

The Relationship Between of Firms' Investment and Cash Flow Relationship in the Context of State Ownership in Vietnam

Author's Details:

⁽¹⁾ Ngoc Anh Nguyen ⁽²⁾ Thi Dung Nguyen ⁽³⁾ Thi Van Anh Vu
⁽¹⁾⁽²⁾⁽³⁾University of Economics - Technology for Industries, Vietnam

Correspondence: Ngoc Anh Nguyen, 456 Minh Khai, Hai Ba Trung, Ha Noi

Abstract:

The study investigates the effect of state ownership on the relationship between investment and cash flow in Vietnam, a small transitional economy. Using a sample of companies listed on the both Ho Chi Minh City Stock Exchanges (HOSE) and Hanoi Stock Exchange (HNX) during the period 2008 to 2015, the U-shaped investment–cash flow relations for both state-owned and non-state-owned firms are found. In addition, state-owned companies (SOEs) have higher cash flow sensitivity of investment, which perhaps is due to their socioeconomic and political responsibilities, poor corporate governance and agency problem. Their growth opportunities also affect the sensitivity.

Keywords: financial constraints, investment – cash flow relations, state ownership

1. Introduction

Vietnam used to follow the centrally-planned economy which was entirely dominated by state-owned enterprises (SOEs). This mechanism led the country into crisis and backward, which required a broad and in-depth renovation of the whole economy. A comprehensive program which is well-known as Doi moi was introduced in 1986 to transform the economy from a socialist to a market oriented. As one of the components of the Doi moi policy, an equitization (privatization per-se) program launched in the early 1990s has transformed a number of state-owned companies into joint-stock companies beside for the first time allowing existence of private companies. A number of private companies (both equitized and non-equitized) has been constantly increasing. However, the government still plays an important role in a large number of companies by holding a large percentage of outstanding shares at many equitized SOEs. In the literatures, the impact of state ownership on firm performance as well as financial decisions is still controversial. Sun and Tong (2003) report that the privatization program in China improved earnings, sales, and workers' productivity at Chinese SOEs but not profitability. Du and Boateng (2015) assert that shareholder value is significantly affected by state ownership, formal institutional distance, and reforms in the foreign currency approval system. However, G. Chen, Firth, and Xu (2009) find that firm performance is enhanced by certain types of state ownership. SOEs have slow, even negative growth whereas the rapidly growing private sector significantly contributes to economic growth (Allen, Qian, & Qian, 2005). It finds that SOEs with a soft budget constraint can easily access external financing, resulting in lower dependence on internal cash flows than is the case at privately owned firms (Allen et al., 2005; Cull & Xu, 2003). Firth et al. (2012) also report that state ownership has an impact on the relation between investment and cash flow. R. R. Chen, El Ghouli, Guedhami, and Nash (2018) assert that an increase in state ownership leads to an increase in corporate cash holdings, which means a positive relation between government ownership and corporate cash holdings. More specifically, SOEs have higher investment–cash flow sensitivity than privately owned firms, especially when cash flow is negative. So, whether state ownership has any impact on corporate financial constraint, specifically, investment – cash flow relation of Vietnamese companies is still an unanswered question.

2. Literature review

In the context of imperfect capital market, internal capital and external capital are no longer be perfect substitute for each other. The company cannot be able to separate investment decision from financing decision because method of financing will affect cost of capital, which consequently affect company's selectability of investment projects. Thus, company is considered financially constrained when its capital spending is reliance on

availability of internal capital. In addition, a financial constrained company can be defined as the one which has to bear higher cost of external capital (new debt or new equity) in compared with that of internal capital, leading the company to capital rationing.

There has been a widespread debate among scholars on how costs of external funds may differ from costs of internal funds. Some studies prove that the differences come from the existence of transition costs, tax and financial distress costs (Myers & Majluf, 1984). Some others demonstrate that the differences come from information asymmetry between company's insiders and outside investors, highlighting that moral hazard and adverse selection lead to higher cost of external funds, consequently discouraging financing company's investment projects with external capital (Jensen & Meckling, 1976). As a result, companies will prefer to use internal funds because they are less expensive and in extreme cases, internal capital may be the only source of capital available to the company.

In general, investment and financial decisions are no longer independent if the cost of financing source depend on the availability of the funds. This means that investment behaviors might be indications of the financial constraints. A large numbers of studies have explored this relationship though investigating the relation between company's capital spendings and its internal cash flows, which its presence and significance is a measure of firm's financial constraint, so-called investment – cash flow sensitivity. Higher the sensitivity the firm has, the more dependence on internal capital the firm has, and the higher financial constraint the firm faces. In addition to internal cash flows, many other different proxies have been used in financial literature to measure firm's financial constraints such as dividend payout ratios (Almeida & Campello, 2007; Almeida, Campello, & Weisbach, 2004; Cleary, 1999; Cleary et al., 2007; Fazzari et al., 1988; Moyen, 2004), Firm size (Almeida & Campello, 2007; Almeida et al., 2004; Denis & Sibilkov, 2009; Devereux & Schiantarelli, 1990; Erickson & Whited, 2000; Gilchrist & Himmelberg, 1995; Oliner & Rudebusch, 1992), Firm age (Devereux & Schiantarelli, 1990; Oliner & Rudebusch, 1992), Bank-firm relationship (Hoshi, Kashyap, & Scharfstein, 1991), Business group member (Hoshi et al., 1991); Bond ratings (Almeida & Campello, 2007; Almeida et al., 2004; Denis & Sibilkov, 2009; Gilchrist & Himmelberg, 1995; Whited, 1992), KZ index (Almeida et al., 2004; Kaplan & Zingales, 1997; Moyen, 2004); Ohlson's probability of default (Bhagat, Moyen, & Suh, 2005); Net loss (Bhagat et al., 2005; John, Lang, & Netter, 1992); Altman's Z-score (Bhagat et al., 2005; Cleary, 1999; Cleary et al., 2007; Moyen, 2004); White and Wu index (Whited & Wu, 2006); etc...

An investment can be financed by two different sources of capital: internal funds (retained earnings or cash flows) and external funds (new debt or new equity) and financial constraints is defined as a limit in capital accessibility, either internally or externally. Under the assumption of capital market perfection, Modigliani and Miller (1958) suggest that a firm's capital structure is irrelevant to its value; investment and financing decisions are independent to each other. This implies that internal capital and external fundings are perfect substitutes, so firm's investment level is not affected by availability of internal capital. As a result, cost of capital is the only determinant of firm's investment.

However, in the world of market imperfection with existence of taxes, transaction costs and information asymmetries, there is a gap between costs of internal and external capitals, which make external financing be more costly than retained earnings. Higher cost of external financing may be caused by either information asymmetry or agency costs. Myers and Majluf (1984) assert that asymmetric information between the company insiders and the external funds providers would encourage managers to prioritize internal funds then new debt and new equity. As such, company's capital spending might be dependend on level of internal capital. The higher level of internal funds the company has, the less dependent on external funds the company is, so investment is "less constrained". A company is defined as financially constrained if they have difficulty in financing their desired investment opportunities (Lamont, Polk, & Saá-Requejo, 2001), that might be due to either inaccessibility to external funds or inadequacy of internal funds. It means that some firms have to select investment opportunities based on their availability of internal funds, which means level of internal capital

could be an important determinant of firm's investment. Specifically, investment of financially constrained firm would rise (fall) if its level of retained earnings increases (decrease).

According to the agency theory developed by Jensen and Meckling (1976), company managers have incentives to make overinvestments for their own interests, predicting a positive relation between investment and cash flows. In order to assess the effects of financial constraints on firm investment, it requires to identify financially constrained firms. Importance of financial constraints on investment have attracted a lot of interest in financial literatures. Based on the Theory of Markets for Lemons (Akerlof, 1970) which emphasize on information asymmetry between insiders and outsiders, Meyer and Kuh (1957) develop a theoretical model of asymmetric information indicating how corporate investment is financed. Under imperfect capital market with presence of asymmetric information, the perfect substitution between internal and external capital is no longer existed, leading to higher cost of external capital due to so called external finance premium (Greenwald, Stiglitz, & Weiss, 1984; Kiyotaki & Moore, 1997; Myers & Majluf, 1984; Townsend, 1979). This means that investment opportunities is better financed by internally generated funds, either due to higher cost of external capital or difficulties in accessing the capital market, which is the base for the latter Pecking Order Theory (Myers & Majluf, 1984). Therefore, in this world, availability of internal capital becomes a really important determinant of corporate investment. It means that investment behaviors of financially constrained firms may be different with that of financially unconstrained firms. Up to date, there have been a number of proxies have been used as indirect measurements of financial constraints in financial literatures.

Fazzari et al. (1988) who are the first authors investigating the relationship find the significantly positive relation between investment and cash flows in this seminal paper. The paper for the first time incorporates cash flow variable in to Q model to directly measure impact of financial constraint on firm's investment by using a sample of US manufacturing firms in the period 1970–1984. Furthermore, the authors use some priori measures of accessibility to financial market or information costs such as dividend payout ratio, firm size, firm age to split the sample to financially constrained and unconstrained subsamples and compare sensitivities of investment to cash flows of the two subsamples. The results show that investment of low dividend payout ratio companies is more sensitive to availability of internal cash flows, which is interpreted as an evidence of financial constraints. Hoshi et al. (1991) support these findings with their research on the relation between capital structure and investment. Hoshi et al. (1991) also find that investment of a company that does not have good relations with banks, implying high financial constraints, has greater investment–cash flow sensitivity than a keiretsu (a type of Japanese corporate group), which is considered less financially constrained.

Disagreed with the findings of (Fazzari et al., 1988), Kaplan and Zingales (1997) construct a KZ index to measure financial constraints and use it to examine investment–cash flow relations. They find that cash flow has positive relation with investment. Besides, less financially constrained firms have more sensitive investment – cash flow relation which is opposite to Fazzari et al. (1988). Cleary (1999) uses two samples, one consisting of US firms and the other comprising Canadian firms, to test the findings of both Fazzari et al. (1988) and Kaplan and Zingales (1997). Surprisingly, the author find that US sample results support the former, but the Canadian sample confirms the latter. Cleary (1999) investigates the investment – cash flow relation in consideration of company's financial status and its effect on company's ability to borrow. Cleary (1999) uses several financial ratios such as liquidity, leverage, profitability and growth to measure company's financial status and expects that high credit rating company pays lower interest premium for bank loans, implying less financially constrained. However, Cleary finds that high credit rating companies depends more on internal capital for financing their investments, while low credit rating companies have lower investment – cash flow sensitivities. Cleary explains this finding from free cash flow hypothesis perspective, in which company managers increase capital spendings in response to availability of free cash flows.

Ownership structure could be another factor affecting investment – cash flow relation. Goergen and Renneboog (2001) examine if ownership concentration by class of shareholders creates or mitigates liquidity constraints and suggest that the presence a large shareholder would reduce the positive relationship between capital

spending and cash flows. A similar finding for institutional investors is found by Attig, Cleary, El Ghouli, and Guedhami (2012). They indicate that dependence of investments on internal capital is decreased when investment horizon of institutional investors increases. Also, Firth, Lin, and Wong (2008) evidence that state-owned banks impose less constraints on lending to companies which have higher percentage of state ownership. It means that company-bank relations could reduce external financial constraints.

In the mid-1980s, the collapse of the socialist bloc forced the member countries to reform and transform their centrally planned economies into market economies. Unlike Russia, which chose shock therapy, China and Vietnam used a gradual transition, in which SOE privatization was one of the key methods of reform. According to a report on the privatization of SOEs in Vietnam in 2011-2015 and the first nine months of 2016, by the end of September 2016, a total of 4,508 SOEs had been privatized out of 6,010 restructured-to-be SOEs. In many of these enterprises, the state retains controlling rights because of its high proportion of ownership. As my calculation, about 30 percent of companies listed on the two Vietnamese stock exchanges have at least 50 percent state ownership. This demonstrates that although Vietnam has opened its economy and the number of private companies is increasing, many companies are still under state control, which has an impact on various company activities, including the relationship between cash flow and investment.

As in other transition economies, SOEs in Vietnam have some social and political responsibilities, such as creating jobs and attending to the social welfare of employees. These objectives, together with officials' personal motives for promotion (Liu & Lu, 2007), are the main causes of overinvestment by SOEs (C. R. Chen, Li, Luo, & Zhang, 2017a; Firth et al., 2012). In addition, many studies have been conducted on the impact of soft budget constraints on the relationship between cash flow and investment. Early research by Chow and Fung (1998), using a sample of 5,325 enterprises in Shanghai in 1989-1992, finds evidence that investment by private firms has higher cash flow sensitivity than that by SOEs, implying that the latter face fewer financial constraints than non-SOEs. Héricourt and Poncet (2009), using a sample of 1,300 Chinese firms in 2000-2002, as well as Poncet, Steingress, and Vandebussche (2010), using a bigger sample (more than 20,000 Chinese companies in 1998–2005), arrive at similar conclusions. According to Cleary et al. (2007), the less financially constrained a firm is, the flatter its U-shaped curve is, as company investment is less dependent on internal cash flow. Guariglia, Liu, and Song (2011), using panel data on 499,001 observations, find that SOEs' asset growth (not limited to fixed assets) is not affected by liquidity constraints, while the availability of internal funds constrains the growth potential of private companies. The soft budget constraints at SOEs are due to their social and political responsibilities (Bai, Lu, & Tao, 2006; C. R. Chen et al., 2017a; J. Y. Lin & Tan, 1999; Sheshinski & López- Calva, 2003). SOEs can access external capital more easily than private firms, reducing their budget constraints (Cull, Li, Sun, & Xu, 2015; Sheshinski & López- Calva, 2003). On the contrary, Firth et al. (2012), using a sample of Chinese listed companies in 1999-2008, show that SOEs have a steeper U-shaped curve than private firms, especially on the left-hand side of the curve. Moreover, the slope difference also exists at firms with few investment opportunities. The findings appear to contradict the argument on SOEs' soft budget constraints. The authors argue that Chinese SOEs are induced by the government to use their own cash flows to invest more, so as to achieve multiple government socioeconomic objectives when they have abundant internal cash flows and when they face negative internal funds. However, although most of studies find evidence that state ownership does have certain impact on firm investment – cash flow relation (Firth et al., 2012; Haider et al., 2018; Tsai et al., 2014), H.-C. M. Lin and Bo (2012) use a sample of Chinese- listed firms during 1999–2008 to examine how state-ownership affects financial constraints on investment. The author find that that state – ownership does not help to reduce financial constraints which are measured by both investment – cash flow relation and KZ index on investment, even via the state-controlled banking system. So, it seems that the impact of state – ownership on investment – cash flow relation is not consistent.

2.1. Relation between investment and cash flow

The relationship between investment and cash flow has been studied for many decades and, there is the positive relation between the firm's cash flows and investment in general (Allayannis & Mozumdar, 2004; Bhagat et al.,

2005; Cleary, 1999; Fazzari et al., 1988; Firth et al., 2012; Kaplan & Zingales, 1997), as a support for the pecking order theory. Some empirical studies report that financially constrained firms have higher sensitivities (Cleary, 1999; Fazzari et al., 1988; Hoshi et al., 1991); some studies present the opposite findings (Almeida & Campello, 2007; Cleary, 1999; Kaplan & Zingales, 1997); whereas some others report the U-shape curves for this relationship (Cleary et al., 2007; Firth et al., 2012; Guariglia, 2008; Tsai et al., 2014).

Fazzari et al. (1988) use a sample of US manufacturing firms in the period 1970–1984 to study the relation between investment and cash flow under financial constraints. The authors use the pay-out ratio as measure of financial constraints, in which firms that pay decreasing dividends are considered more financially constrained. The authors find that the relation between investment and cash flow is more sensitive at financially constrained firms and less sensitive at non-financially constrained firms. Hoshi et al. (1991) support these findings with their research on the relation between capital structure and investment. Hoshi et al. (1991) also find that investment of a company that does not have good relations with banks, implying high financial constraints, has greater investment–cash flow sensitivity than a keiretsu (a type of Japanese corporate group), which is considered less financially constrained.

The opposite opinion is expressed by Kaplan and Zingales (1997), who construct an index to measure financial constraints and use it to examine investment–cash flow relations. Besides finding the positive relation between cash flows and investment in general, the authors also indicate less financially constrained firms have a more sensitive investment–cash flow relation. Cleary (1999) uses two samples, one consisting of US firms and the other comprising Canadian firms, to test the findings of both Fazzari et al. (1988) and Kaplan and Zingales (1997). Surprisingly, the author find that US sample results support the former, but the Canadian sample confirms the latter. Using pledgeable assets as a proxy for financial constraint, Almeida and Campello (2007) indicate that investment – cash flow sensitivities of the financially constrained firms should be rising in pledgeable assets.

However, when difference proxies of financial constraint are used, recent studies find a U-shape relation with different levels of the sensitivity. Cleary et al. (2007) find a U-shaped relation between investment and cash flow, which is caused by cost and revenue effects, in a sample of 88,599 observations for the period 1980–1999. The cost effect arises because when firms invest more, their borrowing cost rises. The authors conclude that firm’s investment has a positive relation with internal cash flows when the cash flows are significant high, and a negative relation when cash flows are low. Guariglia (2008) divide the research samples by levels of internal and external financial constraint, the author confirms the U-shape relationship between investment and internal cash flows for the former which supports Cleary et al. (2007), but a monotonically positive relation with firm’s external financial constraint for the latter. Firth et al. (2012) also confirm the U-shaped relationship but further argue that the U-curve may vary with politically oriented investment or a soft budget constraint. In addition to the confirmation of the U-shape relation between investment and cash flow for listed firms in China, Tsai et al. (2014) assert the flatter U-shaped curves with the presence of foreign banks, which reduce financial constraints for firms, especially those that are privately owned. This means that lower investment - cash flow sensitivity reduces underinvestment by listed SOEs.

2.2. State Ownership and Investment–Cash Flow Relations

In the mid-1980s, the collapse of the socialist bloc forced the member countries to reform and transforms their centrally planned economies into market economies. Unlike Russia, which chose shock therapy, China and Vietnam used a gradual transition, in which SOE privatization was one of the key methods of reform. According to a report on the privatization of SOEs in Vietnam in 2011-2015 and the first nine months of 2016,10 by the end of September 2016, a total of 4,508 SOEs had been privatized out of 6,010 restructured-to-be SOEs. In many of these enterprises, the state retains controlling rights because of its high proportion of ownership. As my calculation, about 30 percent of companies listed on the two Vietnamese stock exchanges have at least 50 percent state ownership. This demonstrates that although Vietnam has opened its economy and

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However, Firth et al. (2012), using a sample of Chinese listed companies in 1999-2008, by contrast show that SOEs have a steeper U-shaped curve than private firms, especially on the left-hand side of the curve. Moreover, the slope difference also exists at firms with few investment opportunities. The findings appear to contradict the argument on SOEs' soft budget constraints. The authors argue that Chinese SOEs are induced by the government to use their own cash flows to invest more, so as to achieve multiple government socioeconomic objectives when they have abundant internal cash flows and when they face negative internal funds.

In Vietnam, SOEs also have responsibilities to fulfil government socioeconomic and political objectives as the Chinese ones. The SOEs, under the government influences in many cases, have to undertake some assigned, even negative net present value (NPV) investments, leading to overinvestment problems. Moreover, unlike the private firms, the Vietnamese SOEs do not associate investments with firm's fundamentals (O'Toole, Morgenroth, & Ha, 2016), indicative of poor investment efficiency. R. Chen et al. (2017b) also report that SOEs' investments have lower efficiencies than non SOEs do. Lower efficiency may cause a higher cost of external financing, which in turn make SOEs have more reliance on the internal capital

3. Methodology

The study applies quantitative method. First, the study tests if investment – cash flow in Vietnam is U-shaped for Vietnamese firms in general, state controlled and state uncontrolled firms, employing two different approaches. The first approach follows Cleary et al. (2007) which includes square of cash flow method in the standard investment regression equation developed by Fazzari et al. (1988), and the second approach follows Firth et al. (2012) which separates cash flows into positive and negative cash flows. Secondly, the impact of state ownership on the investment

– cash flow relationship is investigated by using both dummy and continuous variables of state ownership. The investigation is conducted for the full sample, state controlled, state-uncontrolled subsamples as well as high and low growth opportunities sub-subsamples. Thirdly, the investment-leverage relationship is also examined in the same manner. All the regressions are estimated by using Generalized Least Squared (GLS) method on a panel data samples to control for the heteroscedasticity problem and robusted by Generalized Method of Moment (GMM) for endogeneity potential.

4. Result

Vietnam used to be a centrally planned economy entirely dominated by state- owned enterprises (SOEs) which had large inefficiency regardless of much favourable privilege. Vietnam began to transform its economy from a socialist to a market economy by launching a comprehensive reform, namely Doi moi policy in 1986, in which corporate restructuring scheme was one of the major components of the reform. The corporate restructuring scheme aimed to transform state owned enterprises into the form of multiple owners, in which it is unnecessary for the state to own 100% capital; to mobilize capital from both domestic and foreign investors; to increase financial capacity; and, to renovate technology and managerial methods in order to raise the efficiency and competitiveness of the economy (Article 1 of Decree 59). With this scheme, the government would accept the existence of various forms of business organizations other than SOEs and collective enterprises, and hope to create a more equal play field for all economic players. The heart of the scheme was a so-called SOE equitization (privatization per-se) program which has been transforming a number of SOEs into joint-stock companies in a slow and gradual manner.

A pilot SOE restructuring program⁶ was launched in early 1990s, which started with profitable but not strategic small and medium size SOEs to be equitized, and then expanded to larger and more difficult ones. Employees of equitized companies should be prioritized in purchasing the shares. Besides, the government continued to hold tight control role over some key important industries such as banking, oil and gas, electricity, etc via controlling ownership. In these companies, the government plays a dual role – regulator and owner. These state controlled companies have to perform not only business but also non-business functions such as being in charge of ensuring social security and poverty alleviation. Therefore, state-ownership does play an important role in company's financial decisions

Table 1. Stages of SOE equitization in Vietnam (1992 – 2018)

Stage	Timeframe	Legal Base
Pilot stage	1992 to 1996	Decision 202_CT; Direction 84 (1993);
Extended pilot stage	1997 to 1998	Decrees 28 (1996) and 25 (1997)
Accelerated stage	1999 to 2010	Decrees 44 (1998), 64 (2002), 187 (2004), 109 (2007)
Economic restructuring stage	2011 to 2017	Decision 929 (2012), Decrees 59 (2011), 189 (2013), 16 (2015), and decision 1232 (2017)

Then, the pilot stage was extended for 2 more years from 1996 to 1998 with the issuance of Decree No, 28/CP dated May 7th 1996, which also ended the pilot program. This Decree gave systematic guidances to SOEs on purposes of equitization, criteria of SOEs selection, equitization methods, employment and investment incentives for equitized enterprises. With this Decree, the government officially allowed non-strategic profitable small and medium sized SOEs into joint stock companies, consequently pushing up the process of equitization with 130 companies SOEs equitized during this two years, of which there were only 125 SOEs being equitized in 1998.

The accelerated stage which were from 1999 to 2010 were guided by Decrees of 44 issued in 1998; 64 issued in 2002; 187 issued in 2004 and 109 issued in 2007. With the opening of the Vietnam Stock Market in Ho Chi Minh City in 2000 and especially constant rise in stock market index under the positive expectation of being the 150th WTO member in early 2007 truly affected the process of equitization acceleration. The number of equitized SOEs steadily increased from year to year since 2002 with 164 to the peak of 813 in 2005. As of 2006, more than 3,433 companies having being equitized, in which 3,295 had been equitized since 1999. However, most of equitized companies up to 2006 were still small and medium size. Some large SOEs were planned to be equitized in 2007 but the plan was slower due to some reasons, including the concerns on

oversupply in the stock market after the earlier rocketed stage of acceleration. As initially planned, 1,500 SOEs should be equitized in the period 2007 – 2010, in which most of subsidiaries of general corporations were planned to be equitized in 2008; decreasing to more than 500 SOEs left. However, there were only two big names - Bao Viet Insurance and Vietcombank

– out of 118 being equitized SOEs in 2007, leaving more than 20 big SOE names to be implemented in the period 2008 – 2010. The acceleration stage of 10 year period concluded with 3,983 SOEs being equitized, comprising 84.59 percent of total number of equitized SOEs.

Vietnam’s process of equitization has been in economic restructuring stage (2012 – now). Under the negative impact of the global financial crisis and the crash of the stock market, speed of equitization has been sharply dropped at early of this stage (2010 – 2012). In addition, general economic and stock market conditions have not been in favourable shape for SOEs especially big ones to be equitized. Several policies have been made to stimulate the SOE equitization such as Decision 929 issued in 2012; decrees of 59 (2011), 189 (2013), 16 (2015) and Decision 1232 (2017). This lead to a sharp increase in number of equitized SOEs in the following years 2012 – 2015. However, the process seems to be slow down for the last couple of years.

Thanks to the equitization program, a number of SOEs has gradually decreased for the last more than 20 years, to 1,204 enterprises from more than 6,000 enterprises in 1995, proving the effort of the government in corporate restructuring.

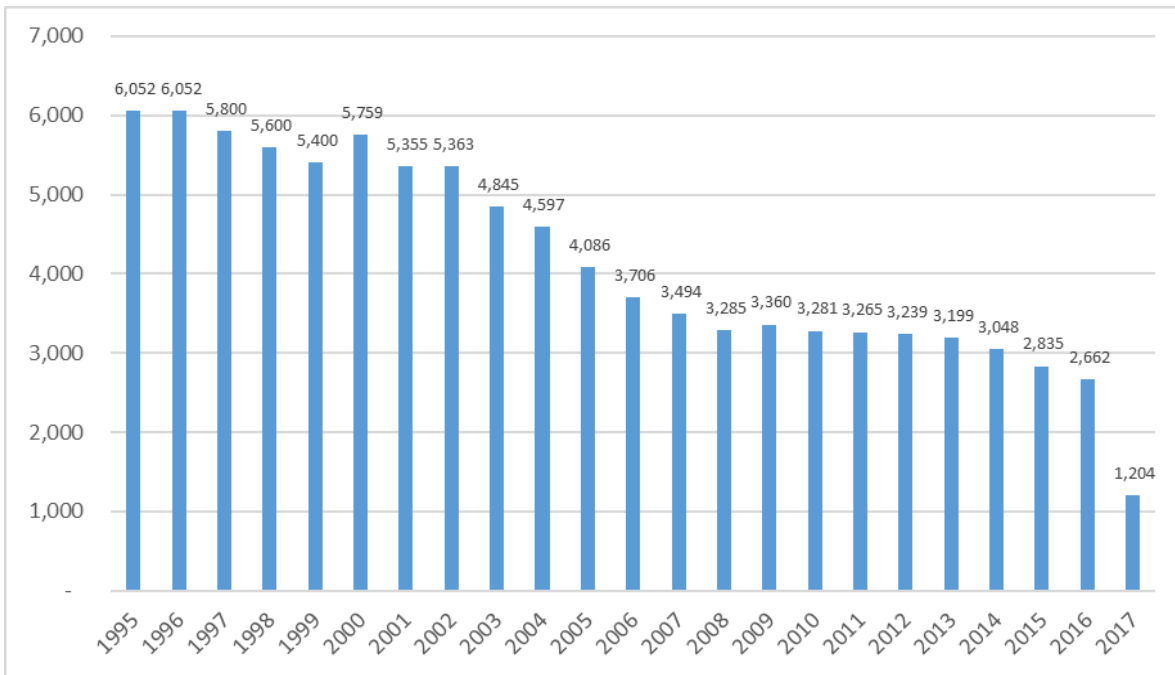


Figure 1.. Number of SOEs, 1995 – 2017

removing barriers to allow the entry of foreign banks in Vietnam. In 2008, SBV for the first time granted the licences for 100% foreign owned banks to do business in Vietnam. In April 2014, the cap for a single and total foreign ownership in local commercial banks and credit organizations was leveled up to 20% and 30%, respectively. Table 2.3 presents Vietnam’s structure of credit institutions (by December 31, 2017)

Table 2. Credit institutions of Vietnam, 2010 – 2017

No.	Type	2010	2011	2012	2013	2014	2015	2016	2017
1	State-owned commercial banks (SOCBs)	5	5	5	5	5	7*	7*	7*
2	Policy Banks	1	1	1	1	1	1	1	1
3	Development Banks	1	1	1	1	1	1	1	1
4	Joint stock commercial banks (JSCBs)	37	35	34	33	33	28	28	28
5	Joint Venture Banks (JVBs)	5	4	4	4	4	3	2	2
6	Branches of Foreign Banks	48	50	49	53	47	50	51	49
7	100 % foreign – owned commercial banks	5	5	5	5	5	5	6	9
8	Financial companies	17	18	18	17	17	16	15	16
9	Financial leasing companies	13	12	12	12	11	11	11	11
10	Central people's credit fund	1	1	1	1	1	1	1	1
11	Local people's credit funds	1057	1095	1032	1144	1145	1147	1166	1178
12	Micro financial institutions	1	1	2	2	3	3	3	4

the descriptive statistics for all variables in the regression models. On average, the mean and median of the investment ratio (IK) for the full sample is 41.2% and 6.1%, respectively. On average SOEs invest less than non-SOEs (38.7% and 42.2% respectively). Listed private companies have higher growth potential, as indicated by the mean of SG (35.2%), lower average internal cash flows (2.154), and higher negative cash flows (0.348), suggesting that their investments are more dependent on external financing. On average, SOEs have higher leverage (52.5%) than non-SOEs (44.6%). They have almost no difference in AGE and BETA.

Table 3. Variable descriptive statistic

Variable	Full sample			State-owned enterprises			Non-state-owned enterprises		
	Obs.	Mean	Median	Obs.	Mean	Median	Obs.	Mean	Median
<i>IK</i>	3366	0.412	0.061	957	0.387	0.071	2409	0.422	0.058
<i>CFK</i>	3366	1.611	0.046	957	0.243	0.072	2409	2.154	0.036
<i>NEG</i>	3366	0.329	0.000	957	0.282	0.000	2409	0.348	0.000
<i>SG</i>	3366	0.285	0.095	957	0.115	0.085	2409	0.352	0.099
<i>SIZE</i>	3366	13.145	13.095	957	13.390	13.395	2409	13.048	12.933
<i>LEV</i>	3366	0.468	0.495	957	0.525	0.568	2409	0.446	0.469
<i>AGE</i>	3366	4.288	4.000	957	4.257	4.000	2409	4.301	4.000
<i>BETA</i>	3366	0.687	0.629	957	0.705	0.652	2409	0.680	0.620
<i>GOV</i>	3366	0.249	0.193	957	0.569	0.524	2409	0.122	0.000

although there is no significant difference in means of investment (IK) and internal cash flows (CFK) but their medians do, specially, median of the both IK and CFK of non SOEs in average are significantly less than that of SOEs. However, non SOEs have higher average sales growth rate and face higher negative cash flows as indicated by significant means of NEG and SG. In addition, SOEs generally have bigger size as well as use higher financial leverage than non SOEs. There are no significant differences in terms of AGE and BETA between the two groups.

Table 4. Differences between non state-owned and state-owned enterprises

	Mean difference	t-test	Median difference	Mann-Whitney
<i>IK</i>	0.035	0.483	-0.013**	-2.127
<i>CFK</i>	1.912	0.986	-0.036***	-2.914
<i>NEG</i>	0.066***	3.667	0.000	3.66
<i>SG</i>	0.238***	2.734	0.014	1.486
<i>SIZE</i>	-0.342***	-6.164	-0.462***	-6.394
<i>LEV</i>	-0.079***	-9.009	-0.099***	-9.219
<i>AGE</i>	0.043	0.424	0.000	-0.508
<i>BETA</i>	-0.025	-1.203	-0.032	0.6111
<i>GOV</i>	-0.446***	-81.592	-0.524***	-46.656

Table 5. Analysis of relation between investment and cash flow

Panel A: Regression with square of cash flow (CFKSQR)

	Full sample		State-owned enterprises		Non-state-owned enterprises	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>CFK</i>	0.021*** (14.8)	0.002*** (2.69)	-0.009 (-1.59)	-0.005 (-0.64)	0.0224*** (17.38)	0.002*** (2.87)
<i>CFKSQR</i>		0.00001*** (34.72)		0.002*** (7.43)		0.00001*** (34.06)
<i>LSG</i>	-0.002 (-0.31)	-0.008 (-1.50)	0.120*** (4.21)	0.126*** (4.61)	-0.003 (-0.40)	-0.009 (-1.62)
<i>LEV</i>	0.034 (1.13)	-0.007 (-0.22)	- 0.017 (-0.33)	-0.009 (-0.18)	0.048 (1.45)	-0.020 (-0.59)
<i>SIZE</i>	-0.013*** (-2.62)	-0.014*** (-2.79)	-0.011 (-1.27)	-0.008 (-0.94)	-0.016*** (-2.80)	-0.0168*** (-3.39)
<i>AGE</i>	0.003 (1.05)	0.003 (1.01)	0.0009 (0.21)	-0.0002 (-0.06)	0.002 (0.62)	-0.001 (-0.32)
<i>BETA</i>	-0.043*** (-3.33)	-0.057*** (-4.24)	-0.010 (-0.44)	0.001 (0.06)	-0.040*** (-2.79)	-0.049*** (-3.46)
<i>_cons</i>	0.426*** (5.9)	0.476*** (6.85)	0.427*** (4.11)	0.355*** (3.76)	0.458*** (5.22)	0.541*** (6.98)
R-sq.	0.547	0.603	0.045	0.732	0.545	0.601
Fixed effect	Year and Industry	Year and Industry	Year and Industry	Year and Industry	Year and Industry	Year and Industry
No. of Obs.	2734	2734	773	773	1961	1961

Panel B: Regressions separating positive cash flow (CFKPOS) and negative cash flow (CFKNEG)

		Full sample	State-owned enterprises	Non-state-owned enterprises
		(1)	(2)	(3)
<i>CFKPOS</i>	b1	0.026*** (16.95)	0.067*** (15.00)	0.026*** (20.56)
<i>CFKNEG</i>	b2	-0.002 (-1.42)	-0.105*** (-6.18)	0.0005 (0.64)
<i>L.SG</i>		-0.002 (-0.39)	0.145*** (5.74)	-0.005 (-0.91)
<i>SIZE</i>		-0.014*** (-2.81)	-0.005 (-0.63)	-0.019*** (-3.52)
<i>LEV</i>		0.018 (0.62)	-0.012 (-0.27)	0.021 (0.66)
<i>AGE</i>		0.005* (1.81)	0.003 (0.89)	-0.002 (-0.67)
<i>BETA</i>		-0.046*** (-3.48)	-0.0004 (-0.02)	-0.012 (-0.95)
<i>_cons</i>		0.439*** (6.41)	0.281*** (3.17)	0.494*** (5.97)
joint test	(p-value)			
b1=b2		0.000	0.000	0.000
R-sq.		0.564	0.498	0.562
Fixed Effect		Year and Industry	Year and Industry	Year and Industry
No. of Obs.		2734	773	1961

5. Conclusion

In Vietnam, by law, one of conditions for a first annual meeting to proceed is to have attendance of shareholders representing for at least 65 percent of total voting shares. If the company fails to organize the first meeting because of insufficient attendance by shareholders, a second meeting can only be taken place if it reaches the attendance rate of at least 51 percent. In the meeting a threshold to pass a company's important issue is 65 percent. Therefore, a single shareholder can theoretically veto or pass any important issues raised in the second annual meeting if he or she holds at least 33.15 percent of voting shares.

The study investigates the impact of state ownership on the relation between investment and cash flow in Vietnam, a small transition economy. Using an unbalanced panel of companies listed on the HOSE and the HNX from 2009 to 2015, I find evidence of a U-shaped relation between investment and cash flow at firms with both with and without state ownership, which is similar to findings in previous research (Cleary et al., 2007; Firth et al., 2012; Guariglia, 2008; Tsai et al., 2014).

The results also show higher cash flow sensitivity of investment at SOEs, implying higher financial constraints, compared with non-SOEs because the former have social and political responsibilities. At SOEs, sensitivity is higher when cash flows are positive than when cash flows are negative. The results also show that privately owned companies increase investment more when they have a positive rather than negative cash flow, but the investment behavior of state-owned companies is the opposite. They reduce investment more when they have negative cash flow than when cash flow is positive. Furthermore, the study shows evidence that bigger as well as riskier companies make less investment than smaller or less risky ones.

Different investment behaviours are found by companies with high versus low growth opportunity. Investment by both SOE and non-SOE high growth companies is less dependent on internal cash flow. High growth SOEs are more financially constrained than non-SOEs as shown by higher cash flow sensitivity of investment. However, low growth SOEs have higher cash flow sensitivity of investment than non-SOEs, suggesting that the social and political investments by the former may be inefficient.

Moreover, the study shows that previous-period leverage has a positive effect on investments of SOEs. High growth SOEs have a soft budget constraint, but both high growth non-SOEs and low growth SOEs are more reliant on internal cash flows to finance their investments a study investigating the relationship of investment and cash flow under financial constraint condition, more specifically state ownership control in Vietnam. This Chapter details the motivation of the study as well as literature review of the topic, based on which research hypotheses are developed. The research design (Section 4.5) develops empirical models, measurements of dependent, explanatory and control variables, as well as data source. Main data source is from Thomson Reuters database. Sample procedures are also explained how to determine final samples. Research results are also carefully discussed to withdraw some implications on the relationship between firm's investment and cash flows of both state controlled and uncontrolled companies. The relationship between investment and leverage is also analysed and discussed.

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