered a better pricing of shares as well as their attractiveness to new investors. It became a virtuous circle when the influx of new investors stimulated new companies to issue stocks in special segments. Higher mark values of Brazilian companies also allowed to an exponential increase in their capacity to indebt.

On the other hand, the government contributed to this process by sustaining economic stability, stimulating growth and reducing the country's external vulnerability. These were done through a mix of anti-cyclic macroeconomic policies and distributive social policies. The control of inflation, reduction of external debt and the accumulation of foreign reserves were fundamental for decreasing *country risk* and also the cost of external credit for the entire Brazilian economy. This process allowed Brazilian companies to obtain cheap capital abroad to finance both their domestic and overseas investments. Between 2003 and 2011, the average Brazil-risk (J.P. Morgan, EMBI+) had decreased four times. During the same period, the foreign reserves of Brazilian government rose from US$ 49 billion to 352 billion, the total external debt of Brazilian government fell by 45% and the external debt of Brazilian private firms increased 180% (Figure 10).

Figure 10: Brazil-Risk (JP Morgan, EMBI+ Brazil) and Brazilian External Debt (US$ million), 2003-2011

Source: IPEA (2012) and BCB (2012)

Large Brazilian companies adopted a pool of different strategies to obtain financing abroad during this period. According to research from Economatica Consulting, the trading volume of 32 Brazilian companies listed on the New York Stock Exchange (NYSE) in 2007 was US$ 555.6 billion, higher than the trading volume of these companies at BOVESPA (US$ 528.9 billion)[15]. International loans have also become a more available option, as show in Figure 2. For example, Vale alone raised US$ 14.6 billion from foreign banks to acquire the Canadian company Inco in 2006. This amount of cash became a clear advantage in relation to its competitors for the acquisition (Fluriet & Braga 2009:116). Many large Brazilian companies became independently rated by international agencies and often are able issue bonds in foreign markets at lower costs than the Brazilian Government (Table 6). The fact that large amounts of capital can be obtained in foreign markets in a context of international crises shows that a few group of leading

[15] *"NY negocia mais ações brasileiras que SP"* in Folha de São Paulo, 06/01/2008.

Brazilian companies are now regarded as a safe haven for risk aversion and had acquired robustness, prestige, and confidence in the international market. This was completely unthinkable a decade ago.

Table 6: Recent bond emissions in foreign markets by Brazilian state and companies

Company	Industry	Date	Term-months	US$ million	Annual Cost %
BRFoods	Food	June-12	120	500	5.8
Braskem	Petrochemicals	May-12	120	500	5.3
Brazilian Republic Government		April-12	141	1,707	8.5
Magnesita	Mining	April-12	-	250	8.6
Vale	Mining	April-12	118	1,250	4.3
Minerva	Meat Processing	March-12	119	100	12.25
Itau	Bank	March-12	120	1,250	5.6
Banco do Brasil	Bank	March-12	-	750	9.2

Source: Valor Economico (2012)

The pro-activity of the government in reducing strong economic constraints, coupled with the increasing transparency and competitiveness of Brazilian companies, help to understand the contrasts between capitalization of BOVESPA and the Buenos Aires SE, given that both countries have benefitted from high commodity prices. Moreover, it also must be added that Brazil was the only country in Latin America which was able to sustain a relatively diversified industrial structure after the stagnation of the 1980's and the liberalization of 1990's, with large companies in several industries (Castro e Rio, 1985; Arbix, 2007; Finchelstein, 2009). In the forthcoming section of this paper we will also briefly analyze the state role in building these enterprises.

Last but not least, the resumption of Brazilian economic growth in the last decade increased profits of Brazilian companies in the domestic market and therefore their capacity to take risks abroad. Although other financial sources became available for large companies, profits were still the main source of investments for most Brazilian companies, both internally and externally (BNDES, 2012; Valor, 2011). In the recent growth trajectory of Brazilian economy there was an important role played by distributive social policies, mainly increases in the minimum wage and in pensions, but also cash transfer programs. Those policies contributed include millions of people into formal consumer markets and increased the demand for industrialized products, foods and real estate investments (Sant'anna *et al.,* 2010). Companies' profits in internal market were also boosted by a wave of state-sponsored mergers and acquisitions that lead to nation-wide consolidation in several industries. This process will be analyzed in more detail in the following section. For now, it is important to note that the aforementioned positive external factors, such as low international interest rates and high commodities prices, contributed to generate trade surpluses and high tax revenues that allowed Brazilian government to mobilize resources for investments in both industrial and social policies without increasing public indebtedness.

State support for OFDI

Several authors (e.g. Evans, 1995; Schneider, 2009; Aman, 2009; and Finchelstein, 2009) analyzed how Brazilian government, since the 1940's, directly built the structure of what would became some of its leading multinationals companies nowadays, like CSN, Vale, Petrobras, Embraer and also the petrochemical sector, today controlled mainly by Braskem and Oxiteno, also two Brazilian multinationals. Construction and engineering companies, like Odebrecht, Andrade & Gutierrez and Camargo Correa, have also benefitted from a long term close relationship with Brazilian government in large infra-structure projects and were among the first Brazilian companies to have the know-how and financial resources to expand their activities abroad (Fleury & Fleury, 2009). Moreover, during the privatization process in the 1990's the government furnished incentives and protection for the formation of large Brazilian private groups, as restrictions on acquisitions by foreign companies were introduced. Even Gerdau, which justifiably boasts of its history of entrepreneurship, has expanded domestic operations with subsidized loans from BNDES and in the early 1990s strengthened itself through the acquisition of three SOE steel companies (Andrade & Cunha, 2003; Finchelstein, 2009).

Due to the objectives of this study, however, we will focus only the State-implemented devices that supported internationalization of Brazilian enterprises within the last decade. Emphasizing the State support does not meant to neglect private companies agency as the main driver of the internationalization process. The intensification of internationalization began in the 1990s when there was any type of direct policy stimulus. It was only in the 2000s' the government began to outline a clear direction to support companies' movement of expansion abroad. Given the incipient nature of the State role in this process, it is necessary to recognize that in the most of the cases, efforts to internationalize business are still conducted without direct State aid. However, in some cases this support has been essential. Moreover, as we will show, even when a private Brazilian company does not utilize State support for international expansion, usually it has at least part of its domestic investments funded by state-owned banks, and therefore setting free a larger portion of its own profits for international expansion.

The year of 2002 marked a turning point in state policy towards internationalization support. In this year, apparently as an isolated measure, the Brazilian Development Bank (BNDES) modified its statute to allow financing acquisition of productive assets abroad by companies owned by Brazilian investors (Além and Cavalcanti, 2005). With the return of industrial policies in Brazil in 2004 (MDIC, 2004) internationalization incentives officially became part of the government agenda, although it was included more as a matter of intentions and was still lacking of clear policy directions. In this same year, the Minister of Development Luis Furlan stated that *"the goal of the government for this mandate is to keep at least 10 Brazilian multinationals in operation*[16]*"*. The new credit line from BNDES was used for the first time only in 2005 when a loan of US$80 million was approved for funding JBS, a meat processing company, to acquire the Argentine subsidiary of the American company Swift (Sennes and Mendes, 2009).

Since 2007, government support for internationalization has increased steadily with the introduction of a new industrial policy, with more explicit goals for OFDI support (MDIC, 2008), and an expansion of BNDES funding. In the new "production development policy" (PDP) support for internationalization appeared as a way to expand and consolidate international leadership (being among the top 5 players) in industries where Brazil already retained high competitiveness, more specifically: aeronautics, oil and gas, petrochemical, ethanol, mining, steel, pulp and paper and meat processing (MDIC, 2008). That same year, BNDES granted JBS with US$ 750 million to buy the parent company of Swift in the United States and Itautec, a software and hardware producer, received US$ 142 million to acquire an American firm, Tallard, and to capitalize its subsidiaries in Miami and Portugal (Sennes and Mendes, 2009). The disbursements of BNDES for direct support of the internationalization process continued to grow in the next couple of years reaching a total of R$ 9.9 billion (~ US$ 5.8 billion) between 2005 and 2011. Of this total, R$ 9.6 billion (~US$5.6 billion) were disbursements by BNDESPar for equity acquisitions (securities underwriting) in capital markets (see table 7)[17].

Table 7: BNDES Disbursements for Brazilian Companies OFDI projects*, 2005-2011, in R$ million and approximate US$ millions

Year	R$ M	Appr. US$ M	Industries	Host Countries	Type
2005	192	110	Agribusiness, Capital Goods, Construction and Engineering, Electronic, Energy, Information Technology, Technical Services.	Argentina, Australia, Canada, Costa Rica, Egypt, Equator, France, Germany, India, Ireland, Italia, Mexico, Netherlands, Paraguay, Peru, Russia, Spain, Turkey, United States, UK	Capacity Expansion, Acquisitions, Greenfield Investments

[16] Interview to newspaper Jornal Valor Econômico on: 09/12/2004

[17] This information and table 7 were given to Luiz Caseiro by a high official from BNDES during an interview conducted in March of 2012.

2006	971	555			
2007	1,223	699			
2008	3,720	2,125			
2009	789	451			
2010	3,053	1,744			
2011	6	3			
Total	9,953	5,687			

Source: Table ceded by BNDES during interview made by Luiz Caseiro in March 2012.
* Individual project data was not disclosed by BNDES.

In most cases of direct governmental support for internationalization of companies, BNDES acquired company shares to provide financial support, instead of providing loans. According to a senior official from the BNDES interviewed by the authors, there are three main reasons for this pattern. Firstly, from the company's perspective, equity purchases are long term investment that do not imply in direct indebtedness. Secondly, BNDES loans for international investments have a much higher interest than BNDES loans for domestic investments, as the former are attached to exchange rate oscillations. Thirdly, from BNDES' perspective, this strategy allows the state-owned development bank to reap corporate profits. One additional reason, nevertheless, might be that through equity acquisition BNDES also potentially increase influence over company's strategic decisions, avoiding, for example, its liquidation to a foreign multinational in the future.

To better assess BNDES practices, we sought to track OFDI operations by searching public information available on the BNDES website, academic literature and press reports. The BNDES individual disbursements for cross-national acquisitions available in public sources are summarized in Table 8. Yearly differences on values are expected once Table 7 accounts for date of disbursement while Table 8 for the support announcement. The total amount on table 8 represents nearly 90% of the resources allocated by BNDES to supporting OFDI. Our data reveals that although the international expansion of technology-intensive companies were also financed by BNDES, the bulk of its OFDI support was directed at meat processing, an industry that seems to have few positive externalities in terms of catching up and knowledge flows. The support for the internationalization of meat processing industry was predicted by the Brazilian industrial policy (MDIC, 2008), however the high concentration of its financial resources in this industry has raised some concerns on whatever the BNDES support to internationalization is properly aligned with broader goals of Brazilian industrial policy, especially its goal of encouraging more innovative activities (Arbix & Caseiro, 2011).

Table 8: BNDES disbursements for direct support of the internationalization of Brazilian companies

Company	Industry	Project Description	Date	R$ M	Approx U$ M
JBS Friboi	Meat Processing	Acquisition of Pilgrim's Pride in United States	2009	3,480	1,988
Bertin	Meat Processing	Acquisition of new firms, modernization of exiting unites, and new greenfield projects.	2008	2,500	1,429
JBS Friboi	Meat Processing	Support for internationalization strategies	2008	1,109	634
JBS Friboi	Meat Processing	Acquisition of Swift Co. in United States	2007	1,312	750
JBS Friboi	Meat Processing	Acquisition of Swift S.A. in Argentina	2005	156	89
Total for meat processing industry				8,557 (97%)	4,890 (97%)
WEG	Electrical Equipment	New manufacturing plant in India	2011	65	37
Eurofarma	Pharmaceutical	Acquisition of Quesada pharmaceutical company in Buenos Aires, Argentina.	2010	12	7
Bematech	Software e Hardware	Acquisition of Logical Controls IT company in United States.	2010	30	17

Itautec	Software e Hardware	Acquisition of Tallard IT company in US and capitalization of its subsidiaries in US and Portugal.	2007	146	83
Total for other sectors				253 (3%)	145 (3%)
Total				**8,810**	**5,034**

Source: BNDES (2012); Sennes and Mendes (2009); Valor (2011).

Whether, on the one hand, the benefits of having the large meat processing company in the world are not totally clear, on the other hand, government's concern to increase market share, exports and jobs through the internationalization of Brazilian companies is especially evident in its support of major national construction contractors and engineering services companies. Sennes and Mendes (2009) show that it is mainly because of BNDES loans to foreign governments that companies like Odebrecht, Camargo Corrêa and Andrade Gutierrez are able to compete against Chinese contractors in Latin America and Africa. By making these loans, BNDES requires that at least 35% of the amount disbursed for each project must be spent on imports of Brazilian products. A similar policy has also been pursued in the aeronautical industry, where BNDES has financed the purchases of Embraer clients. Between 2008 and 2011, BNDES lent US$ 9.9 billion to foreign governments and corporations for the procurement of goods and services of Brazilian companies. From this amount, 63% went to countries in Latin America and Africa, as can be seen in Figure 11.

Figure 11: BNDES financing to foreign institutions to hire Brazilian companies, 2008- 2011, US$

Source: Authors elaboration based on BNDES (2012)

The support of BNDES for Brazilian transnational companies is also confirmed within a broader perspective. Although direct financial support for OFDI has been restricted to few companies, almost all Brazilian multinationals borrow loans from BNDES for domestic operations, as shown in Table 9. Therefore, although most of Brazilian multinationals states that profits are the main source of their international expansion (Valor 2011), they have freed a larger portion of their earnings for OFDI by utilizing the Brazilian public financial system to fund their operations at home. According to data presented by the own bank (BNDES, 2011), BNDES was responsible for providing 25% of all funds utilized for investments in industrial and infra-structure projects in the Brazilian economy between 2003 and 2011.

Table 9: BNDES direct disbursements to Brazilian multinationals (at home and abroad), 2008-2011, R$ millions and approximate US$ millions

Company	Industry	Millions R$	Aprox. U$ M		Company	Industry	Millions R$	Aprox. U$ M
Petrobras	Oil & Gas	47,675.4	27,243.1		Positivo	Hardware	347.0	198.3
Vale	Mining	7,118.2	4,067.6		C. Correa	Engineering	322.1	184.1
JBS	Meat Processing	4,789.1	2,736.6		Magnesita	Mining	245.0	140.0
Votorantim	Conglomerate	4,212.8	2,407.3		Duratex	Constr. Material	239.3	136.7
Marfrig	Meat Processing	3,956.4	2,260.8		Tupy	Steel & Car parts	195.8	111.9
Suzano	Pulp & Paper	3,413.9	1,950.8		Natura	Cosmetics	175.7	100.4
Braskem	Petrochemical	2,626.4	1,500.8		EMS	Pharmaceutical	136.8	78.1
BRFoods	Food & Beverages	1,705.7	974.7		Minerva	Meat Processing	122.2	69.8

Fibria	Pulp & Paper	985.8	563.3		Eurofarma	Pharmaceutical	118.3	67.6
Klabin	Pulp & Paper	697.7	398.7		Romi Ind.	Ind. Equipments	108.0	61.7
Gerdau	Steel & Car parts	693.0	396.0		And. & Gut.	Engineering	77.6	44.3
Weg	Electric Equipment	688.1	393.2		Lupatech	Industrial Equip.	52.6	30.1
Oxiteno	Petrochemical	630.2	360.1		Bematech	Hardware	30.0	17.1
Totvs	Software	404.5	231.1		CI&T	Software	6.7	3.8
Vulcabras	Shoes	384.1	219.5		Stefanini	Software	6.2	3.5
Total							**82,164.4**	**46,951.1**

Source: Author's elaboration based on BNDES (2012)

However the support of BNDES to Brazilian multinationals also have to be seem in a relative perspective, once BNDES basic interest rates for long term loans over R$ 10 million (~ US$5.7 million) vary from 7% to 11.25% per year (BNDES, 2012). Although these interest rates are the cheapest in Brazil, they do not represent an unfair advantage to Brazilian companies, as they are also available subsidiaries of foreign companies established in Brazil and are higher than those paid by some large European non-financial companies within the EU (European Central Bank, 2012). It has been correctly argued that BNDES offers rates lower than the market because it has sought to correct a market failure in Brazilian private financial system, which is deformed by the high interest rates, high bank spreads and by the lacking of private credit for long-term industrial projects. Nevertheless, it is worth stressing that the government and BNDES have also taken advantage of its oligopolistic position in the supply of industrial credit in the Brazilian domestic market to increase its partnership with the largest Brazilian transnational companies. Since 2005, BNDES and Petrobras have funded several domestic intra-industry purchases, and therefore promoting domestic industry consolidation by some Brazilian multinationals. With a larger scale of production and market share at home, these companies are then able both to secure more funding for overseas expansion and to better defend themselves from foreign competition in the domestic market (table 10). Often, Petrobras and BNDES also became shareholders of Brazilian multinationals by funding their operations through securities underwriting (table 11). In reference to the strategy of support consolidation of several industries, the BNDES president, Luciano Coutinho, state in 2010: "it is consistent with the government's industrial policy to enable the development of global players in Brazil, on a worldwide scale."[18].

Table 10: Funding of BNDES and Petrobras* for industry consolidation in Brazil, R$ millions and US$ millions

Industry	Buyer	Seller	Date	Value - R$	Approx. US$
Meat Processing	Perdigão	Sadia	mai/09	1,100	629
Meat Processing	JBS	Bertin	set/09	3,900	2,229
Shoes	Vulcabrás	Azaléia	jul/07	314	179
Ethanol	ETH	Brenco	fev/10	300	171
Pharmaceutical	Aché	Biosintética	out/05	295	169
Pulp and Paper	Votorantim	Aracruz	jan/09	1,200	686
Petrochemicals	Braskem	Ipiranga	mar/07	2,275	1,300
Petrochemicals	Quattor	Suzano	ago/07	2,700	1,543
Petrochemicals	Braskem	Quattor	jan/10	2,500	1,429

[18] Luciano Coutinho interview to Valor Econômico on 22/09/2009.

Software	Totvs	Logocenter	fev/05	40	23
Software	Totvs	Datasul	jul/08	405	231
Telecommunications	Oi	Brasil Tel.	abr/08	2,500	1,429
Total				**12,215**	**6,980**

Source: Elaborated by the authors based on *Valor Economico*, several years.
* Petrobras has financed the consolidation of listed Petrochemical assets.

Table 11: State share in private Brazilian transnational companies, end of 2011, % of shares

Company	Industry	BNDES	Petrobras	Relevant Information
ALL	Transport & Logistics	12.21%		BNDES is the largest shareholder
Bematech	Hardware & Software	8.65%		
Braskem	Petrochemicals	5.53%	35.95%	Petrobras participate in operational decisions and is the largest shareholder
BRFoods	Food & Beverages	1.92%		
CNS	Steel	2.21%		
Embraer	Aeronautics	5.37%		Government has golden share
Fibria	Pulp & Paper	30.45%		BNDES participates in operational decision and is the largest shareholder
Gerdau	Steel and car parts	3.44%		
Iochpe	Car parts	6.77%		
JBS	Meat Processing	31.41%		BNDES participates in operational decisions
Klabin	Pulp & Paper	9.58%		
Lupatech	Industrial Equipments	11.34%		
Marfrig	Meat Processing	13.89%		
Romi Ind.	Industrial Equipments	7.13%		
Suzano	Pulp & Paper	4.36%		
Totvs	Software	5.23%		
Tupy	Steel and car parts	35.76%		BNDES is the largest shareholder
Vale	Mining	5.34%		Government has golden share

Sources: BM&F, BNDES and annual reports of companies.

The petrochemical industry consolidation funded by Petrobras is a paradigmatic example of this partnership between state and private firms. Altogether, between 2007 and 2010, the Brazilian SOE oil company has invested about US$ 3.8 billion in the purchase of three large Brazilian petrochemical companies (Ipiranga, Suzano and Quattor) and incorporated their assets within Braskem. As a result of this process, Braskem became the largest petrochemical company in the American continent. Petrobras, in turn, received 36% of Braskem's capital. Although Odebrecht is the controller of the company, Petrobras is its main overall shareholder and supplier. Moreover, Petrobras established in its contract that one of the goals of its investments in Braskem was, among other factors, to allow "a process of internationalization of the company through the acquisition of petrochemical assets, with the consequent increase of its global market share." Less than a month after the incorporation of Quattor assets, Braskem announced the acquisition of a unit of an American company, Sunoco Chemicals, for US$ 350 million and a greenfield investment of US$ 2.5 billion into a petrochemical complex of Coatzacoalcos, Mexico.

State involvement and explicit expectations of internationalization also occurred in the case of the consolidation of the telephone communications industry. The purchase of Brazil Telecom by Oi Telemar was announced in April 2008 for US$ 3.4 billion. The result was the formation of the second largest Latin American telephone telecommunications services company in annual revenues. BNDES financed 35% of the operation and obtained the contractual prerogative to acquire common shares of the company, if in the future those become the subject of negotiations with foreign groups. The consolidation was explicitly encouraged by the government that pledged to change legislation – which previously prohibited the merger between landline telephone operators. Two arguments supporting the controversial operation mobilized by the company's president at the time, Luiz Eduardo Falco, were: (i) the "right to survive" competition from foreign groups in the country; and, (ii) the potential that new company would have to internationalize. The Minister of Communications, Hélio Costa, also emphasized this last point, arguing that the consolidation made "the country became more competitive in this industry, especially in the markets of Latin America and Africa."[19]

A precise assessment of this new partnership between state and private firms in Brazil is difficult to be made. For example, Lazzarini *et al*. (2012) analyzed the performance of 286 companies supported by BNDES and found no statistical evidence that the state-owned bank has influence on the investment decisions of beneficiary firms. However, even if BNDES and, more broadly, the Brazilian government are not directly influencing private companies' investment decisions, it is undeniable that their capacity to do so is increasing. With increased shareholder positions, the bank has expanded its ability to influence board membership of beneficiary firms and, at times, it has chosen to actively participate in beneficiary firm operational decisions (JBS and Fibria). In a few select and important cases, the government has golden shares (Vale and Embraer) that give it veto power over the liquidation of these companies, the disposal or winding up of their activities, any changes in their corporate purposes and in the location of their head offices (BNDES, 2012; Mattos, 2008; Schneider, 2009).

The political network connections between the executives of large Brazilian private groups and the federal bureaucracy are complex in the both sides. During Lula`s presidency (2003-2010), the Brazilian government took several steps to strengthen its ties with the Brazilian industrial elite. Executives from large Brazilian companies were invited to participate in new advisory councils created by the government for the formulation of industrial policies, as the Brazilian Agency for Development Industrial (ABDI), the National Council on Economic and Social Development (CNDES) and the National Council for Industrial Development (CNDI), (Arbix and Martin, 2010). The CNDI is currently the advisory board for Brazilian industrial policy and has among its 28 members 7 CEOs of Brazilian transnational companies – Embraer (aeronautic), WEG (electric equipments), Odebrecht (conglomerate), Coteminas (textile), Suzano (pulp and paper), Positivo (IT) and DHB (car parts) (MDIC, 2011).

The foreign expansion of SOEs like Petrobras, Banco do Brasil and BNDES has also been encouraged by the government. Although Petrobras has been a relatively intense international player since the 1970s, its expansion has accelerated sharply since 2000. Currently, the largest Brazilian company operates in 27 countries on all continents (Valor, 2011). Petrobras also contribute to internationalization of private Brazilian engineering and mechanical companies, like Odebrecht and WEG, as it hires their services and purchase their products abroad. Banco do Brasil and BNDES are other examples in this regard. The former adopted a strategy to establish new subsidiaries and make acquisitions of small and medium size banks in other countries as a means of providing financial support for Brazilian companies and following clients around the world. As Banco do Brasil is a commercial bank, it has also to compete for holding and increasing its client portfolio with other commercial banks. BNDES, in its turn, opened a subsidiary in London and an office in Uruguay with the specific purpose of supporting Brazilian companies abroad.

In addition to direct and indirect financial support to internationalization of Brazilian multinationals, the various examples mentioned here of statements from the Brazilian authorities in support of activities of Brazilian companies abroad contribute to creating an environment more friendly to OFDI. Some authors recognize that a clear signal from the government that it will support certain business initiatives tends to be a powerful driver of private investment planning, insofar as entrepreneurs perceive that the government is more likely to support them in case of any misfortune (Evans, 1995; Amsden, 2009). Obviously that does not mean that there is not a significant room for improvements in the environment to support OFDI in Brazil, for example, by signing more double taxation treaties and bilateral investment treaties (Sennes & Mendes, 2009).

Final considerations

[19] "Compra da Brasil Telecom pela Oi torna o país mais competitivo, diz Costa" In: *Folha de São Paulo*, 25/04/2008.

Internationalization can potentially generate benefits for all of Brazilian society – by increasing the competitiveness of firms, establishing new knowledge streams, providing access to new technologies and financial resources, and connecting the Brazilian economy to global chains of greater value. This is a process that can invigorate the entire Brazilian industrial structure and that, if well managed, helps to generate more skilled jobs (Arbix, Salerno & De Negri, 2004; Arbix & Caseiro, 2011). In the last decade, there has been an unprecedented expansion of Brazilian multinationals. Petrobras, Vale, Embraer and JBS have become big global players. Others, like Gerdau, WEG, Coteminas, Marcopolo, Votorantim, Odebrecht and Camargo Corrêa are regional leaders in their respective industries. Dozens of other firms, however, are also seeking to internationalize to reach the highest standards of quality and competitiveness. In this process, they are not satisfied only with regional leadership in South America. Brazilian is now an open economy and increasingly attractive economy. To remain competitive at home, Brazilian companies also need to establish a foothold in the more competitive markets around the world, including United States, Europe and, more recently, East Asia, which are privileged locus of innovation.

We sought to go beyond the exposition of individual cases of success to identify the underlying systemic factors that explain why the internationalization was incorporated as a strategy by a significant number of Brazilian companies from several industries at the same time, changing dramatically the past patterns of Brazilian OFDI in terms of volume, destination and quality. With no intention of providing an exhaustive answer, or the only possible answer, we emphasized three factors that were essential to the recent expansion of Brazilian OFDI, and are often neglected by individual case studies: (i) intense competition from foreign companies that fostered a new attitude on the Brazilian business elite, marked by a forceful search for higher standards of quality and competitiveness, (ii) favorable financial conditions, both externally and internally, due to high commodities prices, low international interest rates, improvements in Brazilian capital markets and macroeconomic policy and sustainable domestic economic growth; (iii) strong support of the Brazilian State, which has lately intensified its industrial policies and its stimulation of internationalization of Brazilian companies.

None of these factors alone could have sustained the recent expansion. Entrepreneurship and innovation are fundamental for succeeding in the global market. However, they cannot go very far if they do not find favorable financial and political conditions. Likewise, it does no good to create a favorable environment without strong players capable to seize opportunities. The favorable external conditions have occurred throughout all of Latin America, but Brazilian companies have stood out more than its Latin American neighbors[20]. However, despite recent advances, in most industries Brazilian companies' internationalization is lagging behind the internationalization of Chinese enterprises and is still far behind the internationalization of companies from the developed countries. China, although has younger companies and has started its internationalization process after Brazil, has already more global players in a greater number of industries, specifically of more value-added activities. This is partly due to the scale of its domestic market, but also in part to a peculiar combination of a strong government support with extremely competitive environment to which their firms are exposed. Brazil has also recently seen an increased number of firms in knowledge-intensive sectors to expand abroad, however it has troubles to build new global players in these industries, such as China does today, or as Korea and Japan did in the past.

Furthermore, as we tried to demonstrate in this paper, all the main factors that fostered Brazilian companies' internationalization have endogenous and exogenous causes that have no guaranteed continuity in the long term. Many advances have been made by Brazilian state and entrepreneurs in last two decades, but to sustain and broaden the internationalization, it is critical that the public and private sector continue modernizing and increasing transparency and options for the Brazilian capital market, enhancing investment while maintaining fiscal discipline and, above all, linking internationalization strategies to innovation strategies, which are ultimately the engines of development. For the Brazilian society, the application of public resources on OFDI support must be subject to criteria that are politically transparent and economically modernizing. This means that to effectively meet the urgent demand to raise the level of competitiveness of the Brazilian economy and to reduce its dependence on commodities,

[20] According to UNCTAD (2010a) stock of Brazilian companies' OFDI is nearly double the OFDI of Mexican and Argentine companies combined. Additionally, Fernanda De Negri (2007) shows that the amount of resources invested by private Brazilian companies in R&D is nine time greater than Mexican and Argentine companies combined. This performance, while a differential in Latin America, is still not sufficient to be equipped against Asian competition.

public support to OFDI should be specifically intensified in industries and companies more intensive in knowledge, innovation and technology.

In analyzing the process of determining the recent internationalization of Brazilian companies is possible to conclude that protectionism of domestic market is not an appropriate answer to overcome competitive challenges. However, the response is neither only on market mechanisms. The success of the internationalization of Brazilian companies and maximization of their positive impacts on Brazilian economy depends on a combination of strong markets, including intense competition and dynamic financial system, with deep partnership with the state. The strong presence of the state is essential both to minimize the existing market failures, avoiding predatory competition, and to encourage synergies between OFDI and innovative and export activities.

Today, Brazil's economy, its companies, and its state apparatus are stronger than they were in the 1990s, but – and partly as consequence of this – the competitive pressures that led the push for internationalization in that period were also intensified. On the one hand, the Brazilian market today is one of the world's most attractive for FDI (UNCTAD, 2010, 2011), and on the other hand, the expansion of multinationals from other developing countries, especially China and India, combined with low growth rates in developed countries, has resulted in an increasing number of international players competing for the same spaces, and introducing rapid and radical changes in various industries. We are witnessing a moment of profound international geopolitical redesign in the business world, with Asia occupying an increasingly central place in the global scenario. At this moment, great opportunities and challenges for Brazil and for Brazilian companies are appearing. What is needed is a strong partnership between the public and private sectors to take advantage of these opportunities at the right time and in the best possible way.

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