CORPORATE GOVERNANCE AND FIRM VALUATION – THE CASE OF CHINA

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Abstract

We examine the determinants and implications of Chinese corporate cash holdings in the 1993- 2006 period. Agency theories assert that firms with a large controlling shareholder have relatively large cash holdings because of the greater ability of the controlling shareholder to extract private benefits from the cash holdings. Our findings show a very strong inverse relationship between cash holdings and firm valuation in high government ownership firms. Also, we find that in firms with high government ownership, dividend payouts are highly valued. We conclude that Chinese investors see government ownership as a factor that reduces firm value. They prefer relatively higher dividends from firms having high government ownership. Conversely, investors assign much higher value to firms with relatively low government ownership and they tend to be neutral about the dividends payouts of such firms. Also, investors value highly the presence of foreign investors in Chinese firms and tend to be neutral about dividend payouts of firms with high foreign ownership concentration.

Keywords: Cash Holdings, Ownership Structure, Corporate Governance, Chinese Firms, Dividend Policy, Government Ownership

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Introduction

The cash holding decision is a prominent theme in the agency relationships between shareholders and managers (Jensen, 1986). According to the agency theory, controlling shareholders should focus on increasing shareholders' wealth rather than taking advantage of the minority shareholders. However, when corporate governance circumstances are poor within a firm, controlling shareholders can derive substantial private benefits at the expense of minority shareholders (Dyck and Zingales, 2004; Nenova, 2003).

There are restively few accurate estimates of the magnitude of private benefits obtained by controlling shareholders. All of the evidence concerning this point is indirect and is based on the assumption that minority shareholders are better protected when private benefits of control are curbed and financial development is enhanced (La Porta et al., 1997).

Liquid assets can be converted into private benefits at lower cost than other assets, since it will be easy to use cash in non-value enhancing ways (Myers and Rajan, 1998). It stands to reason that controlling shareholders would tend to overinvest in liquid assets (Dittmar et al., 2003; Kalcheva and Lins, 2004 and Pinkowitz et al., 2006). If controlling shareholders do not maximize firm value and hold more liquid assets in countries in which it is easier to appropriate such private benefits, then minority shareholders should value liquid assets in those countries less than they do in countries where it is more difficult for controlling shareholders to do so (Pinkowitz et al., 2006). If investors discount the value of cash holdings because they expect controlling shareholders to partly consume such holdings as private benefits, then they value dividends in that country at a premium (Pinkowitz et al., 2006).

Ownership of most listed companies in China is heavily concentrated in government hands (Xu and Wang, 1999). The Chinese government is usually the controlling shareholder. Thus, being a large majority shareholder in Chinese firms, the government can use its controlling position to dictate its own agenda on firm's managers. Cash holdings in Chinese firms become a very important factor for the future profitability of the firm, since Chinese financial regulations require that firms raising capital from outside sources (mainly by issuing new stock) need to maintain a certain level of return on equity (ROE) over the past three year period (Wang et al., 2006), it would be easier for the firm to invest its own cash in profitable projects without requiring to raise new capital by selling new stock. However, cash can be used also to serve the needs of the controlling shareholder in non-value enhancing manners for the

firm; examples include over-employment, acquisition of other firms for no reasons, investment in non-profitable assets, etc.

In this paper, we investigate 1) how agency problems affect the level of cash holdings in listed Chinese companies; 2) The effect of Chinese corporate governance, in particular the presence of majority government ownership, on investor valuation of cash and dividends. To measure agency problems, we use multiple governance measures of ownership concentration (managerial ownership, government ownership, institutional holdings, and percentage of foreign shareholders). In addition, we investigate the impact of Chinese ROE regulatory requirement on cash holdings of Chinese firms.

The remainder of the paper is organized as follows: Section 2 is the literature review of previous studies related to equity offerings. Section 3 discusses the regulatory characteristics of the Chinese market. Section 4 covers the empirical hypotheses to be tested in the paper. Section 5 reports the empirical results. Section 6 concludes the paper.

Literature Review

The free cash flow hypothesis asserts that shareholders will want to limit managers' access to free cash flow in order to reduce agency conflicts over its use (Jensen, 1986 and Stulz, 1990). The primary tradeoff is providing sufficient internal capital for managers to efficiently fund all good projects, while not providing excess internal capital which would allow managers to fund projects and do perquisite consumption benefitting managers to the detriment of shareholders. If control is lacking, it is difficult, if not impossible, to convince self-interested managers to allow cash reserves to flow as benefits to shareholders.

Previous studies on cash reserves in the U.S. provide mixed evidence about the impact of large cash reserves on shareholders. Managers may hold cash as part of a precautionary motive (Opler et al., 1999). Similarly, Mikkelson and Partch (2003) find that large cash holdings may enhance firm value; do not cause poor performance and conflict of interests between managers and shareholders. Alternatively, Harford (1999) concludes that cash-rich firms are more likely to make value-decreasing acquisitions. Dittmar and Mahrt-Smith (2006) find that shareholders assign lower value to cash reserves when it is likely that significant agency problems will be present at the firm.

Faleye (2004) finds that the presence of significant excess cash reserves is more likely to lead to proxy contests which subsequently result in executive turnover followed by cash distributions to shareholders. This evidence suggests that there is a strong incentive for managers to avoid accumulations of large reserve excess cash.

Dittmar, et al. (2003) find in a several-country comparison that firms hold less cash in countries where shareholders rights are greater and where there are relatively higher developed external capital markets. This reflects the motivation of shareholders to reduce the cash reserves subject to managerial control when they have the power to do so. In countries with low investor protection, it has been found that minority shareholders value cash holdings less (Pinkowitz, Stulz and Williamson, 2004). This is consistent with the hypothesis that poor shareholder protection enables management and controlling shareholders to appropriate cash holdings for their private benefit at the expense of minority shareholders. Lins and Kalcheva (2004) study how country-level investor protection affects cash holdings. They find that firms with relatively weak shareholder rights hold more cash which reinforces the thought that such increased cash holdings can be abused by managers and/or controlling shareholders.

Review of Chinese Stock Market Regulations

Regulations on equity financing have continuously changed since the Chinese stock markets were created in the early 1990s. In December 1993, the China Securities Regulatory Commission (CSRC) issued its first regulatory document on rights offerings. Firms in need of external financing could do so only by employing the rights offering method. This meant that firms in need of external financing gave their existing shareholders the right to subscribe in the new equity issue. Initially, in order to meet the rights offering requirements, firms had to be profitable for two consecutive years and could not have offered rights in the past twelve months. In 1994, the CSRC increased the ROE requirement for rights offerings by requiring that only firms with an average ROE of ten percent or higher for the past three consecutive years were qualified for rights offerings.

The ROE requirements set forth by the SRC may provide incentives to firms to stockpile internally generated cash in order to finance future investments.

Hypothesis Development

According to LaPorta et al. (1999), firms controlled by large shareholders can encounter agency problems which pit the controlling shareholder against other minority shareholders. The controlling shareholder attempts to maximize his welfare by influencing the decision of management. When the controlling shareholder's interests are perfectly aligned with the interests of outside investors, then the outside investors benefit when the controlling shareholder takes actions which maximizes his welfare. However, when the interests of the controlling shareholder and outside investors are not perfectly aligned, then agency problems arise causing the controlling shareholder to maximize his welfare while at the same time harming the interests of outside investors. The benefits that the controlling shareholder extracts at the expense of other investors are referred to as the private

benefits of control. The level of such benefits is in large part dependent on how well the interests of outside investors are protected in the firm's country. It should be noted that as a controlling shareholder obtains more private benefits, the outside investors' assessment of firm value falls.

In China, the government is the large controlling shareholder in large number of Chinese firms, thus we hypothesize the following:

H_1: The higher the level of government ownership in firms, the lower the firm value since the government will try to extract private benefits of control based on its relatively large ownership of firms.

In a world of perfect financial markets and no contracting costs, firms invest in all available positive net present value projects. They pay out the funds they cannot invest in such projects to shareholders. Funds paid to shareholders are funds that controlling shareholders cannot employ to further their own self interests. Controlling shareholders would alternatively use these distributed funds to increase their own personal wealth or to improve their controlling position in the firm. Thus, controlling shareholders prefer to keep funds in liquid assets because liquid assets can more readily be converted to private benefit of control. Liquid assets can immediately be invested in projects that provide personal benefit to controlling shareholders. As Myers and Rajan (1998) point out, it is easier to make cash disappear than to make a plant disappear. Therefore, we propose the following hypothesis:

H_2: The higher the degree of government ownership in Chinese firms, the higher the likelihood of holding relatively higher levels of cash.

According to LaPorta et al., (2000b) firms experience greater pressure to pay dividends in countries providing poor investor protection because firm resources are more likely to be subject to controlling shareholders' private benefit expectation. In firms in a country with poor investor protection, shareholders gain when the firm pays out liquid assets in the form of dividends because such dividends can then be invested at a rate outside the firm which will be higher than the rate of return on the liquid assets invested inside the firm. This is due to the fact that the rate of return on assets invested inside the firm is reduced when the controlling shareholder extracts part of such assets in the form of private benefits of control. From here, we hypothesize:

H_3: Higher dividends payout will have positive impact on firm value.

Data and Methodology

The sample of firms used in this study is comprised of all the Chinese firms present in the CSMAR database during the period 1993-2006. In our sample, we excluded financial sector firms (banks, insurance companies, etc.) since their cash policies and accounting procedures differ from that of other industrial sectors. The sample consists of 1164 firms over a 14 year time span.

In order to investigate whether liquid assets are valued more in firms with lower government concentration or with higher concentration of foreign ownership, and whether dividends are valued more, a regression model is needed that reflects the relationship between firm value and firm characteristics. Fama and French (1998) develop a valuation regression that performs well under different testing procedures. This model is ad hoc in that it does not specify a functional form resulting directly from a theoretical model; however, it is well suited for our purpose because it explains well cross-sectional variation in firm values. The basic regression specification is as follows:

$$V_{i,t} = \alpha + \beta_1 E_{i,t} + \beta_2 dE_{i,t} + \beta_3 dE_{i,t+1} + \beta_4 dNA_{i,t} + \beta_5 dNA_{i,t+1} + \beta_6 RD_{i,t} + \beta_7 dRD_{i,t} + \beta_8 dRD_{i,t+1} + \beta_9 I_{i,t} + \beta_{10} dI_{i,t} + \beta_{11} dI_{i,t+1} + \beta_{12} D_{i,t} + \beta_{13} dD_{i,t} + \beta_{14} dD_{i,t+1} + \beta_{15} dV_{i,t+1} + \beta_{16} dL_{i,t} + \beta_{17} dL_{i,t+1} + \varepsilon_{i,t} \quad (1)$$

Where, X_t is the level of variable X in year t divided by the level of assets in year t; dX_t is the change in the level of X from year t − 1 to year t, $X_t - X_{t-1}$, divided by assets in year t; dX_{t+1} is the change in the level of X from year t to year t+1, $X_{t+1} - X_t$, divided by assets in year t; V is the market value of the firm as the sum of the market value of equity, the book value of short-term debt, and the book value of long-term debt; E is earnings before extraordinary items plus interest, deferred tax credits, and investment tax credits; NA is net assets defined as total assets minus liquid assets and L corresponds to liquid asset holdings; RD is research and development (R&D) expense I is interest expense; and D is dividends defined as common dividends paid. When R&D is missing, we set it equal to zero.

We expect the change in liquid asset holdings to contribute less to firm value in high government ownership firms, so that β_{16} should be lower in the subsample of such firms. Also, we expect the change in dividends to have a positive impact on firm value in high government ownership firms since higher dividend payout ratios will result in less cash holdings. This means that the Chinese government, as controlling shareholder, will receive less private benefits of control.

Descriptive Statistics

The descriptive statistics for the sample are contained in Table 1 including the mean, median, standard deviations of all the different variables used in the study. The cash holdings variable, the primary variable in the study, has a mean of 18.7%, a median of 14.2% with a standard deviation of 9.4%. The sample has little skewness. Government ownership is 21.4% while insiders own an average of 2.8% of the outstanding shares. The government ownership variable is highly skewed because some of the

Chinese listed companies have high government ownership while others have very little. The board independence variable reflects a mean of 54.7% and a median of 81.4%. The average firm in the sample has sales of approximately $4 billion Yuan; assets of approximately $4.7 billion Yuan; a leverage ratio of 21.7%; market to book ratio of approximately 2.64; cash flows to assets of approximately 17%; capital expenditures to assets of about 5.1%; and acquisition to assets of approximately 1.8%. The percentage of revenue devoted to R&D is about 1.7% and the percentage of the working capital from the total assets is approximately 7.1%. The percentage of firms' shares owned by foreign investors has a mean of 11.7%. This variable is skewed since the median value of foreign ownership percentage is 40.5%. In our sample, the firms have a relatively low payout ratio which is 2% on average. The average earnings per share ratio is 2.6%.

Table 1 about here

Table 2 contains the correlation coefficients between cash holdings, governance proxies, and firm size. Cash holding is positively related to government ownership and the companies' assets. Cash holding is negatively related to insider ownership and board independence. Insider ownership is negatively related to government ownership while it is positively related to board independence and firm size. Overall, a more independent board, with higher insider ownership tends to have lower cash holdings. High government ownership firms tend to have low independence and high cash holdings.

Table 2 about here

Multivariate Regression Analysis

Our study examines the relation between cash holdings and various controls for firm specific variables in a multivariate setting using cross-sectional regressions. The dependent variable is cash holdings, i.e. the log of cash to assets ratio. The independent variables are governance-related variables and firm specific factors affecting cash holdings. The regression coefficients of the different variables address the predictions of our hypotheses relating governance to cash ratios.

Table 3 about here

Models 1 through 3 of Table 3 provide the analysis of the relation between corporate cash holdings and governance/company specific variables. The results in Models 1 and 3 suggest that the government ownership is positively and significantly related to cash holdings. Higher government ownership leads to larger corporate cash holdings. Also, there is a negative relationship between the board independence variable and the cash holdings which is consistent with our hypotheses; firms with more independent board tend to hold less cash. The results in Model 2 suggest that the firms with higher future investments opportunities and lower cash flow volatility tend to have higher cash holdings. We do not find any significant relationship between the firm's ROE level and its cash holdings, thus suggesting that the regulatory requirement is not an important factor in determining the level of cash holdings in Chinese firms.

Table 4 about here

In Table 4, we examine the impact of corporate governance variables and firm specific variables on the firm valuation using multivariate cross-sectional regressions. In all three models, the value of the firm is defined as the sum of the market value of equity, the book value of short-term debt, and the book value of long-term debt. The results show that government ownership has a negative effect on firm value; investors value firms with high government ownership levels at lower rates than firms with low government ownership levels. The payout ratio has a positive effect on firm valuation; investors' value firms higher when the payout ratio in those firms is higher than average. On the other hand, investors value firms lower when the payout ratio in those firms are lower than average. Both results are consistent with our hypotheses. Also, we find a significant positive relationship between the board independence variable and firm valuation which is also consistent with our hypotheses. The Model 2 results suggest that firms with higher future investment opportunities and lower cash flow volatility tend to have higher values. Finally, we do not find any significant relationship between the firm's ROE level and the firm value. This suggests that regulatory impact is not as important as firm specific variables in determining Chinese firm value.

Market Value of Cash Holdings

To further test our hypotheses and provide more robust results, we estimate the regression model given by equation (1). We deflate all variables by total assets to control for heteroskedasticity. We follow Fama and French (1998) and estimate equation (1) using Fama–MacBeth (1973) regressions.

Table 5 shows our regression estimates based on the Fama and French (1998) model. We use two subsamples with the first divided by the government ownership concentration. The 35% median value of government ownership is the dividing point of the two samples due to the large degree of skewness present in the data. The second subsample is divided by the level of foreign investors in Chinese firms. The median value of 40% is employed as the dividing point.

Table 5 about here

We find that cash contributes significantly more to the firm value in firms with lower government ownership and higher foreign investor concentration. Our regression allows us to isolate the impact of a change in cash holdings while keeping all other variables in the regression unchanged. Consequently, we can evaluate the impact of an increase in cash that brings about an increase in total assets by the same amount as opposed to an exchange of fixed assets for cash. In high government concentration firms, a one Yuan increase in cash holdings results in an increase in firm value of 0.18 Yuan. In low government concentration firms, a one Yuan increase in cash holdings results in an increase of 0.86 Yuan. We find that a one Yuan increase in non-cash assets is associated with an increase of 0.34 Yuan in firm value in high government ownership firms while the same increase in the non-cash assets results in an increase of 0.68 Yuan in firm value for low government ownership firms. The regression is consistent with a greater discount for cash than for fixed assets for firms with high levels of government concentration. A 1 Yuan of cash contributes 0.70 Yuan less to firm value for high government ownership firms while a 1 Yuan of fixed assets contributes 0.34 Yuan less. The regression provides no evidence that earnings are valued more in low government ownership firms.

The second regression reported in Table 5 divides the subsamples by utilizing the percentage of foreign investors out of the total number of investors. The results show that firms with relatively more foreign investors show a stronger relationship between changes in cash and firm value. We find that an additional 1 Yuan of cash accumulated over the most recent year results in a 0.21 Yuan change in firm value for firms with low foreign investor concentration. The same 1 Yuan change in cash accumulated over the most recent year results in a change of 0.91 Yuan in firms with high foreign investor concentration. Thus we conclude that increases in other assets are discounted less in countries with poor investor protection than are increases in cash. However, in contrast to the regression that uses the government ownership, firms with higher foreign ownership are valued more regardless of firm characteristics. In sum, the two regressions displayed in Table 5 strongly support hypotheses 1 and 2. Further, both regressions in Table 5 support hypothesis 3. If cash is valued less in high government ownership firms, we would expect payouts to be worth more. In the regression utilizing government ownership as the criterion, high government concentration firms had a dividend payout of 7.95 while low government concentration firms had a dividend payout of only 3.44. The difference between the two coefficients is significant at better than the 1% level. In the regression using foreign ownership concentration the dividend payout for low foreign investor firms is 10.23 and only 5.12 for high foreign investor firms.

Conclusions

In this paper, we examine factors affecting the cash holdings of Chinese firms. We also examine the effect of the Chinese government in its role as majority stockholder, on private benefit extraction in firms it controls and the effect such extraction has on firm valuation. We test three main hypotheses. First, minority shareholders value cash holdings less in high government ownership firms. Second, high government ownership negatively affects the firm value. Third, minority shareholders value dividends more in high government ownership firms. In order to test for robustness, we also employed the foreign investor concentration variable in testing hypothesis 3. All three hypotheses are grounded in agency theories that state that controlling shareholders will extract more private benefits from firms they control if investor protection is weak. Our results strongly support all three hypotheses. We find that high government ownership negatively affects firm value. Investors discount the value of cash holdings in high government ownership firms and prefer instead to receive larger dividend payouts from those firms. Conversely, investors assign higher value to cash holdings in low government ownership firms and do not prefer large dividend payouts when compared to high government ownership firms. We also find similar effect for the presence of foreign ownership concentration in Chinese firms. Investors discount the value of cash holdings firms with low foreign ownership concentration and instead prefer to receive larger dividend payouts from those firms. Conversely, investors assign higher value to cash holdings in high foreign ownership concentrated firms and do not prefer larger dividends when compared to low foreign ownership concentrated firms.

Overall, our results indicate a strong inverse relationship between firm value and government ownership concentration in Chinese firms. Also, our results indicate that investors do not think that the presence of large cash holdings in high government concentrated firms will have positive impact on the firm's future profitability, thus they require higher dividend payouts from such firms. Our paper sheds light on one of the most important aspects of corporate governance i.e. the impact of government ownership on firm valuation and its effect on minority shareholders.

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Appendices

Table 1. Descriptive Statistics

This table provides summary statistics for the sample. The dataset comprises 1164 firms covering the period from 1993 to 2006. The descriptive statistics include: ratio of cash to assets (Cash Holdings), equity ownership of the top five officers (Inside Ownership), government ownership, ratio of independent directors on the board to total directors (Board Independence, non-government representative), sales, total assets, firm leverage (Leverage), ratio of the market value to book value of assets (Market-to-Book), ratio of cash flow to net assets (CF/Assets), ratio of net working capital to net assets (Working Capital/Assets), standard deviation of cash flows for the past five years (CF Volatility), ratio of research and development to sales (R&D/Sales), ratio of capital expenditures to net assets (CapEx/Assets), and ratio of acquisition to sales (Acquisition/Sales), the percentage of the dividends distributed to the shareholders (Payout ratio), earnings before extraordinary items plus interest, deferred tax credits and investment credits (Earnings), the total assets minus cash (Net assets), the interest expense, and percentage of foreign investors in the company (Foreign).

	Mean	Median	Standard Deviation
Cash Holdings	0.187	0.142	0.094
Inside Ownership	0.028	0.351	1.681
Government Ownership	0.214	0.351	2.374
Board Independence	0.547	0.814	0.184
Sales (Millions of Yuan)	3,987	1,587	11,471
Assets (Millions of Yuan)	4,748	1,684	15,369
Leverage	0.217	0.197	0.157
Market-to-Book	2.64	1.95	1.32
Cash Flow/Assets	0.172	0.157	0.145
Working Capital/Assets	0.071	0.057	0.139
CF Volatility	0.087	0.062	0.041
R&D/Sales	0.017	0.001	0.127
CapEX/Assets	0.051	0.048	0.042
Acquisition/Sales	0.018	0.001	0.043
Payout Ratio	0.019	0.030	0.034
Earnings	0.026	0.036	1.136
Net Assets	3,861	2,917	10,524
Interest Expense	156	67	127.34
Foreign	0.117	0.405	2.361

Table 2. Correlations

This table provides data on the correlations between cash holdings, governance variables, and firm size. The dataset comprises 1164 firms covering the period from 1993 to 2006.

	Cash Holdings	Inside Ownership	Government Ownership	Board Independence
Inside Ownership	-0.141**			
Government Ownership	0.214***	-0.028*		
Board Independence	-0.057**	0.374**	-0.518***	
Assets (Millions of YUAN)	0.236*	0.196**	-0.174*	0.241**

*, ** and *** are significant at 10%, 5% and 1% respectively.

Table 3. Regression Analysis – Cash Holdings

This table provides regression results of the determinants of cash holdings; three different specifications are used, the first using only governance variables as the independent variables, the second using accounting variables, and the third using both governance and accounting variables.

	Cash Holdings	Cash Holdings	Cash Holdings
Intercept	0.069	0.051	0.084
Inside Ownership	0.014*		0.011*
Government Ownership	0.041***		0.032***
Board Independence	-0.015*		-0.021
Sales (Millions of Yuan)		0.185	0.019
Net Assets (Millions of Yuan)	0.171***	0.0168**	0.0145**
Leverage		-0.145*	-0.095*
Market-to-Book		0.251	0.341
Cash Flow/Assets		0.051**	0.044*
Working Capital/Assets		0.041*	0.032*
CF Volatility		-0.019**	-0.022**
R&D/Sales		0.0174	0.084
CapEX/Assets		0.0185*	0.036*
Acquisition/Sales		0.0391	0.0486
ROE		-0.015	-0.024
Payout Ratio		-0.271**	-0.317**

*, ** and *** are significant at 10%, 5% and 1% respectively.

Table 4. Regression Analysis – Firm Value

This table provides regression results of the determinants of the firm value; three different specifications are used, the first using only governance variables as the independent variables, the second using accounting variables, and the third using both governance and company specific variables. The firm value is defined as the market value of equity plus the book value of debt.

	Firm Value	Firm Value	Firm Value
Intercept	0.374	0.514	0.611
Inside Ownership	-0.250**		-0.315**
Government Ownership	-0.687***		-0.487***
Board Independence	0.269**		0.614**
Sales (Millions of Yuan)		0.748	
Net Assets (Millions of Yuan)	0.374**	0.359**	
Leverage		-0.276*	
Market-to-Book		0.354**	0.571***
Cash Flow/Assets		0.036**	
Working Capital/Assets		0.011*	
CF Volatility		-0.344**	
R&D/Sales		0.251	
CapEX/Assets		0.289	
Acquisition/Sales		0.151	
ROE		0.514	0.817
Payout Ratio		0.415***	0.698***

*, ** and *** are significant at 10%, 5% and 1% respectively.

Table 5. Fama and MacBeth (1973) Regressions

This table presents the regressions of firm value using Fama and MacBeth (1973) method. Regressions are estimated independently for each subsample. The firm value is defined as the market value of equity plus the book value of debt. The firm value is found for two samples: government ownership concentration and foreign ownership percentage – government ownership sample being divided by the median value of 35%; above 35% is high government ownership, below 35% is low government ownership; foreign ownership being divided by the median value of 40%; above 40% is high foreign ownership while below 40% is low foreign ownership.

	High Government	Low Government	p-value of Difference	Low Foreign	High Foreign	p-value of Difference
Intercept	0.81	0.84	0.3841	0.62	0.79	0.0000
	(0.041)	(0.043)		(0.015)	(0.051)	
E_t	2.36	1.96	0.3751	3.15	4.02	0.1574
	(0.517)	(0.329)		(0.436)	(0.218)	
dE_t	-0.69	-0.32	0.1241	-0.78	-0.41	0.0068
	(0.421)	(0.205)		(0.308)	(0.119)	
dE_{t+1}	1.21	1.84	0.2869	0.38	1.32	0.0001
	(0.621)	(0.241)		(0.284)	(0.145)	
dNA_t	0.34	0.68	0.0041	0.38	1.16	0.0011
	(0.024)	(0.084)		(0.251)	(0.173)	
dNA_{t+1}	0.23	0.31	0.4185	0.05	0.18	0.2958
	(0.051)	(0.071)		(0.076)	(0.048)	
RD_t	-4.05	5.21	0.0000	0.61	4.89	0.0000
	(1.573)	(0.841)		(0.712)	(0.887)	
dRD_t	7.23	3.82	0.1574	4.25	4.64	0.8194
	(3.982)	(2.373)		(1.527)	(1.387)	
dRD_{t+1}	5.31	7.56	0.6521	4.52	9.11	0.0314
	(3.721)	(2.043)		(1.814)	(1.402)	
I_t	-3.81	-2.63	0.0000	-0.68	-3.07	0.0004
	(0.854)	(1.025)		(0.517)	(0.923)	
dI_t	1.39	-0.82	0.0023	0.51	-0.44	0.1841
	(0.597)	(0.769)		(0.891)	(0.499)	
dI_{t+1}	-1.36	-2.86	0.0115	-0.91	-2.17	0.0602
	(0.782)	(0.567)		(0.668)	(0.428)	
D_t	7.95	3.44	0.0011	10.23	5.12	0.0017
	(2.341)	(1.694)		(2.188)	(1.856)	
dD_t	-1.07	0.87	0.0574	-2.57	0.65	0.0024
	(0.674)	(0.536)		(1.547)	(0.436)	
dD_{t+1}	2.67	1.76	0.9517	4.52	-0.85	0.0118
	(0.841)	(0.718)		(1.748)	(1.188)	
dV_{t+1}	-0.23	0.12	0.1423	0.04	0.03	0.9053
	(0.087)	(0.013)		(0.185)	(0.041)	
dL_t	0.18	0.86	0.0004	0.21	0.91	0.0015
	(0.175)	(0.176)		(0.206)	(0.185)	
dL_{t+1}	0.28	0.71	0.0000	0.31	0.47	0.3984
	(0.117)	(0.204)		(0.157)	(0.138)	