

The Effects of Capital Infusions after IPO on Diversification and Cash Holdings

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This paper examines how the number and the timing of capital infusions after the IPO affect the firm's diversification decision and the firm's level of cash-holdings. We find that the frequent capital infusions ultimately affect the firm's liquidity management policy, resulting in holding less cash consistent with the behavior life-cycle hypothesis. At the same time, the hurried external financings after the IPO influence managers to be more conservative in management, resulting in a high propensity for the firm's diversification and a relatively high level of firm's cash holdings.

INTRODUCTION

In this study, we endeavor to determine the fundamental factors that affect the firm's diversification decision and their relative level of cash-holdings as influenced by their managers' behavioral perspective. Many studies in finance have focused on cash-holdings in companies that recorded a high aggregated level over time. For example, Bates, Kahle and Stulz (2009) found that the average cash-holdings in U.S. firms increased from 10.5% in 1980 to 23.2% in 2006. They also explained that IPO firms with high cash-holdings mostly drive the increased cash-holdings. Bouwman and Lowry (2012) suggested that the IPO firms' high level of cash-holdings are consistently maintained up to five years after the IPO and these IPO firms did not have pre-IPO syndicated loans. Duchin (2010) found that diversified firms hold relatively less cash-holdings than single-segment firms. This is mainly because diversification allows firms to possess a low cross-divisional correlation in investment opportunities, the benefit of coinsurance.

Typically previous studies separately focused on the firm's diversification decision and level of cash-holdings. For the firm diversification, Hyland and Diltz (2002) found that the agency problem is the major factor that affects diversification such as low R&D (research and development) expenses, large executive salaries, and relatively low Tobin's q . In addition, Aggarwal and Samwick (2003) suggested that managers decide to diversify their firms based on their private benefits related to the agency problem. As one of the early studies in firm's liquidity management, Opler, Pinkowitz, Stulz, and Williamson (1999) found that the level of cash-holdings is strongly affected by the manager's precautionary motive

which is related to the firm's growth opportunities, or the firm's risky activities, etc. Almeida et al. (2004) presented that financially constrained firms are more likely to maintain a high level of cash-holdings.

In this study, we first hypothesize that the number and the timing of capital infusions in the subsequent five years after the IPO determine the firm's level of cash-holdings. Second, the hurried capital infusions after the IPO increase the propensity for the manager to favor the diversification decision. We found that frequent external financings after the IPO are negatively related to the firm's cash level. We also found that early capital infusions after the IPO induce managers' conservative management style, resulting in a high propensity for a firm's diversification and a relatively high level of a firm's cash holdings.

This collection of results implies that the number and timing of capital infusions after the IPO alters a manager's management style, and is an important factor which influences a firm's liquidity management policy. The remainder of the paper is organized as follows. Section 2 presents the study's theory and empirical hypotheses. Section 3 describes the data and summary statistics involved in this study. Section 4 tests how the timing and number of capital infusions affect the managers' diversification decision. Section 5 discusses how the timing and the number of capital infusions after the IPO affect the level of firm cash-holdings. Section 6 concludes the study.

THEORY AND EMPIRICAL HYPOTHESES

Shefrin and Thaler (1988) suggest that, based on the behavioral life-cycle hypothesis (BLC), the marginal propensity to consume lump-sum capital resources is lower than the marginal propensity to consume regular income. Since a person's mental accounting considers lump-sum capital resources as a current asset rather than current income, one is more likely to increase saving. If we apply the behavior life-cycle model to corporate finance, since most of the sequential financing happens in the subsequent five years (Herzfel et al. 2012), we would expect that managers who experienced sequential financing (i.e. short/long-term borrowings, SEO, etc.) after the IPO are more likely to hold a relatively low level of cash-holdings. On the other hand, managers with sufficient capital resources at the beginning of the IPO might maintain the relatively high level of cash-holdings similar to the individual with lump-sum money based on the behavioral life-cycle hypothesis. Thus, we hypothesize that if a firm has sufficient capital resources at the beginning of the IPO, an indicator that the firm does not need external capital financing after the IPO, then the firm's level of cash-holding is relatively higher than other firms.

In this study, we use two proxies to measure whether or not a firm has sufficient capital resources at the IPO. The first is the *Number of capital infusions* measured by counting the number of long-term debt borrowings in the five years after the IPO. The second is *Timing of capital infusions* measured by counting the length of time from a firm's IPO to its first long-term debt financing in the subsequent five years.

For the number of capital infusions, similar to the behavioral life-cycle hypothesis, managers that experienced frequent external financings are more likely to hold less cash. Since the number of external financings after the IPO is related to the firm's characteristics such as growth opportunities, if a firm displays strong growth opportunities then the firm will have multiple capital infusions (Hertzel et al. 2012). In addition, the frequent capital infusions ultimately affect the firm's liquidity management policy, resulting in holding less cash based on the behavior life-cycle hypothesis.

Contrarily, for the timing of capital infusions, if managers have to spend a certain time to set up external financings shortly after the IPO rather than fully exercising their management skills at the beginning of IPO, then those managers are more likely to have conservative managerial behaviors. Studies show that managers who went through hard times to manage their firms (i.e. economic recessions, financial constraints, etc.) tend to have a conservative management style which induces the diversification decision and the strong motive for precautionary cash-holdings (Schoar & Zuo, 2012; Dittmer and Duchin, 2013). Thus, we expect that managers who went through the hurried external financings at the IPO are more like to diversify their firms and prefer to hold a relatively high level of cash-holdings.

DATA AND SUMMARY STATISTICS

We use Compustat Industry Segment database in order to obtain the sample of diversifying firms. The sample is from 1980 to 2012 and the year of firms' diversification is defined by the year when a firm has more than two segments. In addition, each segment in a firm has to exhibit a different two-digit SIC code to be considered multi-segments. We exclude financial firms (SIC codes 6000 – 6999) and utilities (SIC code 4900 – 4999). This method of defining diversified firms is the same as used by Lang and Stulz (1994), Berger and Ofek (1995,1999), and Hyland and Diltz (2002). Lastly, we require firms in segment data to have at least five consecutive years of data history.

Two major variables in this study are the number and the timing of capital infusion in the first five years after the IPO. We use the issuance of long-term debt (DLTIS) in Compustat and require the amount of long-term debt to be over 1% on total assets (AT) to measure capital infusions. The *Number of capital infusions* is measured by counting the number of long-term debt borrowings in the five years after the IPO. The *Timing of capital infusions* is measured by counting the first year of long-term debt financing in the immediate five years following the IPO. The IPO date is the date when a firm listed in the Center for Research in Security Price (CRSP) file. We also require firms in Compustat to have at least consecutive five years of data history after the IPO.

We define firms that diversified as a treatment group and firms that remained single-segment as a control group during the sample period. To define the control group, we used the performance-matched method by Barber & Lyon (1996). This method requires the control firms to share similar performance to the treatment firms in year t-1. Firm performance is measured by return-on-assets (ROA). In total there are 833 firms that decided to transition to multi-segment firms and 1,737 single segment firms.

In Table 1, we compare mean and median values for key firm characteristics of diversified and single-segment firms from 1980 to 2012. In general, there are no significant dissimilar firm characteristics between the treatment and control group except for firm size, R&D intensity and two major variables in this study - the timing and the number of capital infusions. Since we used the performance- matched method to define the control group, the firm size appears to make a significant difference. However, Barber & Lyon (1996) suggested that the performance-matched method is less biased than the size-matched method. For the R&D intensity, the diversified firms display lower R&D expenses than single segment firms.

The mean (median) timing of capital infusions is 1.71 year (1 year) and 1.79 (1 year) for diversified firms and single-segment firms, respectively, and the difference is statistically significant. Regarding the number of capital infusions, the diversified firm (mean: 3.01; median: 2) is higher than the single-segment firms (mean: 2.89; median: 2).

PROBIT ANALYSIS OF DIVERSIFICATION

Next we examine diversification decisions based on the results of probit analysis in Table 2. Probit specifications are based upon the model by Hyland and Diltz (2002) in the models (1) and (2) of Table 2. Consistent with their results, firms with low cash flow and low R&D intensity are more likely to diversify. Managers with poor performance (i.e. low cash flow) or diminished growth opportunities (i.e. low R&D expense) are more likely to diversify their firms (Smith and Watt, 1992; Morck et al., 1990) as this strategy could serve to increase their compensation regardless of their performance. On the other hand, if a firm with high growth opportunities has limited access to external capital markets, the firm typically exhibits low R&D expenses. Thus managers in the firm are more likely to diversify their firm in order to enhance the firm's internal capital market (Hyland and Diltz, 2002).

There is an insignificant coefficient for the number of capital infusions in models (3) and (4). At the same time, the cash flow and R&D intensity are consistently negative and significantly similar to results of the basic models (1) and (2). This finding suggests that since the number of capital infusions might be driven by a firm's characteristics (i.e. growth opportunities), the necessity to diversify in order to enhance the internal capital market is captured by a firm's cash flow and R&D intensity in the probit analysis.

The negative relationship between the timing of capital infusions and the manager's diversification decision in models (5) and (6) suggests that managers who experienced relatively quick capital infusions after their IPO are more likely to diversify their firms. Consistent with our hypothesis, the findings suggest that the timing of capital infusions is related to IPO managers' success in handling the IPO and eventually fosters a more conservative management style that ultimately triggers the manager's diversification decision.

REGRESSION ANALYSIS OF CORPORATE CASH-HOLDINGS

The previous probit analysis shows that the timing of capital infusion has a direct effect on a firm's diversification decision. As managers need to allocate more time to secure external capital toward the beginning of the IPO, their management styles are more likely to be conservative and thus eventually increase the probability of diversification. At the same time, we hypothesize that the conservative management style places additional emphasis on the precautionary motive for holding cash and thereby inducing relatively high cash holdings. For the number of capital infusions after the IPO, we hypothesize that as the number of capital infusions are increased, managers are less likely to hold cash. In this section, we conduct multivariate regression on how the number and the timing of capital infusion after the IPO affect the level of firm cash-holdings based on Opler et al. (1999).

We perform multivariate regression analysis of the firm's cash-holdings based on the number and the timing of capital infusion in the subsequent five years after the IPO. The regression specifications are based on the model by Opler et al. (1999) in the model (1) of Table 3.

In the second column of Table 3, we add the diversification dummy variable in the original model in the first column in order to control cash expenses through diversification (i.e. mergers and acquisitions). The negative coefficient on the diversification dummy variable indicates that there might be significant cash expense as a result of the diversification decision.

The results in the model (4) suggest that, consistent with our hypothesis, the early capital infusion after the IPO (i.e. hurried capital infusion after the IPO) induces managers to increase the level of firm cash-holdings. In the model (3), the negative coefficient on the number of capital infusions is also consistent with our hypothesis that as the number of capital infusions is increased, managers increasingly decide to hold relatively less cash.

Almeida et al. (2004) suggest that financial constraints are an important determinant of the level of firm cash-holdings. Specifically, a firm that faces financial constraints is more likely to accumulate cash-holdings from its ongoing cash flow. By running the Opler et al. model in two subsamples based on whether or not a firm faces financial constraints, this study tests whether the number and timing of capital infusions after the IPO are still important factors that affect the firm's liquidity management. Table 4 presents the result of the regression model on the two subsamples. Across different measures for a firm's financial constraints, the timing and the number of capital infusions have a significant effect on the level of firm cash-holdings regardless of financial constraints that a firm faces.

CONCLUSIONS

We find that the number and the timing of capital infusions after the IPO have significant effects on the firm's cash-holdings besides the factors that have been previously studied. Based on the behavioral life-cycle hypothesis (Shefrin and Thaler, 1988), frequent external financings after the IPO has the effect of managers retaining a relatively the low level of cash-holdings. Also, the impact of early capital infusions after the IPO seems to have the effect of making the managers' personality more conservative. Conservative managers are more likely to decide to diversify and ultimately maintain a relatively low level of cash-holdings.

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TABLE 1
SUMMARY STATISTICS

The table presents means and median of key variables for a sample of 833 of firms that decide to diversify and 1,737 of firms that remain single segment in firms from 1980 to 2012. Dollar values are expressed in 2007 dollars. Accounting and segment data comes from Compustat and all variables are measured in year t-1, the year before the firm's decision to diversify. Two-sample t-tests (Wilcoxon-Mann-Whitney tests) are conducted to compare the difference of means (medians) of diversified firms and single-segment firms. I define firms that diversified as a treatment group and firms that remained single-segment as a control group during the sample period from 1980 to 2012. For the matching samples of single-segment firms, I applied the performance-matched method by Barber & Lyon (1996). This method requires the control firms to share similar performance to the treatment firms in year t-1. Firm performance is measured by return-on-assets (ROA). *Number of capital infusions* is measured by counting the number of long-term debt borrowings in the subsequent five years after the IPO. *Timing of capital infusions* is measured by counting the first year of long-term debt financing in the subsequent five years after the IPO. *Cash Flow* is the firm's operating income before depreciation over total assets. *Cash and Investments* is the sum of cash and short-term investments and capital expenditures over total assets. *R&D* (research and development) *intensity* is R&D expense divided by total assets. *Industry sigma* and *Industry Q* is the mean of standard deviation of cash flow over assets and Tobin's Q over ten years in the firm's representative industry, respectively, and the firm's industry is defined by the two digit-SIC code. Firm age is the number of years that the firm has been listed in the Center for Research in Security Price (CRSP) file. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

Variable	Firms with diversification		Single-segment firms	
	Mean	Median	Mean	Median
Cash/assets	0.17	0.10	0.18	0.10
Size	5.70	** 5.67	** 5.28	5.24
Dividend payout ratio	4.46	1.41	1.81	1.62
Tobin's q	1.72	1.46	1.75	1.46
Leverage	0.22	0.18	* 0.2	0.14
Cash flow/assets	0.15	0.14	0.16	0.14
Cash & investment/assets	0.24	0.19	0.25	0.19
R&D intensity	0.04	** 0	** 0.05	0
Capital expenditures/assets	0.10	0.04	0.09	0.04
Return on asset	0.18	0.16	0.18	0.16
Net working capital/assets	0.09	0.08	0.11	0.1
Acquisitions/assets	0.03	0	0.02	0
Market-to-book ratio	2.08	1.54	2.12	1.57
Industry sigma	0.26	0.15	0.18	0.15
Industry Q	0.84	0.81	0.84	0.81
Timing of capital infusion	1.71	** 1	* 1.79	1
Number of capital infusion	3.01	** 2	** 2.89	2
Firm age	7.21	*** 6	*** 11.09	11
Number of observations	833		1,737	

TABLE 2
PROBIT ANALYSIS OF DIVERSIFICATION

This table presents the results of probit analysis with a firm's decision to diversify as the dependent variable. The dependent variable equals one if the firm diversifies at year t and zero otherwise. All control variables are measured in year t-1, the year before the firm's decision to diversify. I define firms that are diversified as a treatment group and firms that remained single-segment as a control group during the sample period from 1980 to 2012. For the matching samples of single-segment firms, I applied the performance-matched method by Barber & Lyon (1996). This method requires the control firms to share similar performance to the treatment firms in year t-1. Firm performance is measured by return-on-assets (ROA). *Number of capital infusions* is measured by counting the number of long-term debt borrowings in the subsequent five years after the IPO. *Timing of capital infusions* is measured by counting the first year of long-term debt financing in the subsequent five years after the IPO. *Dividend payout ratio* is a three-year cumulation of cash dividends and repurchases over income before extraordinary items. *R&D intensity* (prior 3 years) in model (2), (4), and (6) equals the average of R&D intensity for the prior three years before the diversification. Firm age is the number of years that the firm has been listed in the Center for Research in Security Price (CRSP) file. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Timing of capital infusion					-0.046** (-2.20)	-0.045** (-2.16)	-0.045** (-2.18)
Number of capital infusion			0.020 (1.36)	0.029 (1.55)			0.002 (0.14)
Size	0.092*** (6.86)	0.090*** (6.66)	0.089*** (6.57)	0.087*** (6.41)	0.093*** (5.95)	0.092*** (5.83)	0.094*** (5.92)
Tobin's q	0.013 (0.48)	-0.003 (-0.13)	0.016 (0.61)	-0.010 (-0.38)	0.011 (0.36)	-0.012 (-0.39)	0.005 (0.16)
Leverage	-0.076 (-0.69)	-0.037 (-0.34)	-0.189 (-1.59)	-0.131 (-1.11)	-0.186 (-1.35)	-0.123 (-0.90)	-0.143 (-1.03)
Cash flow/assets	-0.649* (-2.29)	-0.589* (-2.08)	-0.923*** (-3.86)	-0.636** (-2.88)	-0.711* (-2.38)	-0.550 (-1.86)	-0.358 (-1.07)
Cash & investment/assets	-0.048 (-0.35)	-0.107 (-0.79)	0.026 (0.19)	-0.039 (-0.28)	-0.106 (-0.63)	-0.165 (-0.97)	-0.130 (-0.76)
Dividend payout ratio	0.424 (0.45)	0.430 (0.46)	0.436 (0.47)	0.446 (0.48)	-0.136 (-0.84)	-0.128 (-0.79)	-0.138 (-0.85)
R&D intensity	-0.971*** (-6.05)		-0.023*** (-6.19)		-0.325*** (-5.51)		-0.236*** (-5.25)
R&D intensity (prior 3 yrs)		-0.760*** (-4.98)		-0.729*** (-4.79)		-0.736*** (-4.11)	
Ln(firm age)	0.029 (1.19)	0.052* (2.07)	0.0312 (1.26)	0.051* (2.05)	0.025 (0.77)	0.043 (1.28)	0.025 (0.74)
Capital expenditures/assets	-0.050 (-0.49)	-0.032 (-0.32)	-0.052 (-0.50)	-0.046 (-0.44)	0.095 (0.71)	0.106 (0.79)	0.073 (0.54)
Number of observations	5,645	5,645	5,645	5,645	5,645	5,645	5,645

TABLE 3
REGRESSION PREDICTING CORPORATE CASH-HOLDINGS

This table reports regression estimates of the impact of the number of and the timing of capital infusion on firm-level cash-holdings from 1980 to 2012. Full sample consists of 2,570 firms (26,082 firm year observations) including 833 firms that diversified (9,983 firm-year observations) and 1,737 firms that remained single-segment (16,099 firm-year observation) over the sample period. As a control group, the single-segment firm is chosen by comparing its firm performance (ROA) to the performance of multi-segment firms in year t-1, the year before the diversification decision. The dependent variable is cash and short-term investment over total assets. *Diversification* as an indicator variable equals one if the firm decides to become a multi-segment firm in year t and zero otherwise. *Number of capital infusions* is measured by counting the number of long-term debt borrowings in the five years after IPO. *Timing of capital infusions* is measured by counting the first year of long-term debt financing in the five years after IPO. *Industry sigma* is the mean of standard deviation of cash flow over assets over ten years in the firm's representative industry and the firm's industry is defined by the two digit-SIC code. *Number of segments* is the natural log of the number of segments in year t. Standard errors are heteroskedasticity consistent and clustered at the firm level and t-statistics are reported in parentheses. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

Dependent Variable	(1) Cash/assets	(2) Cash/assets	(3) Cash/assets	(4) Cash/assets	(5) Cash/assets
Diversification		-0.094** (-2.08)	-0.050 (-0.94)	-0.074 (-1.52)	-0.018 (-0.33)
Number of capital infusion			-0.727*** (-16.67)		-0.755*** (-17.29)
Number of capital infusion * Diversification			-0.0547 (-0.97)		-0.066 (-1.19)
Timing of capital infusion				-0.069** (-2.54)	-0.219*** (-4.99)
Timing of capital infusion * Diversification				-0.068 (-0.91)	-0.083 (-1.13)
Market-to-book ratio	0.021* (2.19)	0.022* (2.21)	0.022* (2.31)	0.022* (2.20)	0.022* (2.29)
Size	-0.075*** (-4.66)	-0.076*** (-4.72)	-0.053*** (-3.34)	-0.076*** (-4.74)	-0.053*** (-3.37)
Cash flow/assets	0.634*** (4.39)	0.637*** (4.41)	0.631*** (4.51)	0.637*** (4.40)	0.627*** (4.48)
Net working capital/assets	-1.918*** (-20.67)	-1.917*** (-20.66)	-1.864*** (-20.20)	-1.915*** (-20.64)	-1.857*** (-20.13)
Capital expenditures/assets	0.028*** (8.89)	0.028*** (8.93)	0.029*** (9.73)	0.028*** (9.07)	0.031*** (10.31)
Leverage	-2.262*** (-17.83)	-2.260*** (-17.82)	-2.065*** (-16.32)	-2.260*** (-17.82)	-2.059*** (-16.31)
Industry sigma	0.050 (1.26)	0.051 (1.29)	0.015 (0.32)	0.054 (1.38)	0.022 (0.46)
R&D intensity	1.445*** (6.14)	1.446*** (6.14)	1.149*** (5.25)	1.444*** (6.13)	1.131*** (5.18)
Ln(number of segments)	0.068 (1.76)	0.084* (1.97)	0.075 (1.77)	0.0847* (1.98)	0.076 (1.78)
Number of observations	26,082	26,082	26,082	26,082	26,082

TABLE 4
REGRESSION PREDICTING CORPORATE CASH-HOLDINGS – FINANCIAL CONSTRAINTS CRITERIA

This table displays results for multivariate regression estimates of the Opler et al. model in two subsamples. Full samples are separated into two subsamples based on each of four different measures of the financing frictions: Payout ratio scheme, firm size scheme, bond rating scheme, and Kaplan-Zingales index. Each of the measures of the financing frictions is calculated based on Almeida et al. (2004). This table only presents the coefficient on diversification, the number of capital infusions, the timing of capital infusion and the interaction variable between the number and the timing of capital infusion and diversification. Standard errors are heteroskedasticity consistent and clustered at the firm level and t-statistics are reported in parentheses. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

Financial Constraints Criteria	<u>Constrained Firms</u>				<u>Unconstrained Firms</u>			
	(1) Cash/ assets	(2) Cash/ assets	(3) Cash/ assets	(4) Cash/ assets	(1) Cash/ assets	(2) Cash/ assets	(3) Cash/ assets	(4) Cash/ assets
1. Payout ratio								
Diversification	0.048 (0.60)	-0.047 (-0.46)	0.118 (1.33)	0.029 (0.28)	-0.086 (-1.71)	-0.042 (-0.89)	-0.108 (-1.78)	-0.064 (-1.28)
Number of capital infusion		-0.811*** (-12.69)		-0.851*** (-13.12)		-0.466*** (-11.54)		-0.480*** (-11.87)
Number of capital infusion * Diversification		0.114 (1.11)		0.0914 (0.92)		-0.0733 (-0.80)		-0.0712 (-0.78)
Timing of capital infusion			-0.284* (-1.96)	-0.238*** (-3.67)			-0.0683* (-1.78)	-0.136*** (-3.61)
Timing of capital infusion * Diversification			-0.039 (-0.60)	-0.248 (-1.74)			0.0736 (1.01)	0.072 (1.04)
2. Firm size								
Diversification	0.063 (0.64)	0.028 (0.28)	0.069 (0.68)	0.032 (0.35)	-0.069 (-0.90)	0.023 (0.21)	-0.056 (-0.64)	0.073 (0.55)
Number of capital infusion		-0.701*** (-10.61)		-0.722*** (-10.95)		-0.567*** (-6.86)		-0.568*** (-6.55)
inter_D5_2		0.045 (0.35)		0.044 (0.34)		-0.088 (-0.87)		-0.113 (-1.05)
Timing of capital infusion			-0.225*** (-3.60)	-0.293*** (-4.80)			0.184** (2.06)	-0.003** (-2.04)
Timing of capital infusion * Diversification			-0.023 (-0.16)	-0.013 (-0.10)			-0.044 (-0.38)	-0.090 (-0.75)

Financial Constraints Criteria

3. Bond ratings	Constrained Firms				Unconstrained Firms			
	(1) Cash/ assets	(2) Cash/ assets	(3) Cash/ assets	(4) Cash/ assets	(1) Cash/ assets	(2) Cash/ assets	(3) Cash/ assets	(4) Cash/ assets
Diversification	-0.038 (-0.82)	-0.006 (-0.12)	-0.053 (-1.05)	-0.023 (-0.43)	-0.290** (-2.58)	-0.205 (-1.26)	-0.165 (-1.24)	0.123 (0.60)
Number of capital infusion		-0.734*** (-14.18)		-0.763*** (-14.73)		-0.586*** (-5.39)		-0.536*** (-4.31)
Number of capital infusion * Diversification		-0.046 (-0.79)		-0.041 (-0.71)		-0.078 (-0.49)		-0.246 (-1.45)
Timing of capital infusion			-0.128* (-2.52)	-0.254*** (-5.20)			0.389*** (3.83)	-0.516** (-2.72)
Timing of capital infusion * Diversification			0.050 (0.58)	0.044 (0.53)			-0.405* (-2.34)	0.140 (1.19)

4. Kaplan-Zingales index	Constrained Firms				Unconstrained Firms			
	(1) Cash/ assets	(2) Cash/ assets	(3) Cash/ assets	(4) Cash/ assets	(1) Cash/ assets	(2) Cash/ assets	(3) Cash/ assets	(4) Cash/ assets
Diversification	-0.136* (-2.28)	-0.118 (-1.69)	-0.137* (-2.21)	-0.116 (-1.47)	-0.107 (-1.10)	-0.021 (-0.19)	-0.056 (-0.54)	0.084 (0.79)
Number of capital infusion		-0.564*** (-9.79)		-0.570*** (-9.74)		-0.383*** (-7.10)		-0.426*** (-7.58)
Number of capital infusion * Diversification		-0.016 (-0.25)		-0.017 (-0.25)		-0.098 (-0.89)		-0.147 (-1.39)
Timing of capital infusion			0.050 (0.90)	-0.048 (-0.88)			-0.089** (-2.61)	-0.207*** (-3.59)
Timing of capital infusion			0.001 (0.02)	-0.004 (-0.06)			-0.184 (-1.33)	-0.238 (-1.76)