

Toward a Venture Capital Entrepreneurship Model in Brazil

Abstract

It is well documented that venture capital (VC) has a positive impact on creation and development of highly successful innovative companies worldwide. Venture capital not only provides funding to startups and SMEs (small and medium enterprises) that usually have financing gaps, especially in emerging markets, but also brings a whole package of valuable resources that reduces companies' mortality rates.

Using quantitative data obtained from an empirical survey as background, this paper discusses the role of venture capital in the success of innovative startups and SMEs, and it examines if, and to what extent, venture capitalists are supporting the entrepreneurial activity in Brazil.

We focused on the analysis of portfolio companies and confirmed the hypothesis that the venture capital industry has been supporting entrepreneurship in Brazil. Second, we identified an important evidence of venture capital's positive impact on economic activity, especially the capital market. Third, it became clear that venture capital-backed entrepreneurship is highly concentrated in some specific regions of the country, the Southeast region of the country in particular. As consequence, we concluded that the venture capital (and private equity) industry has been very important to build a very dynamic and strong local entrepreneurial economy. Its committed capital grew 23.8% per year between 2008 and 2014 to achieve R\$120.4 billion, roughly equivalent to US\$ 50 billion, according to a report from KPMG and ABVCAP(2015).By the end of 2014, R\$ 38.8 billion were available for investments (US\$ 14.7 billion). Overall, 55% of these resources came from Brazilian investors and 45% from foreigners. In 2014, R\$ 13.6 billion were invested in companies, a decrease of 19.5% from the 2013. In addition, venture capital-backed companies represented

one third of the IPOs that occurred in Brazil between 2004 and 2008 (approximately US\$15 billion).

Keywords: Venture Capital, Private Equity, Entrepreneurship, Innovation, Brazil

1. Introduction

Regardless of their importance to economy, startups and SMEs usually don't have access to the proper resources required, especially during their initial stage of lifecycle (Gompers, 1994; Pacheco and Spritzer, 2009). In emerging markets this framework is highlighted, and according to Andreassi and Siqueira (2006), lack of financing is one of startups' main mortality reasons in Brazil compared to developed countries. Bosma and Levie (2010) shows that companies' difficulty to obtain funding explains 10% to 20% of the businesses closing worldwide and 26% in Brazil as of 2009. Lack of business profitability accounts for 30%-40% of total failures and these two factors – lack of funding and of profitability - account for almost 60% of the reason of businesses failure in Brazil. Venture capital presents itself as a key alternative to address this issue, especially to companies without historical financial statements (i.e. startups) or companies without tangibles assets that could be used as bank loans' guarantees (Sahlman, 1990). Venture capitalists provide not only capital but also assist the entrepreneurs on the decision making process in order to create successful businesses (Gorman and Sahlman, 1989). According to IHS Global Insight (2009), venture capital-backed enterprises generated around USD 3 trillion in revenues (21% of GDP) and employed over 12 million people in the United States in 2008. EVCA (2002) shows the PE/VC positive economic impact of PE/VC on companies' creation and growth.

Business environment for venture capital in Brazil has evolved in a consistent fashion over the last few years. According to EIU and LAVCA (2008) which qualifies venture capital environment in the region by identifying the positive and negative aspects for generating

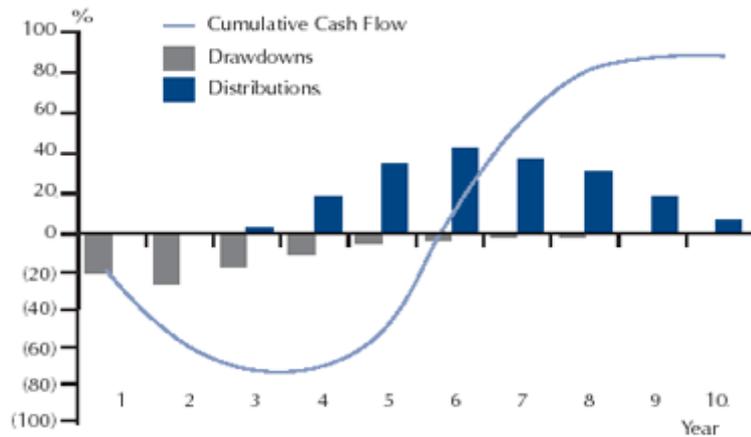
business within the industry in each country, Brazil jumped from 59 to 75 points in the ranking out of a possible 100 in only three years (2005 to 2008)

Literature Review

It is well documented that venture capital has supported the creation and development of many of highly successful new revolutionary enterprises in human history, such as Google, Microsoft, Netscape, Apple, eBay, Amazon, Sun Microsystems, Genentech, Yahoo, Intel, amongst others (Bygrave and Timmons, 1992; Gompers and Lerner, 2001b). Although VC is mainly associated with high-risk, potentially high-reward, leading edge technological projects (Gompers, 1994; Gompers and Lerner, 2002; Metrick, 2007), venture capital has also backed a large number of innovative service companies, such as Staples, Starbucks, FedEx, Home Depot and TCBY - The Country's Best Yogurt (Gompers, 1994; Gompers and Lerner, 2001b).

Venture capital investments benefit startups and SMEs that normally find it difficult to access ordinary financing, especially in emerging markets, due to their lack of tangible assets to use as collateral, heavy reliance on R&D and human resources, operating losses for many(initial) years, and higher survivorship risk than more mature companies (Premus 1985; Gompers, 1994; Gompers and Lerner 2001a; Gompers and Lerner 2001b; Hall 2002; Smith and Smith 2002; Leeds 2003). Different from bank loans and short term debts, venture capital will share upside and downside risks with the entrepreneur (Engel, 2002; Gompers, 1994). De Negri and Kubota (2008) argue that due its intangible profile, innovative enterprises face financing constraints. According to Ribeiro and Tironi (2006), the innovation financing gap in Brazil can be mitigated by venture capital. Campos and Barbieri (2002) and Titericz (2003) also argue that venture capital presents a very interesting alternative funding source for innovation in Brazil.

Figure 1: The J-Curve



Source: Internet (www.venturechoice.com). Last access in May, 2010

To surpass the ‘valley of death’ (negative cash flows period) from the J-curve is one of startups’ main challenges. Invested companies benefit from a whole package of strategic resources that helps increase startup’s survivorship rates and build successful enterprises, management professionalization and board of directors’ effectiveness (Gorman and Sahlman 1989; Dotzler 2001; Gompers and Lerner, 2001b; Gompers and Lerner 2002; Keuschnigg, 2009). According to Bloom, Sadun and Van Reenen (2009), on average venture capital-backed firms are better managed than non-venture capital backed ones.

The main challenge of any company is to combine appropriate resources to gain competitive advantage. (Porter 1979; Barney 1986; Prahalad and Hamel 1989; Hamel and Prahalad 1993; Teece and Pisano 1994; Mahoney 1995; Teece et al 1997; Bartlett and Ghoshal 2002). Christensen and Overdorf (2000) identify three factors that affect companies’ innovation: resources, processes and values. Through venture capital it is possible to boost startups and SMEs growth compared to their peers (Hellman and Puri 2000; Engel 2002) which allow them to become more profitable (Sahlman 1990) throughout innovations.

Premus (1985) demonstrates that venture capital and technological innovation growth rates are correlated. Kortum and Lerner (2001) show that venture capital-backed companies are involved in important innovations based on patent amount in the US, while Bowonder and Mani (2002) show the impact of venture capital on financing innovation in India, and Tykova

(2000) demonstrates a positive relation between venture capital investments and patents creation in Germany.

For example, Hirukawa and Ueda (2008) highlight the Yozma program in Israel and the SBIC (Small Business Investment Company) in the US, Lerner (2002) agrees that governments are highly interested on fostering innovation, and supporting the PE/VC activity is a natural way to accomplish that goal. Ramalho (2010) shows the positive influence from venture capital public policies on entrepreneurship in Brazil. Gompers (1994) concludes that “promoting an efficient venture capital sector should be the goal of any administration”.

2. Data and Results

This study is based on data obtained from surveys conducted by GVcepe -Private Equity and Venture Capital Research Center at FGV-EAESP Brasil - in 2008 and 2011 and surveys conducted by KPMG and ABVCAP in 2013 and early 2015. The 2008 and 2011 reports were rich in data but the 2013 and 2015 reported data were very scarce, presenting only preliminary numbers on totals and little detailed information on the industry. Detailed data on the VC/PE activity is very difficult to obtain since most investors are reluctant to share information on their deals.

Data from a sample of 127 private equity and venture capital (PE/VC) firms operating in Brazil as of June, 2008, independently of whether they have a local presence (office) and/or an investment vehicle already formed and operating, were used in some parts of the paper to describe certain trends of the industry and, when available, we used more recent information from 2011/2013/2014.

In early 2005, 71 funds were engaged in PE/VC investment activities in Brazil. In 2013, 90 such entities responded to questionnaires prepared by KPMG and ABVCAP (Brazilian Association of Venture and Private Capital) and it is believed that more than 150 organizations were investing in PE/VC in Brazil. Total investments were US\$ 6 billion in

2005, growing to US\$ 70.7 billion by the end of 2013, with a CAGR of 36.1% per year. The total amount of **committed** funds reached R\$ 120.4 billion by the end of 2014 (KPMG/ABVCAP 2015).

With these conditions and exclusions, the sample was composed of 127 PE/VC firms (around 85% of the estimated population of funds) that fulfilled all the prerequisites required to be included in the survey. Each one of the 127 PE/VC firms filled out a questionnaire on the web which consisted of questions that supplied quantitative data regarding investment vehicles, portfolio companies, investments and exits. We next conducted an exploratory analysis of the PE/VC impact on entrepreneurship in Brazil based on the portfolio companies' profile and the stock market dynamics.

3. VC/PE Investments and their Location

The potential for growth of the industry of VC/PE is huge, since it represents only 1.7% of GDP compared to the world average of 3.7% (NEF, 2008; Ramalho and Furtado, 2008). In a sample of 481 companies, surveyed in 2009, we observed the following distribution of industries in which investments were made. The 481 portfolio companies cover 26 industries and more than 40 sub-industries.

Table 1: Portfolio Companies

Industries	2004		2008	
	Units	%	Units	%
IT	92	30%	108	22%
Industrial Products and Services	41	13%	63	13%
Real Estate	9	3%	60	12%
Communication	7	2%	32	7%
Energy	7	2%	29	6%
Agribusiness	9	3%	21	4%
Financial Services	10	3%	20	4%

Biotech	10	3%	19	4%
Retail	21	7%	19	4%
Food and Beverage	12	4%	17	4%
Medicine	8	3%	15	3%
Telecom	28	9%	13	3%
Transportation	11	4%	13	3%
Logistics	7	2%	12	2%
Education	3	1%	9	2%
Others	31	10%	31	6%
TOTAL	306	100%	481	100%

Source: GV Cepe Census 2009

For the period 2011/2012/2013, the KPMF/ABVCAP survey showed the following distribution of investments by industry:

Table 2: Investments by Sector/Industry (%) - Period 2011/2012/2013

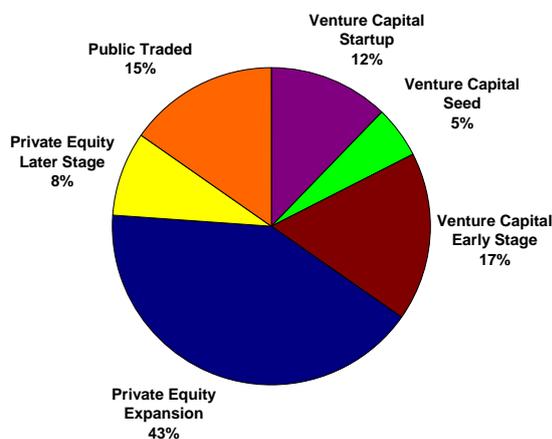
Industry/Sector	2011	2012	2013
Agribusiness	3%	5%	3%
Food/Beverage	10%	11%	5%
Education	6%	2%	1%
Energy	6%	3%	9%
Infrastructure	13%	6%	2%
Logistics/Transportation	8%	1%	12%
Oil and Gas	10%	13%	38%
Industrial products/services	6%	4%	4%
Health/Pharmaceuticals	12%	4%	3%
Real Estate	7%	13%	4%
Information Technology	5%	7%	1%
Retail	5%	22%	6%
Other	9%	9%	12%

Source: KPMG/ABVCAP Survey of VC/PE Industry 2014

Table 1 (for the year 2008) shows that IT and Electronics industry constituted the largest portion of the companies in the PE/VC organizations’ portfolios (22% of the total). For the period 2011-2013, however, according to Table 2, the IT industry lost importance to the oil and gas sector and to the logistics/transportation sectors. As it is well known, the discovery of the enormous pre-salt oil reserves by the Brazilian government was responsible for estimates of total investments of around US\$ 200 billion in the period 2015-2018 in that sector.

Returning to the results of the 2009 survey, a total of 51% of the industry’s portfolio companies were more mature companies, 43% are Private Equity – Expansion and 8% are Private – Later Stage, but there was also a considerable volume of business in Venture Capital (34%) with the greatest emphasis on the Early Stage (17%). This denotes an important concentration on the initial and intermediate stages of entrepreneurial development guaranteeing the consolidation of the links that permit sustained industry growth over the long term. These results are shown in Figure 2 below.

Figure 2: Portfolio Company Stages (as of June 30, 2008)

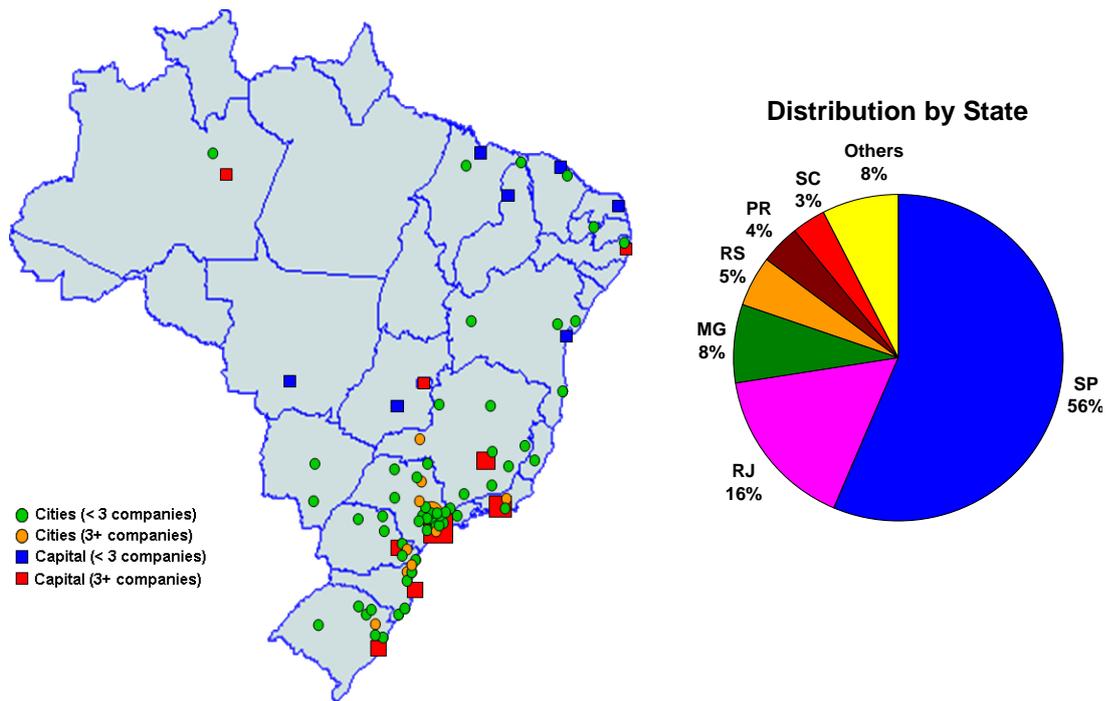


OBS: Considers the sample of 462 companies that reported their current stage of development (out of a total of 481 companies).

Over the period 2004-2008 , the proportion of portfolio companies with headquarters in the Southeast has grown significantly, going from 66% in 2004 to 80% in 2008. Companies in the South have reduced their relative participation from 26% to 12% and the

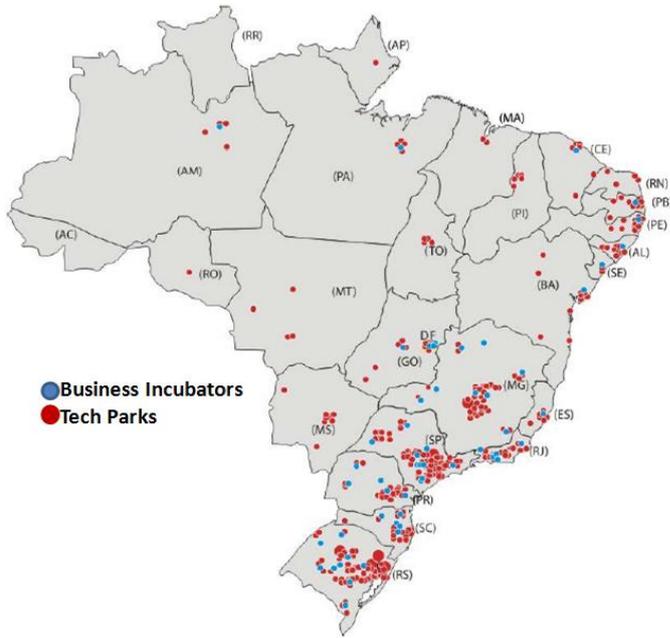
other regions together have maintained their proportion of 8% of the total of portfolio companies. The State of São Paulo has distinguished itself in the expansion of the Brazilian Private Equity and Venture Capital industry, not only by the fact that it contains many of the PE/VC organizations' headquarters, but also in terms of portfolio companies. Its relative proportion of portfolio companies increased from 45% in 2004 to 56% as of June 2008.

Figure 3: Geographic Distribution of Portfolio Companies (as of June 30, 2008)



OBS: Considers 461 companies that reported the city where their headquarters is located (out of a total of 481 companies).

Figure 4: Geographic Distribution of Business Incubators and Tech Parks in Brazil (as of 2009)



Source: Plonski (2009)

These numbers are especially intriguing due to the geographic distribution of business incubators and technological parks countrywide. Although there is an important presence of business incubators and tech parks in Santa Catarina, Rio de Janeiro and especially Minas Gerais and Rio Grande do Sul, as a small number of PE/VC portfolio companies are located in these states. This phenomenon can also be observed in the Northeast region which holds a mediocre amount PE/VC portfolio companies in spite of the incubators and tech parks presence in the region (as shown on figure 5).

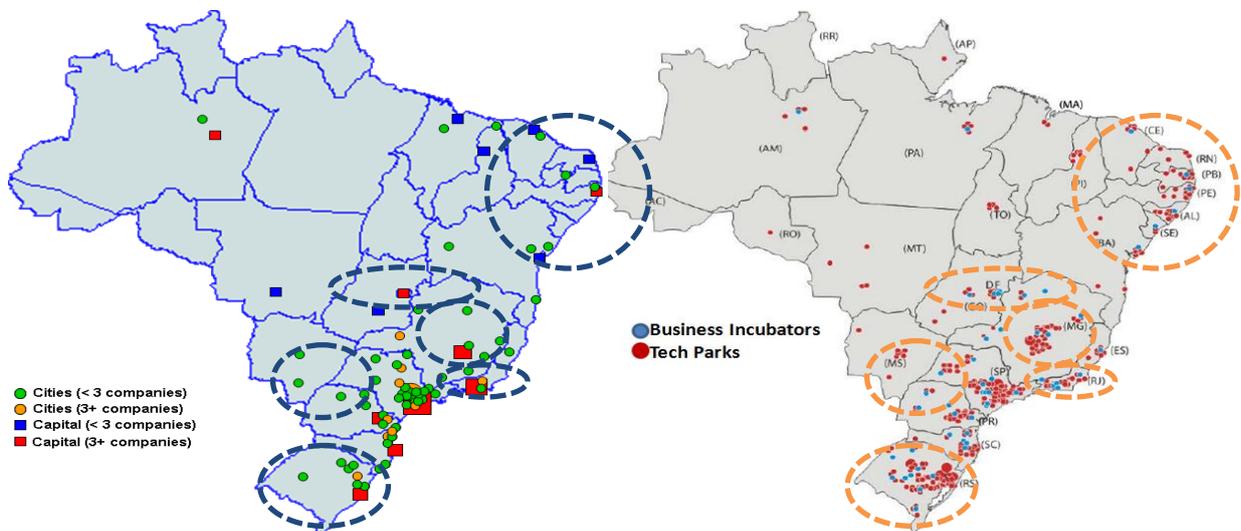


Figure 5: “Gap” regions from PE/VC portfolio companies and Tech Parks/ Incubators

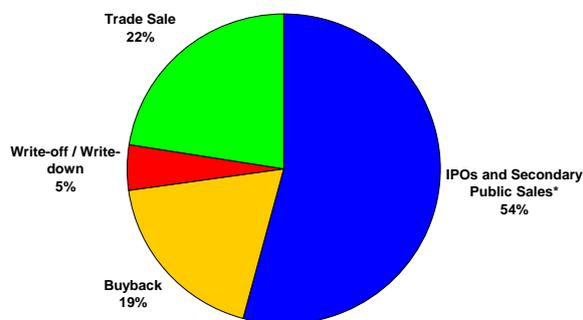
 Indicates the regions with a “gap” (i.e. lot of tech parks/business incubators and just a few PE/VC-backed companies) Source: Authors’ analysis

5. The Impact on the Stock Market

We obtained a sample of 111 exits (85 total and 26 partial) over the period of 2005 to June 2008. Half of these exits were from Private Equity and 31% from Venture Capital. Of the 111 exits (total and partial), values were reported for 104 investments totaling USD2 billion over the period from 2005 and June 2008. Trade sales represented around 20% of the total number of exits in the industry over this period, while sales in the stock market represented 50% of the total quantity.

It is important to note that the mortality rate of the portfolio companies were reported at 6%, much lower than 50-60% average from non-venture capital backed companies during the first three years of life.

Figure 7: Number of Exits by Type (January 2005 to June 2008)

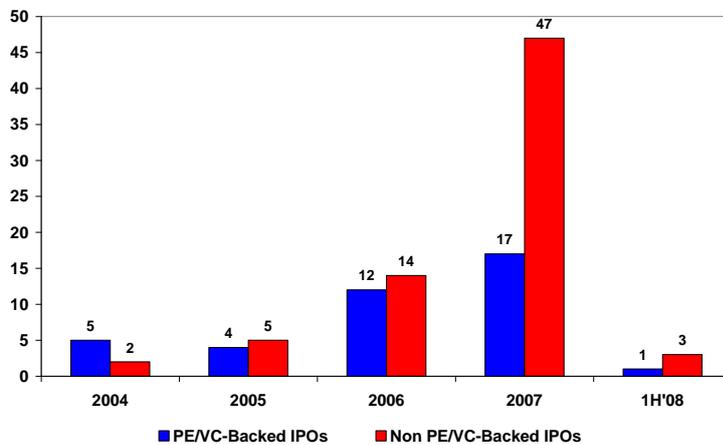


* Includes IPOs and secondary sales. Considers total and partial exits. Authors’ analysis

IPOs did not constitute a viable alternative in Brazil during the 1980s and 1990s because of the volatile macroeconomic environment and high interest rates that prevailed in the country during this period. The IPO market went through a “nuclear winter” period, which seemed to end in 2004. At the beginning of 2004 the Brazilian stock market took on a new momentum with the wave of IPOs set off by the exits from PE/VC organizations. From 2004 to June

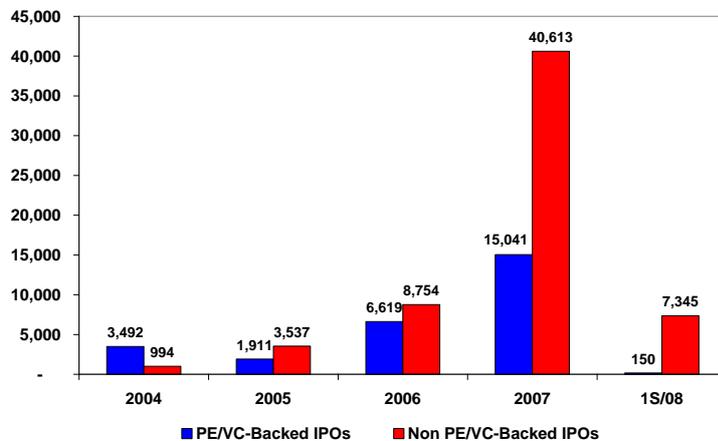
2008, 110 IPOs were taken to market raising BRL 88.5 billion, of which 39 companies had received PE/VC investments prior to their public offering.

Figure 8: Number of IPOs



Source: Bovespa / Authors' analysis

Figure 9: Money Raised through IPOs (BRL million)



Source: Bovespa / Author's analysis

The total amount of money raised by companies that received PE/VC investments reached R\$ 27.2 billion from primary and secondary offerings, equivalent to 31% of the total volume of IPOs made during this period. Between May 2004 and June 2008, companies that received PE/VC investments had an average return of 17.3% as opposed to 1.5% for the companies that did not receive PE/VC investments, with 67% of the returns being positive for those that had received PE/VC investments and 40% being positive for those that had not.

IPOs in the 2009-2014 Period

Contrasting to the golden period of IPOs (2004-2008), only six companies were brought to the market through IPOs in 2009, eleven in 2010 and again eleven in 2011. In 2012 only three companies became public through IPOs, while six companies went public in 2013. The year of 2014 was the worst year of them all, with only one IPO in the Brazilian stock market. Most of the IPOs, however, were related to large, established companies, such as Banco do Brasil's insurance operations and the (now defunct) X-conglomerate enterprises. The X-companies were part of a trial by a Brazilian entrepreneur (Mr. Eike Batista) to create oil, gas, mining, logistics and naval construction operations to compete with Petrobras and VALE and other large conglomerates in Brazil.

6. Conclusions

Several innovative enterprises have been created in Brazil in the past few years: Submarino, DHC Outsourcing, Akwan, Allelyx, Canavialis, Buscapé, Lupatech, Bematech, Mandic BBS, GOL and DASA, just to mention a few, leveraged by the local economy growth and monetary stability. There are almost 500 portfolio companies, of which over a third from high innovative and technological industries that have a strong potential to produce disruptive innovation and have received investments from VC/PE funds.

In addition, capital markets also benefited from the increase of venture capital activity since 2004. Around one third of the IPO – Initial Public Offerings in Brazil were PE/VC-backed companies (BRL 27.2 billion).

It should be questioned whether incubators, and especially tech parks, are prepared to support their companies toward a PE/VC investment, assuming that this type of financing may offer not only capital but also business orientation to the entrepreneurs. Nevertheless, an effective policy toward a venture capital-backed entrepreneurship model should be organized

by the PE/VC industry together with the incubators, tech parks and other key agents in that equation.

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