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Two Essays on Shareholder Base, Firm Behavior, and Firm Value

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TWO ESSAYS ON SHAREHOLDER BASE, FIRM BEHAVIOR, AND FIRM VALUE

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ABSTRACT

TWO ESSAYS ON SHAREHOLDER BASE, FIRM BEHAVIOR, AND FIRM VALUE

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Most companies spend significant time and attention to managing their shareholder base out of the belief that significant stock market benefits can be reaped if they can identify and attract the right shareholders. Consistent with the opinion of practitioners, many financial economists suggest that the shareholder base is an important determinant of firm value and corporate policies (Lins and Warnock 2004; Brav, Graham, Harvey, and Michaley 2005; Bodnaruk and Ostberg 2013). Despite the importance of the shareholder base, research on the topic has been scant. What's more, previous studies have reported conflicting results regarding the effect of the shareholder base on firm behavior and firm value. Thus, I want to add to the literature by exploring the effects of the shareholder base on firm behavior and firm value in a foreign setting.

This dissertation explores the effect of shareholder base on firm behavior and firm value in China. It seeks to answer the following research questions: 1) what is the effect of shareholder base on risk-taking and dividend payout? 2) What is the impact of shareholder base on earnings management? And 3) what is the direct effect of shareholder base on firm value?

Essay 1 examines the effects of the shareholder base on firm behavior and firm value. Contrary to popular belief, the results show that a large shareholder base does not benefit firms in China, suggesting that a large shareholder base in China implies elevated agency conflicts between insiders and outsiders. We find that a larger shareholder base is associated with lower levels of capital expenditures, a lower standard deviation of return on assets, a lower standard deviation of

return on equity, and higher dividend payouts in China. Researchers have concluded that high dividend payouts in China are expropriations by insiders. Our results therefore imply that insiders increase the expropriation of outsiders by diverting resources for private motives as the conflict between the two parties escalates. Our finding of a negative impact of the shareholder base on firm value in China further suggests that investors are concerned about the motives of insiders as agency conflicts intensify. Consistent with the view of Rozeff (1982), our results imply that the shareholder base in China serves as a proxy for the agency conflict between insiders and outsiders of firms.

Essay 2 focuses on the effect of shareholder base on earnings management. Consistent with popular belief, we find that a larger shareholder base provides a monitoring effect on earnings management in China. However, investors in China are still relatively inexperienced and fail to see the link between earnings management and tunneling. Specifically, we find a negative relation between discretionary accruals and the shareholder base. In addition, we find some weak evidence that the shareholder base provides a controlling effect on real activities manipulation. Our results also show a positive relation between the shareholder base and tunneling activities in China. The rapid rise of the shareholder base in China provides insiders with more opportunities to extract private benefits at the expense of the minority shareholders.

Both essays suggest that improvements to the legal system and corporate governance are important before an expanding shareholder base can have positive effects on firm behavior and firm value for countries that have a poor record of investor protection and where firms are heavily controlled by the state. This dissertation adds to the scant literature on the shareholder base by examining the effects of the shareholder base on firm behavior and firm value in China. Given that

China is in the process of developing its capital markets, the findings on the shareholder base of firms in China may have significant policy implications.

This thesis is dedicated to my family. Thank you for all of your support, encouragement and sacrifice throughout my life.

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TABLE OF CONTENTS

Page

LIST OF TABLES

Table Page

INTRODUCTION

Most companies spend significant time and attention to managing their shareholder base out of the belief that significant stock market benefits can be reaped if they can identify and attract the right shareholders. Consistent with the opinion of practitioners, many financial economists suggest that the shareholder base is an important determinant of firm value and corporate policies (Lins and Warnock 2004; Brav, Graham, Harvey, and Michaley 2005; Bodnaruk and Ostberg 2013). Despite the importance of the shareholder base, research on the topic has been scant. What's more, previous studies have reported conflicting results regarding the effect of the shareholder base on firm behavior and firm value. Thus, I want to add to the literature by exploring the effects of the shareholder base on firm behavior and firm value in a foreign setting.

This dissertation explores the effect of shareholder base on firm behavior and firm value in China. It seeks to answer the following research questions: 1) what is the effect of shareholder base on risk-taking and dividend payout? 2) What is the impact of shareholder base on earnings management? And 3) what is the direct effect of shareholder base on firm value?

Essay 1 examines the effects of the shareholder base on firm behavior and firm value. Contrary to popular belief, the results show that a large shareholder base does not benefit firms in China, suggesting that a large shareholder base in China implies elevated agency conflicts between insiders and outsiders. We find that a larger shareholder base is associated with lower levels of capital expenditures, a lower standard deviation of return on assets, a lower standard deviation of return on equity, and higher dividend payouts in China. Researchers have concluded that high dividend payouts in China are expropriations by insiders. Our results therefore imply that insiders increase the expropriation of outsiders by diverting resources for private motives as the conflict between the two parties escalates. Our finding of a negative impact of the shareholder base on firm

value in China further suggests that investors are concerned about the motives of insiders as agency conflicts intensify. Consistent with the view of Rozeff (1982), our results imply that the shareholder base in China serves as a proxy for the agency conflict between insiders and outsiders of firms. Our results suggest that improvements to the legal system and corporate governance are important before an expanding shareholder base can have positive effects on firm behavior and firm value for countries that have a poor record of investor protection and where firms are heavily controlled by the state.

Essay 2 focuses on the effect of shareholder base on earnings management. A large shareholder base is supposed to impose better controls on firm discretionary behavior, but it may not work in China as shareholders are relatively less sophisticated. In addition, the stock market of China has a relatively short history and investors may not have sufficient information and experience. In this essay, we examine the effects of the shareholder base on earning management in China in this study. Consistent with popular belief, we find that a larger shareholder base provides a monitoring effect on earnings management in China. However, investors in China are still relatively inexperienced and fail to see the link between earnings management and tunneling. Using a sample of more than 20,000 firm-year observations of publicly traded nonfinancial companies from 1998 to 2013, we find that we find a negative relation between discretionary accruals and the shareholder base. In addition, we also find some weak evidence that the shareholder base provides a controlling effect on real activities manipulation. Our results also show a positive relation between the shareholder base and tunneling activities in China. The rapid rise of the shareholder base in China provides insiders with more opportunities to extract private benefits at the expense of the minority shareholders. Our results suggest that improvements to the legal system and corporate governance are important before an expanding shareholder base can

benefit firms and all the shareholders for countries that have a poor record of investor protection and where firms are heavily controlled by the state.

This dissertation adds to the scant literature on the shareholder base by examining the effects of the shareholder base on firm behavior and firm value in China. Given that China is in the process of developing its capital markets, the findings on the shareholder base of firms in China may have significant policy implications.

ESSAY 1: EFFECTS OF THE SHAREHOLDER BASE ON FIRM BEHAVIOR AND FIRM VALUE IN CHINA

0. ABSTRACT

We examine the effects of the shareholder base on firm behavior and firm value in China in this study. Contrary to popular belief, we find that a large shareholder base does not benefit firms in China. Our results suggest that a large shareholder base in China implies elevated agency conflicts between insiders and outsiders. We find that a larger shareholder base is associated with lower levels of capital expenditures, a lower standard deviation of return on assets, a lower standard deviation of return on equity, and higher dividend payouts in China. Researchers have concluded that high dividend payouts in China are expropriations by insiders. Our results therefore imply that insiders increase the expropriation of outsiders by diverting resources for private motives as the conflict between the two parties escalates. Our finding of a negative impact of the shareholder base on firm value in China further suggests that investors are concerned about the motives of insiders as agency conflicts intensify. Consistent with the view of Rozeff (1982), our results imply that the shareholder base in China serves as a proxy for the agency conflict between insiders and outsiders of firms. Our results suggest that improvements to the legal system and corporate governance are important before an expanding shareholder base can have positive effects on firm behavior and firm value for countries that have a poor record of investor protection and where firms are heavily controlled by the state.

1. INTRODUCTION

Most companies spend significant time and attention to managing their shareholder base out of the belief that significant stock market benefits can be reaped if they can identify and attract the right shareholders. According to a recent survey by the National Investor Relations Institute (NIRI) and the Rock Center for Corporate Governance at Stanford University, 91 percent of companies discuss shareholder composition at the senior-executive level; 75 percent discuss this at the board level. The survey also finds that CEOs spend 4.2 days per quarter managing their shareholder base and more than three-quarters of firms see significant stock market benefits from managing their shareholder base. Consistent with the opinion of practitioners, many financial economists suggest that the shareholder base is an important determinant of firm value and corporate policies (Lins and Warnock 2004; Brav, Graham, Harvey, and Michaley 2005; Bodnaruk and Ostberg 2013).

Despite the importance of the shareholder base, research on the topic has been scant. In the extant literature, two strands of research are related to the shareholder base. The first strand of research associates the shareholder base with the recognition of the firm by investors and finds that firms with higher levels of investor recognition have higher share prices and enjoy above average valuation multiples (Merton 1987; Bodnaruk and Ostberg 2009; Richardson, Sloan, and You 2012; Green and Jame 2013). The findings of this strand of research in general support the view that a large shareholder base generates significant stock market benefits to the firm. The second strand of research focuses on agency conflicts and the role of shareholders in these conflicts. These studies, however, have reported conflicting results regarding the effect of the shareholder base on firm value. For example, Shleifer and Vishny (1986) show that firm value is negatively affected when the number of shareholders increases and the ownership of the firm

becomes diffused. They attribute this to the agency problems caused by the inability of individual shareholders in monitoring firm managers. Similarly, Rozeff (1982), Demestz and Lehn (1985), and Pagano and Roell (1998) argue that a large and dispersed shareholder base makes the monitoring of managerial behavior difficult and aggravates agency conflicts among stakeholders. On the other hand, some studies that examine the relation between stock liquidity and firm value imply that a large shareholder base improves firm value. For example, Edmans (2009) and Admati and Pfleiderer (2009) argue that stock liquidity reduces managerial opportunism and improves firm value. Fang, Noe, and Tice (2009) argue that liquidity increases the information content of performance-sensitive managerial compensation and thus improves firm performance. Thus, given the scant research on the shareholder base and the conflicting conclusions of related studies, we want to add to the literature by exploring the effects of the shareholder base on firm behavior and firm value in China in this study.

Our goal is to determine if the common belief held by business executives that a large shareholder base is beneficial to the firm is true in a foreign setting. In doing so, we examine the effects of the shareholder base on various aspects of firms in China. First of all, we examine if the shareholder base has a positive or negative impact on the risk-taking behavior of firms in China. An examination of firm risk-taking behavior is directly relevant for evaluating the effect of the shareholder base on firm value. Given that firms in China are on average significantly controlled or owned by the state, the conflict between insiders and outsiders dominate other forms of agency problems. Corporate risk-taking behavior is affected not just by the insiders' explicit ownership, but also by the private benefits that they can capture, including the corporate cash flows that they plan to divert to themselves. The more important the private benefits are, the more risk averse the insiders are likely to be in directing corporate investment behavior. A large shareholder base may

dilute (strengthen) the influence of insiders and promote firm value-maximizing (value-decreasing) risk-taking behavior. The second part of our analysis is to examine the effect of the shareholder base on dividend payout in China. In the literature, a large shareholder base has been associated with a high dividend payout as the distribution of free cash flow is deemed necessary to dampen the agency problems associated with a dispersed ownership. The effect of the shareholder base on dividend payout in China, however, is less than straightforward as researchers have concluded that dividend payout is a form of expropriation by insiders. Thus, a large shareholder base may reduce (increase) dividend payouts of firms in China if the influence of insiders is mitigated (elevated). An examination of the dividend payout in China helps determine if a large shareholder base is beneficial to the country's business organizations. Our final analysis is to directly examine the effect of the shareholder base on firm value in China. The relation between ownership structure and firm value in the U.S. has been extensively investigated in the literature; similar research based on firms in China is significantly less. Specifically, the effect of the shareholder base on firm value in China has not been examined yet in the literature. An investigation of the effect of the shareholder base on firm value is particularly important for China because firm value is a relatively unfamiliar concept to most stock investors in China. There is widespread popular belief that the tremendous stock market growth in China in recent years has attracted sentiment-driven investors mainly. Eun and Huang (2007) for instance cite the Wall Street Journal (August 22, 2001) comparing the stock markets of China to "casinos, driven by fast money flows in and out of stocks with little regard for their underlying value." A better understanding of firm value and the effect of the shareholder base may help investors in China behave in a more rational manner.

Several reasons motivate us to examine the shareholder base in China in this study. First, existing studies of the ownership structure of firms in China primarily focus on the effect of the controlling shareholders on firm behavior; the effect of the shareholder base in China has not been examined yet in the literature. Second, China presents an interesting case for examining the shareholder base because before the Shanghai and Shenzhen Stock Exchanges were created in 1991, publicly traded firms and individual investors virtually did not exist. According to the 2013 China Securities Depository and Clearing Statistical Yearbook, the number of A-share stock trading accounts (each investor can only register for one trading account) increased from 58.5 million to 171.9 million between 2000 and 2013 at an annual rate of eight percent; the number of B-share stock trading accounts increased from 0.025 million to 2.51 million over the same period an annual rate of 117.7 percent. The statistics suggest that the shareholder base in China has been growing at a phenomenal rate unseen in other countries and it presents an interesting opportunity for investigating the effect of the shareholder base that arises primarily because investors are enthusiastic about stock ownership. Third, there is some evidence that shareholders in China are eager to protect their interests by monitoring firm behavior. Chen, Ke and Yang (2013) find evidence that after the passage of an investor-friendly regulation in 2004 in China, firms that have a higher level of minority shareholders are more likely to veto value-decreasing proposals while the firm management also submits fewer proposals that may decrease firm value. Accordingly, a larger shareholder base may have some positive impacts on firm behavior in China. An investigation of the shareholder base in China may thus result in significant policy implications because the country is facing the challenging task of protecting minority shareholders' interests as it develops its domestic financial markets. Given China's poor record of investor protection and weak law enforcement, it is important to determine the role of the shareholder base in its

burgeoning capital markets. This is the first study to show how the shareholder base affects the quality of corporate behavior for firms domiciled in weak investor protection countries. Fourth, the extant literature has provided evidence that firms in China suffer significant agency costs due to the presence of state ownership and/or government related controlling shareholders. It would be of interest to know if a broad shareholder base could promote the monitoring of firm behavior as government-related ownership is diluted. Pagano and Roell (1998) argue that an optimal firm ownership structure generally involves some measure of dispersion, to avoid excessive control by specific shareholders. This hypothesis has not been tested yet in developing countries where firm ownership is concentrated; China provides an interesting platform for investigating the hypothesis.

Using a sample of 20,125 firm-year observations of Chinese companies from 1998 to 2013, we find evidence suggesting that the shareholder base is a proxy for agency conflicts for firms in China. That is, an expansion of the shareholder base in China implies higher levels of expropriation of outsiders by insiders. Specifically, firms with a larger shareholder base have lower levels of capital expenditures, a lower standard deviation of return on assets (σ[ROA]), and a lower standard deviation of return on equity (σ[ROE]). In addition, a larger shareholder base is associated with higher dividend payouts by firms in China. Researchers have concluded that the high dividend payouts in China are expropriations by outsiders. Our results on firm risk-taking behavior and dividend payout are thus consistent with the extensive evidence documented in existing studies that corporate resources of firms in China are frequently expropriated to satisfy the private motives of insiders. We also find that the shareholder base has a negative impact on firm value in China. The finding implies that investors are skeptical of the motives of insiders as the conflict between insiders and outsiders escalate. These results are consistent with the view of Rozeff (1982) that a larger shareholder base implies higher levels of agency conflicts.

Our study adds to the scant literature on the shareholder base by examining the effects of the shareholder base on firm behavior and firm value in China. Our results are in general consistent with the existing literature that outsiders are expropriated by insiders of firms in China (Huang, Shen, and Sun 2011; Berkman, Cole, and Fu 2010). Given that China is in the process of developing its capital markets, our findings on the shareholder base of firms in China may have significant policy implications. Our results also add to the literature on investor protection by showing that in countries where investor protection is poor and law enforcement is weak, expanding the shareholder base is unlikely to aid the development of the capital markets as investors are skeptical of the motives of insiders. Our results resonate with the view of Lins and Warnock (2004) that investors are typically attracted only to firms in countries that have good governance practices and good law enforcements. Our investigation also adds to the literature on the influence of state ownership on firm behavior by showing that an expanding shareholder base does not improve the monitoring of firms where state ownership is significant and corporate governance is poor. In the case of China, our findings suggest that regulations and governance practices must be improved before the shareholder base can have positive effects on firm policies and firm value.

The rest of the paper is organized as follows. Section 2 reviews the literature and discusses the research questions. Section 3 describes the sample and data. Section 4 presents analysis and results. Section 5 concludes the paper.

2. LITERATURE REVIEW AND RESEARCH QUESTIONS

Practitioners recognize that the shareholder base is important for many corporate decisions. For example, Wolfe Axelrod Weinberger Associates LLC, an investor relations company, states in its

company profile, "Our efforts culminate in a broader shareholder base, increased liquidity, a lower future cost of capital, and a better valuation relative to the client's peer group."[1] Capital Link, another investor relations consulting firm, stipulates on its website, "We assist our clients to position themselves properly in the investment community, expand their shareholder base, secure analyst and media coverage and achieve a sustainable valuation."[2] Academic researchers also consider that the shareholder base is an important determinant of firm decisions (Brav, Graham, Harvey, and Michaley 2005; Bodnaruk and Ostberg 2013; Beyer, Larcker, and Tayan 2014). In spite of the apparent importance of the shareholder base, direct evidence detailing the impact of the shareholder base on corporate decisions has been scant. Our goal in this study is to determine if the common belief held by business executives that a large shareholder base is beneficial to the firm is true in a foreign setting. To achieve our goal, we examine the effects of the shareholder base on firm behavior and firm value in China.

2.1 THE SHAREHOLDER BASE AND FIRM RISK-TAKING BEHAVIOR

First of all, we investigate the relation between the shareholder base and firm risk-taking behavior in China. An examination of firm risk-taking behavior is directly relevant for determining if a large shareholder base is beneficial to the firm. Theoretically, when the shareholder base is small, firm ownership is likely concentrated and firm investment decisions are frequently influenced by a few large shareholders. Large shareholders in general have incentives to influence the firm to pursue risky projects in order to maximize firm profit (Amihud and Lev 1981; Shleifer and Vishny 1986). Laeven and Levine (2009) provide supporting evidence by documenting a positive relation between risk-taking and ownership. Undiversified large shareholders, however,

[1] See http://www.wolfeaxelrod.com/profile.htm
[2] See http://www.capitallink.com/products_&_services.html

tend to prefer conservative projects in order to protect their own interests (John, Litov and Yeung 2008; Faccio, Marchica, and Mura 2011). When the shareholder base is broad and individual ownership becomes small, shareholders are likely neutral towards firm risk-taking behavior because the cost of monitoring the firm is high and firm-specific risk can be diversified away efficiently (Easterbrook 1984; Pagano and Roell 1998). However, Becker-Blease and Paul (2006) find a positive relation between stock liquidity and firm capital expenditures because improved stock liquidity reduces the cost of capital; their results imply that a larger shareholder base is likely to have a positive effect on the risk-taking behavior of firms. Gadhoum and Ayadi (2003) examine Canadian firms and find a nonlinear relationship between ownership and risk; their results show that risk-taking is high at low and high levels of ownership. Thus, the relation between the shareholder base and firm risk-taking is less than straight forward.

State ownership is significant among firms in China. In 2013, the average state ownership reached almost 40%. In addition to state ownership, firms in China are typically controlled by a few large controlling shareholders. The controlling shareholders are frequently related to the government and the managers of large firms are usually appointed by the state, thus the conflict of interest between large and small owners (the insider/outsider problem of Jensen and Meckling, 1976) supersedes the agency conflict between shareholders and management. Firm risk-taking decisions in China as a result are likely dominated by insiders, that is, the state. In a country where corporate governance is poor and legal enforcement is weak, a direct outcome of a large ownership by the state is that the investment policies implemented in firms are likely to be conservative (John et al. 2008). Among the existing studies on the impact of state ownership on firm investment activity in China, Tan (2001) find that managers of large state-owned enterprises are less willing to assume risks than entrepreneurs of small privately-owned enterprises. Consistent with this view,

Huang, Shen, and Sun (2011) find that state ownership is associated with conservative corporate risk-taking behavior in China. A likely reason is because bureaucrats and state agencies do not have incentives to maximize firm value; they prefer a conservative investment approach that is consistent with the governmental emphasis on political and economic stability (Zou and Adams, 2008). Accordingly, our first analysis is to examine whether a large shareholder base has positive impacts on the conservative risk-taking behavior of firms in China. The shareholder base in China has increased significantly in recent years while the average state ownership of firms has declined only moderately from 47% in 1998 to 40% in 2013. There are two possible effects of such a change on firm risk-taking behavior in China. On one hand, with the state ownership diluted by a larger shareholder base and regulations have been implemented to protect shareholder rights, a large shareholder base implies that individual shareholders may exert influences that are opposite to the opinion of the state. This is a possible outcome that is consistent with the results of Chen et al. (2013). Thus, a large shareholder base in China may have an offsetting effect on the conservative impact of state ownership on firm investment activity. On the other hand, if the shareholder base is a proxy for the degree to which the firm is exposed to agency costs as suggested by Rozeff (1982), then a larger shareholder base may aggravate the extraction of benefits by the controlling shareholders. That is, the shareholder base has no restraining effects on the influence of state ownership on firm investment activity. The mixed theoretical possibilities motivate our empirical investigation.

2.2 THE SHAREHOLDER BASE AND DIVIDEND PAYOUT

The second part of our investigation is to examine the effect of the shareholder base on dividend payout in China. There are two competing views in the literature on the relation between

the shareholder base and dividend payout. On one hand, Rozeff (1982) find a positive relation between dividend payout and the number of shareholders. He argues that the number of shareholders is a proxy for the agency costs facing a firm; therefore, firms dissipate free cash flows by paying more dividends to control agency conflicts as the shareholder base becomes larger. Consistent with this view, many researchers find that dividends are paid to disperse the free cash flow of a firm in order to mitigate agency problems (Jensen 1986; Lang and Litzenberger 1989). This strand of research implies that a larger shareholder base is associated with a higher dividend payout. Without relying on the agency cost argument, Bodnaruk and Ostberg (2013) also find a positive relation between the shareholder base and dividend payout because a larger shareholder base implies lower costs of external financing. On the other hand, Banerjee, Gatchev, and Spindt (2007) find that firms that have a low stock liquidity pay more dividends in order to satisfy investors' need for liquidity. Their results imply a negative relation between dividend payout and the shareholder base.

Given the concentrated ownership of firms in China, researchers generally regard corporate dividend payout as a form of expropriation by the controlling shareholders (Lee and Xiao 2007; Wei and Xiao 2009; Cheng, Fung, and Leung 2009; Chen, Jian and Xu 2009; Lin, Chiou and Chen 2010; Huang, Shen and Sun 2011; Liu, Uchida and Yang 2014). For example, Chen et al. (2009) find that Chinese firms with higher levels of concentrated ownership pay more dividends to satisfy the tunneling needs of the controlling shareholders. Su, Fung, Huang, and Shen (2014) and Liu et al. (2014) argue that the preference for cash dividends by the controlling shareholders in China is evidence of wealth expropriation given that the shares held by them are typically non-negotiable. The findings of these researchers are consistent with the prediction of John et al. (2008) that firms with high insider holdings are likely to siphon off cash flows for private benefits. The effect of a

large shareholder base on the dividend payouts of firms in China, however, can be either positive or negative. If the minority shareholders in China are strong enough to exert their influences, as documented by Chen, Ke, and Yang (2013), then a larger shareholder base can mitigate the expropriation by the controlling shareholders and result in a lower dividend payout. On the other hand, if the minority shareholders are weak, a larger shareholder base may exacerbate the expropriation by the controlling shareholders and result in a higher dividend payout. In a cross-country study, Faccio, Lang, and Young (2001) show that high dividend payouts alleviate the expropriation of outsiders by insiders in Europe but exacerbate it in Asia. We seek to find out if the shareholder base mitigates or exacerbates expropriations by insiders through dividend payouts of firms in China.

2.3 THE SHAREHOLDER BASE AND FIRM VALUE

As the shareholder base is likely an important determinant of corporate decisions, its effect on firm value cannot be ignored. Thus, the last part of our investigation is to examine the relation between the shareholder base and firm value in China. One strand of studies suggests that the size of the shareholder base has a positive impact on firm value. For example, Merton (1987) finds that firms with a larger number of investors are better recognized in the stock market and tend to have valuation multiples. Related to Merton's investor recognition hypothesis, some studies show that share prices of foreign stocks go up when their corresponding American Depository Receipts are listed on US stock exchanges; researchers attribute this to the higher investor recognition and liquidity, that is, a larger shareholder base, achieved by the listing effect (Kadlec and McConnell 1994; Foerster and Karolyi 1999). On the other hand, another strand of research that examines agency problems and firm value suggests that a large and dispersed ownership structure has a

negative effect on firm value as agency conflicts intensify (Rozeff 1982; Konijn, Kräussl, and Lucas 2011). However, mixed results have been found in this strand of research (Demsetz and Lehn 1985; Morck, Shleifer and Vishny 1988; Holderness and Sheehan 1988; McConnell and Servaes 1990). Konijn et al. (2011) argue that the mixed results are caused by differences in regional and institutional characteristics.

Existing studies on firm value in China overwhelmingly document a negative effect of state ownership on firm value (Wei, Xie, and Zhang 2005; Lei and Song 2013; Xiao and Zhao 2014). It is generally argued that because the controlling shareholders of firms in China have no incentives to maximize firm value as the shares they own are non-tradable. Lei and Song (2011) find that firms with high levels of state ownership are associated with higher levels of related party transactions, which are typical channels for the controlling shareholders to tunnel firm resources for private benefits. Xiao and Zhao (2014) find that firms with excess control rights are associated with higher levels of agency conflicts and have a lower firm value. Gunasekarage, Hess and Hu (2007) and Shan and McIver (2011) find a negative, albeit weak, relation between ownership concentration and firm performance in China.

The last part of our investigation in this study is to examine if the shareholder base could generate a positive effect on firm value in China. Despite a larger shareholder base implies dispersed ownership, Pagano and Roell (1998) argue that an optimal firm ownership structure generally involves some measure of dispersion in order to avoid excessive control by specific shareholders. To the extent that firm value goes up when the excessive influence of the controlling shareholders is mitigated and when investor recognition improves, a larger shareholder base may enhance firm value in China.

3. DATA

Our sample of 20,125 firm-year observations includes all the publicly traded non-financial firms in China between 1998 and 2013. The source of the data is the China Center for Economic Research (CCER) Database, which provides yearly financial reports, equity trading and corporate governance information on companies listed on the Shanghai and Shenzhen stock exchanges. Consistent with previous studies, missing values of data are filled manually using internet available information from http://finance.sina.com.cn/. To reduce the effect of outliers, we winsorize the financial variables with extreme values at the 1st and 99th percentiles.

In Table 1.1, we provide definitions of the variables used in the study. Many of the firm-level variables are same as those used in Bodnaruk and Ostberg (2013) and Faccio et al. (2011).

[Insert Table 1.1 about here]

Table 1.2 provides descriptive statistics of the sample. It includes the mean, median, standard deviation, and 25th and 75th percentiles. The average firm in our sample has 50,752 shareholders of record (Shareholder Base); the median firm has 30,823 shareholders. The mean and median values of firm size, measured by Market Capitalization, are RMB 6.73 billion and RMB 2.93 billion, respectively. The mean (median) total assets is RMB 5.23 billion (1.87 billion). Sales volume has a mean (median) of RMB 3.63 billion (1.03 billion). Capital expenditures to total assets ratio has a mean of 0.07 and a median of 0.05; these numbers are comparable to recent US data (Ramalingegowda, Wang and Yu, 2013). On average, firm cash holdings represent 20.17% of total assets, which is in line with the findings of Opler, Pinkowitz, Stulz, and Williamson (1999) and Bodnaruk and Ostberg (2013) for firms in the United States. Dividend payout ratio, computed

as dividends divided by sales, has a mean of 5.96% and a median of 4.01%. Book-to-market ratio has a mean (median) of 0.40 (0.35). Stock liquidity has a mean (median) of 2.87 (1.76). Stock liquidity is high relative to firms in the U.S. (Bodnaruk and Osteberg, 2013), suggesting that investors in China have a keen interest in stock trading. Firms in the sample are profitable operations with a mean (median) ROA of 5.72% (4.64%) and a mean (median) ROE of 8.93% (7.87%). The firms have an average 1-year buy-and-hold stock return of 21.75%. On average, firm age is in excess of 10 years.

[Insert Table 1.2 about here]

3.1 MEASURES OF THE SHAREHOLDER BASE

We use two measures of the shareholder base in this study. The first measure is the raw shareholder base, computed as the natural logarithmic value of the number of registered shareholders in order to control for the skewness in the distribution of the variable. The second measure is the excess shareholder base, computed using the model developed by Bodnaruk and Ostberg (2013). The regression equation is as follows:

$$
\begin{aligned}
Ln\,(number\ of\ Shareholders)_{it} = {} & \beta_{0i} + \beta_{1i}\ \log\,(1 + firm\ age)_{\ it} + \beta_{2i}\ ROE_{it} \\
& + \beta_{3i}\ \log\,(Market\ Cap)_{\ it} + \beta_{4i}\ \log\left(\frac{B}{M}\right)_{it} + \beta_{5i}\ \left(\frac{1}{share\ price}\right)_{\ it} \\
& + \beta_{6i}\ Past\ year\ return_{it} + \beta_{7i}\ Volatility_{it} \\
& + \beta_{8i}\ Stock\ liquidity_{it} + Exchange\ dummies \\
& + Industry\ dummies + Year\ dummies + \varepsilon_{it} \qquad (1)
\end{aligned}
$$

In this estimation model, the logarithmic value of the number of shareholders (LogSH) is the dependent variable. The independent variables include firm age, return on equity, B/M ratio,

market capitalization, 1/share price, stock liquidity, past year return, and volatility. We define the regression residuals of equation (1) as Excess Shareholder Base (ExShBase). In the regression, we control for market capitalization because larger firms are likely to have more shareholders due to higher levels of media coverage and investor recognition. Stock liquidity controls for volume-based liquidity. In addition, 1/share price controls for the liquidity associated with transaction costs. Firm age and volatility control for firm risk. Return on equity and past year return control for the impact of recent performance on the number of shareholders. Book-to-market ratio controls for the effect of stock valuation on the shareholder base.

Table 1.3 presents the regression result of equation (1). The result is qualitatively similar to what Bodnaruk and Ostberg (2013) find. The result shows that large, value, and older firms have more shareholders. In addition, firms that have a high 1/share price and stock liquidity also have more shareholders. The two measures of recent performance, return on equity and past year return, show contradictory effects on the number of shareholders.

[Insert Table 1.3 about here]

According to Bodnaruk and Ostberg (2013), it is important that the shareholder base is a persistent firm characteristic instead of a temporary phenomenon if the shareholder base is to have systematic effects on firm decisions. Thus, we begin by determining if the shareholder base in China is stable and persistent. Following Bodnaruk and Ostberg (2013), we separate firms into quartiles based on the raw (excess) shareholder base. Firms in quartile 4 (1) have the largest (smallest) shareholder base. After identifying a firm's first entry into quartile 4 (1), we record which quartile the firm belongs to over the following five years. As can be seen in Table 1.4, about

96% (69%) of the firms remain in the top two quartiles of the raw (excess) shareholder base throughout the five-year period after entering quartile 4. In addition, 74% (45%) of the firms stay in the largest raw (excess) shareholder base quartile during the five-year interval. 61% (48%) of the firms originally in quartile 1 of the raw (excess) shareholder base remain in the bottom two quartiles in the following four years. In sum, the results in Table 4 suggest that the raw (excess) shareholder base in China is persistent.

[Insert Table 1.4 about here]

4. ANALYSIS AND RESULTS

4.1 UNIVARIATE ANALYSIS

Table 1.5 reports univariate results comparing the characteristics of firms with a large shareholder base (quartile 4) and firms with a small shareholder base (quartile 1). In panel A, we report results based on the raw shareholder base (LogSH). As can be seen in panel A, all the mean differences and median differences are significant at the one percent level. As expected, firms with a small shareholder base are smaller than firms with a large shareholder base in terms of total assets, sales revenue, and operating cash flow. The mean (median) total assets of firms with a small shareholder base is RMB 2,080 million (1,207 million) compared to RMB 21,601 million (5,293 million) of firms with a large shareholder base. The mean (median) sales revenue of firms with a small shareholder base is RMB 1,693 million (716 million) compared to RMB 17,831 million (2,749 million) of firms with a large shareholder base. The mean (median) operating cash flow of firms with a small shareholder base is RMB 118 million (55 million) compared to RMB 1,630 million (231 million) of firms with a large shareholder base. Firms that have fewer shareholders

also have a lower leverage. The mean (median) leverage ratio of firms in quartile 1 is 42.16% (42.40%) compared to 48.84% (50.18%) of firms in quartile 4. In terms of performance, firms with a small shareholder base outperform firms with a large shareholder base. The mean (median) ROE of firms in quartile 1 is 10.25% (8.76%) compared to 8.42% (7.10%) of firms in quartile 4. Similar patterns are found when comparing their sales growth and ROA. The results in panel A also show that firms with a large shareholder base hold less cash (Cash/TA) and pay more cash dividends than firms with a small shareholder base. These findings are consistent with the result of Bodnaruk and Ostberg (2013) on US firms. Firms with a large shareholder base have lower levels of capital expenditures (Capex/TA) than firms with a small shareholder base, with or without adjusting for the industry mean (median).

Panel B of Table 1.5 reports univariate results comparing the characteristics of firms with a positive excess shareholder base (that is, a large shareholder base) and firms with a negative excess shareholder base (that is, a small shareholder base). With a few exceptions, the results in panel B of Table 5 are very similar to what we have observed in panel A. Firms with a negative excess shareholder base are smaller in terms of total assets, sales revenue, and operating cash flow. Firms with a negative excess shareholder base outperform firms with a positive excess shareholder base in terms of ROE, ROA, and Sales growth. Firms with a negative excess shareholder base have more cash holdings, less leverage, and higher levels of capital expenditures. Unlike the result based on the raw shareholder base, panel B shows that there is no difference in dividend payouts between firms with a negative excess shareholder base and firms with a positive excess shareholder base.

[Insert Table 1.5 about here]

4.2 SHAREHOLDER BASE AND RISK-TAKING BEHAVIOR

To analyze the impact of the shareholder base on firm risk-taking behavior, we augment standard firm risk-taking regression models by adding the shareholder base as the independent variable of interest.

$$Risk-taking\ activity_{it} = \beta_{0i} + \beta_{1i}\ Shareholder\ Base_{\ it-1} + \beta_{2i}\ X_{it-1} + Industry\ dummies + Year\ dummies + \varepsilon_{it} \quad (2)$$

where risk-taking activity is measured by capital expenditure divided by total assets (CapEx_TA), the standard deviation of ROA(t, t+4), and the standard deviation of ROE(t, t+4), respectively. In addition, the dependent variable is measured by the raw, industry mean-adjusted, and industry median-adjusted value, respectively. We abbreviate the standard deviation of ROA(t, t+4) by σ[ROA(t,t+4)] and the standard deviation of ROE(t, t+4) by σ[ROE(t,t+4)] hereafter. The control variables, X_{it}, are firm age (measured by Log(1+firm age)), prior year buy-and-hold stock return, cash holdings (measured by Ln(Cash/TA)), earnings (measured as Ln(EBITDA/TA)), growth opportunities (measured by Ln(B/M ratio)), leverage (measured by total liabilities/total assets), and log(sales). Also included is a (0,1) dummy variable that has a value of one if the firm is ultimately controlled by the state, and is zero otherwise. Lagged values of independent variables are used in the estimation in order to control for potential endogeneity problems. We also control for industry fixed effects and year fixed effects in the model.

In Table 1.6, regression results using equation (2) with the dependent variable measured by CapEx_TA are reported. In columns (1) to (3), regression results based on the raw shareholder base (LogSH) are reported. In columns (4) to (6), regression results based on the excess shareholder base are reported. As can be seen in Table 6, the coefficient on the raw shareholder base is negative and significant at the one percent level in columns (1) to (3). The economic impact

of the shareholder base on capital expenditure is considerable. For example, in column (1), the coefficient on the raw shareholder base is -0.0033 with a p-value of 0.0000. Evaluating CapEx_TA at its mean level, an increase in LogSH from the first to the third quartile of the distribution results in a 6.37% decrease in CapEx_TA. Similar results can be found in columns (2) and (3). The results suggest that a larger shareholder base is associated with reduced capital expenditures. The results are contradictory to the finding of Becker-Blease and Paul (2006) based on US data. Instead, the reductions in capital expenditures by firms in China as the shareholder base expands are consistent with the view of Rozeff (1982) that the shareholder base is a proxy for agency conflicts. For firms in China, a larger shareholder base implies that insiders heighten the expropriation of outsiders and divert corporate resources from firm investment activity for private motives as the conflicts with outsiders escalate. This interpretation is consistent with the extensive evidence on tunneling by insiders among firms in China (Gao and Kling 2008; Chen et al. 2009; Aharony, Wang and Yuan 2010; Jiang, Lee, and Yue 2010). The negative effect of the shareholder base on risk-taking by firms in China is likely associated with the weak corporate governance of the country. In columns (4) to (6), the coefficient on the excess shareholder base is also negative, despite insignificant. That is, we only have fair evidence in Table 6 that the shareholder base negatively impacts risk-taking by firms in China.

Although it is not the main focus of this paper, Table 1.6 also provides information about other conventional determinants of risk-taking activity. The regression coefficients on these determinants have signs that are largely consistent with those identified using U.S. data. For example, sales volume has an expected positive coefficient as larger firms are likely to invest more. The coefficient on earnings (EBITDA/TA) is positive and significant at the one percent level in columns (1) to (6), suggesting that higher earnings enable firms to invest more and assume more

risk. Similar to prior studies, sales growth has a positive effect on capital expenditures (Harford, Mansi and Maxwell 2008). On the other hand, leverage has a significant negative effect on capital expenditures in columns (1) to (6). Firm age also has a significant negative effect on CapEx_TA; a likely reason is that older firms have fewer growth opportunities. Consistent with prior studies, state ownership has a negative effect on CapEx_TA. The result suggests firms that are controlled by the state are more conservative and less interested in maximizing firm value. Finally, firms that hold more cash and firms with a lower book-to-market ratio spend less on capital expenditures.

[Insert Table 1.6 about here]

The regression results of equation (2) with σ[ROA(t,t+4)] as the dependent variable are reported in Table 1.7. In columns (1) to (3), regression results based on the raw shareholder base (LogSH) are reported. In columns (4) to (6), regression results based on the excess shareholder base are reported. As can be seen in Table 1.7, the shareholder base has a strong negative effect on σ[ROA(t,t+4)]. The coefficient on the shareholder base is negative and significant at the one percent level in columns (1) to (3); it is significant at the five percent level in columns (5) and (6). The results are stronger than those observed in Table 1.6 where the dependent variable is capital expenditure. The economic impact of the shareholder base on σ[ROA(t,t+4)] is considerable. For example, in column (1), the coefficient on the raw shareholder base is -0.1799 with a p-value of 0.0003. Evaluating σ[ROA(t,t+4)] at its mean value, an increase in LogSH from the first to the third quartile of the distribution results in a 4.57% decrease in the standard deviation of ROA. Similarly results can be observed in columns (5) and (6) where the excess shareholder base is used. Over all, the results in Table 1.7 show that a larger shareholder base is associated with lower levels

of σ[ROA(t,t+4)] for firms in China, implying that firm resources may have been diverted from firm investment activity as the shareholder base expands. The results are consistent with the view of Rozeff (1982) that agency conflicts are elevated as the shareholder base expands, resulting in the diversion of resources to satisfy the private motives of insiders. The results are also consistent with the existing literature that firms in China suffer from significant expropriations by insiders (Aharony, Wang and Yuan 2010; Jiang, Lee, and Yue 2010).

[Insert Table 1.7 about here]

In Table 1.8, regression results using equation (2) with the dependent variable measured by σ[ROE(t,t+4)] are reported. ROE is the ratio of net income to shareholders' equity. The standard deviation of ROE reflects both the riskiness of a firm's projects and the additional risk associated with the use of leverage in the capital structure. The measure has been used in previous studies as an indicator of firm riskiness (Faccio et al. 2011). As can be seen in Table 8, the coefficient on the raw shareholder base is negative and significant at the one percent level in columns (1) to (3). The coefficient on the excess shareholder base is negative and significant at the five percent level in column (4); it is significant at the one percent level in columns (5) and (6). The results imply that lower levels of firm risk-taking are associated with a larger shareholder base. The results in Table 8 are similar to those in Tables 6 and 7, that is, firms in China cut back risk-taking activities when the shareholder base expands. Since σ[ROE(t,t+4)] also reflects the risk associated with firm leverage, a negative coefficient on the raw (excess) shareholder base implies that firms in China also reduce leverage as the shareholder base expands. That is, firm leverage declines as the agency conflict between insiders and outsiders escalates in China. As reported in section 2.1, the average

state ownership of firm in China remains at a relatively high level of about 40% in 2013 in China despite an expanding shareholder base. Based on a sample of French firms, Bruslerie et al. (2012) report that firm leverage declines when the ownership of the controlling shareholders exceeds 40%. The authors argue that it is because the controlling shareholders want to avoid the monitoring effect of debt and deter potential financial distress associated with a high leverage so that they could keep on expropriating outsiders undisturbed. The results in Table 8 support the view of Bruslerie and Latrous (2012).

Summarizing the results in Tables 1.6 to 1.8, we have strong evidence that a larger shareholder base is associated with lower levels of risk-taking by firms in China. This observation applies to firm investment and financing decisions.

[Insert Table 1.8 about here]

4.3 THE SHAREHOLDER BASE AND DIVIDEND PAYOUT

Bodnaruk and Ostberg (2013) find that firms with larger shareholder bases have higher payout levels. They attribute the positive relation between the shareholder base and dividend payout to the lower cost of external financing faced by firms with a large shareholder base. In this section, we examine the effect of the shareholder base on the dividend payouts of firms in China. Our regression equation is

$$Dividend\ payout\ ratio_{it} = \beta_{0i} + \beta_{1i} Shareholder\ Base_{\ it-1} + \beta_{2i} X_{it-1} + Industry\ dummies + Year\ dummies + \varepsilon_{it} \quad (3)$$

where dividend payout ratio is measured by cash dividends divided by sales. The control variables are same as those in equation (2). In addition, retained earnings to total assets (RE/TA) is added in

order to be consistent with other studies (Chay and Suh 2009; Francis, Hasan, John, and Song 2010).

Table 1.9 reports the regression results of equation (3). In columns (1) to (3), the raw shareholder base (LogSH) is used. In columns (4) to (6), the excess shareholder base (ExShBase) is used. The coefficient on the raw shareholder base is positive and significant at the one percent level in columns (1) to (3). In column (1), the coefficient on the raw shareholder base is 0.0141 with a p-value of 0.0000. Evaluating dividend payout ratio at its mean level, an increase in the raw shareholder base from the first to the third quartile of the distribution results a 30.16% increase in the dividend payout ratio. Despite the positive relation between the shareholder base and dividend payouts of firms in China is consistent with the evidence on US firms reported by Bodnaruk and Ostberg (2013), the underlying motivation may be different for firms in China. As concluded by many researchers, dividends represent expropriations by insiders of firms in China (Cheng et al. 2009; Chen et al. 2009; Lin et al. 2010; Huang et al. 2011; Liu et al. 2014). Accordingly, the positive correlation between the shareholder base and dividend payouts of firms in China could imply that insiders intensify their expropriations of the firm as agency conflicts between insiders and outsiders escalate in the face of an expanding shareholder base. This interpretation is consistent with the results observed in Tables 1.6 to 1.8 on the effect of the shareholder base on the risk-taking behavior of firms in China. In a cross-country study, Faccio et al. (2001) report that high dividend payouts alleviate the expropriation of outsiders by insiders in Europe but exacerbate it in Asia. Thus, the results reported in Table 9 are in line with the expropriation argument. However, the coefficient on the excess shareholder base is insignificant in columns (4) to (6). Therefore we only have fair results in Table 1.9.

[Insert Table 1.9 about here]

4.4 THE SHAREHOLDER BASE AND FIRM VALUE

Given the observed effects of the shareholder base on firm decisions, an investigation of the effect of the shareholder base on firm value in China is warranted. We use the firm valuation model of Fama and French (1998) for the investigation. The model has been shown to give robust results under different conditions. To take into consideration the effects of the shareholder base on firm decisions, we also add a shareholder base interaction variable to the model. The shareholder base interaction variable is computed as shareholder base*industry-adjusted CapEx/TA, shareholder base*industry-adjusted σ[ROA(t, t+4)], shareholder base* industry-adjusted σ[ROE(t, t+4)], and shareholder base*industry-adjusted dividend payout ratio, respectively. Our model has the following specification:

$$Market\ Value_{it} = \beta_{0i} + \beta_{1i}\ shareholder\ base_{\ it-1} + \beta_{2i} Shareholder\ base\ Interaction\ Variable_{it-1} + \beta_{3i} X_{it-1} + \ Year\ dummies\ + \varepsilon_{it} \quad (4)$$

The dependent variable, $Market\ Value_{it}$, is computed as market capitalization plus total debt to total assets (MV/TA) as in Pinkowitz, Stulz and Williamson (2006) and Bates, Kahle and Stulz (2009). X_{it} represents the control variables used by Fama and French (1998) in the regression. They include past changes, future changes and current levels of earnings, financial expenses, dividends, as well as past and future changes in assets and future changes in market value, all scaled by the total assets of the firm. To reduce the autocorrelation, we add lagged market value as independent variables. We also include state dummy and control for year fixed effects in the regression.

Regression results on the effect of the shareholder base on firm value using equation (4) are reported in Table 1.10. In columns (1) to (4), the raw shareholder base is used. In columns (5) to (8), the excess shareholder base is used. The focus of attention in this table is the coefficient on the shareholder base and the coefficient on the shareholder base interaction variable. The results show that the shareholder base has a negative effect on firm value in China as the coefficient on the shareholder base in columns (1) to (8) is negative and significant with a p-value of 0.0000. This finding is contradictory to the implication of the investor recognition hypothesis of Merton (1988) that firm value increases as the number of shareholder goes up. The finding is also contradictory to the evidence based on US firms that stock liquidity has a positive effect on firm value (Edmans 2009; Admati and Pfliederer 2009; Fang, Noe, and Tice 2009). The results imply there is something unique about the firms in China that leads to a negative effect of the shareholder base on firm value. A plausible explanation is that a larger shareholder base in China implies higher levels of agency conflicts and investors are concerned about the motives of the insiders. This explanation is consistent with the view of Rozeff (1982) that the number of shareholders is a proxy for the agency cost facing a firm; the explanation is supported by the results reported in Tables 6 to 9. Despite a larger shareholder base in China also likely implies the presence of more institutional investors, a large body of literature argues that institutional investors in emerging markets tend to herd and engage in sentiment-driven trading (Choe, Kho and Stulz 1999; Kaminsky, Lyons and Schmukler 2004; Chen, Wang and Lin 2008). These findings suggest that the presence of institutional investors in the expanding shareholder base of China is not necessarily beneficial to firm value. In addition, Fang, Tian, and Tice (2014) find evidence based on US firms that a higher stock liquidity implies the higher presence of institutional investors who do not monitor. Thus, the negative effect of the shareholder base on firm value in China is consistent

with the agency argument that firm value declines as the expropriation by insiders escalates. Regarding the interaction between the shareholder base and firm activity, the coefficient on the shareholder base interaction variable is also negative in columns (1) to (8) despite it is only significant in column (2) and (3). In column (2), the coefficient on the interaction variable shareholder base *σ[ROA(t,t+4)] is -0.0049 with a p-value of 0.0035. Compared to the value of -0.1636 for the coefficient on the shareholder base in this column, the interaction effect between the shareholder base and σ[ROA(t,t+4)] magnifies the negative effect of the shareholder base on firm value by about ten percent. In column (3), we find the similar interaction effect between the shareholder base and σ[ROE(t,t+4)]. In sum, the results in Table 1.10 present strong evidence that the shareholder base has a negative impact on firm value in China. The finding has important policy implications as China is in the process of developing its capital markets. The results suggest that regulations and corporate governance practices in China must be improved before investors are attracted to the capital markets and are able to accept firm ownership with confidence. Consistent with this view, Lins and Warnock (2004) find that shareholders are only attracted to firms in emerging countries that have good governance practices.

[Insert Table 1.10 about here]

4.5 ROBUSTNESS TESTS

4.5.1 The effect of the institutional reform of 2005

In 2005, the Chinese government implemented a reform aimed at eliminating the so-called non-tradable shares typically held by the state or by politically connected controlling shareholders. Researchers suggest that before the reform insiders of firms in China had incentives to tunnel

corporate resources for personal needs because they were unable to realize the value of their stock holdings. One of the objectives of the reform was to provide a proper channel for insiders to realize the value of their equity holdings in the market and thus mitigate the incentive to expropriate corporate resources for personal motives. Accordingly, we expect the expropriation of outsiders by insiders to become less after 2005. In other words, we expect the function of the shareholder base to serve as a proxy for agency conflicts between insiders and outsiders to decline after the 2005 reform. To confirm our prediction, we examine if the coefficient on the shareholder base changes in the post reform period. The results are reported in Table 1.11.

In Panel A of Table 1.11, we report only the regression coefficient on the shareholder base for brevity sake. As can be seen in Panel A in the regressions that examine the effect of the shareholder base on capital expenditures, the negative coefficient on the raw shareholder base indeed becomes smaller in the post-reform period. For example, the coefficient on the raw shareholder base is -0.0030 in the post-reform period compared to -0.0054 in the pre-reform period where capital expenditure is measured by unadjusted CapEx/TA. Similar results are found when industry mean-adjusted and industry median-adjusted CapEx/TA are used. The results imply that after the 2005 reform, the effect of the shareholder base as a proxy for agency conflicts between insiders and outsiders in China has declined. However, the coefficient on the excess shareholder base is insignificant in the pre- and post-2005 periods in the capital expenditure regressions. The results of the σ[ROA(t,t+4)] and σ[ROE(t,t+4)] regressions produce conflicting results for our prediction. For example, the coefficient on the raw shareholder base in these regressions is more negative after 2005. The coefficient on the excess shareholder base of the σ[ROA(t,t+4)] and σ[ROE(t,t+4)] regressions, on the other hand, provide mixed results. Thus, we have mixed results in panel A on the effect of the shareholder base on firm risk-taking behavior in China in this

robustness test. Regarding dividend payout, the coefficient on the raw shareholder base in the post-reform period is more than 50% smaller than the coefficient in the pre-reform period; the coefficient on the excess shareholder base is negative compared to the positive coefficient in the pre-reform period. The results on dividend payout show that the expropriation by insiders in the form of high dividend payouts is reduced after the 2005 reform. Thus, the results on dividend payout are consistent with our prediction and strongly suggest that the shareholder base is a proxy for agency conflicts in China.

In Panel B of Table 1.11, we compare the effect of the shareholder base on firm value in China before and after the 2005 reform. If the 2005 reform is effective, we expect the negative effect of the shareholder base on firm value in China to decline. Consistent with the whole period results reported in Table 10, the coefficient on the shareholder base is negative before and after the reform. The negative coefficient on the raw shareholder base after the reform is about 5% smaller than before the reform whereas the negative coefficient on the excess shareholder after the reform is significantly smaller (about 35%) than before the reform. The results imply that the negative effect of the shareholder base on firm value is China is significantly reduced after the reform. That is, the results in Panel B of Table 1.11 support the view that the shareholder base in China is a proxy for agency conflicts between insiders and outsiders in China.

[Insert Table 1.11 about here]

4.5.2 The effect of foreign equity owners

Consistent with the view of Rozeff (1982), our main regression results in Tables 1.6 to 1.10 imply that the shareholder base is a proxy for agency conflicts for firms in China and that a large

shareholder base is not beneficial. In our second robustness test, we want to see if the presence of foreign equity owners could mitigate the conflict between outsiders and insiders in China. It is very likely foreign equity owners are more interested in maximizing the value of their investments than aligning their objectives with those of the state officials. Thus, the presence of foreign equity owners may provide a monitoring function that mitigates the expropriation by insiders. Accordingly, we expect the effect of the shareholder base to be less significant when foreign equity owners are present.

In Panel A of Table 1.12, we report only the regression coefficient on the shareholder base for brevity sake. We divide the firms into two groups, those with foreign equity owners and those without foreign equity owners. As can be seen in Panel A, the negative effect of the raw shareholder base on CapEx/TA is insignificant for firms with foreign owners whereas the negative effect of the raw shareholder base on CapEx/TA is highly significant for firms without foreign owners. Similarly, the effect of the raw shareholder base on σ[ROA(t,t+4)] and σ[ROE(t,t+4)]) is insignificant for firms with foreign owners whereas the effect of the raw shareholder base on σ[ROA(t,t+4)] and σ[ROE(t,t+4)]) is negative and highly significant for firms without foreign owners. The same can be observed regarding the the effect of the raw shareholder base on dividend payout. In sum, the results based on the raw shareholder base strongly support our view that that the shareholder base in China is a proxy for agency conflicts between insiders and outsiders and a large shareholder base is not beneficial to firms in China. The results based on excess shareholder base, however, is not as strong. For example, the coefficient on the excess shareholder base in the CapEx regressions is insignificant for firms with and without foreign equity owners. The results of the σ[ROA(t,t+4)] and σ[ROE(t,t+4)]) regressions provide strong support that the effect of the shareholder base is mitigated in the presence of foreign owners. For example, the coefficient on

the excess shareholder base is insignificant in all the σ[ROA(t,t+4)] and σ[ROE(t,t+4)]) regressions for firms with foreign equity owners whereas the coefficient is negative and significant in four of the six σ[ROA(t,t+4)] and σ[ROE(t,t+4)]) regressions for firm without foreign owners. That is, without the presence of foreign owners, firms with an excess shareholder base are less willing to pursue risk-taking activities. This is consistent with the main results reported earlier in Tables 1.6 to 1.8. Regarding dividend payout, the coefficient on the excess shareholder base is significantly negative for firms with foreign owners. This observation represents a major departure from the results reported earlier in Table 1.9 which show that the shareholder base has a positive effect on dividend payout. The results in Table 1.12 show that foreign equity ownership strongly reduces the effect of the shareholder base on dividend payout in China.

In Panel B of Table 1.12, the negative effect of the raw shareholder base on firm value in China is smaller for firms with foreign owners. Surprisingly, the opposite is found when the excess shareholder base is used in the equation. Overall, we have very strong results on the effects of the shareholder base on firm risk-taking behavior and dividend payout but mixed results on the effect on firm value in Table 1.12.

[Insert Table 1.12 about here]

4.5.3. The effects of free cash flow and institutional investors

Firms with significant free cash flows are more likely associated with agency conflicts. Therefore, the effect of the shareholder base is likely elevated among firms with high levels of free cash flow. On the other hand, the effect of the shareholder base may be less significant among firms with a high institutional ownership as there is ample evidence based on US data that

institutional investors can monitor firm behavior effectively. We perform additional robustness tests on subsamples based on free cash flow and institutional ownership. However, we obtained mixed results in these tests and they are therefore not tabulated.

5. SUMMARY

Business executives popularly believe that managing the shareholder base of a firm can lead to significant stock market benefits for the company. Although researchers concur that the shareholder base is an important determinant of corporate decisions, research on the shareholder base has been scant.

This study examines the effects of the shareholder base on firm behavior and firm value in China. Using a sample of 20,125 firm-year observations of publicly traded nonfinancial companies from 1998 to 2013, we find that a large shareholder base is associated with reduced capital expenditures, a lower standard deviation of the return on assets and a lower standard deviation of the return on equity. Firms with a larger shareholder base are associated with higher dividend payouts. In addition, the shareholder base has a negative impact on firm value in China. Our results are consistent with the implication that the shareholder base in China is a proxy for agency conflicts between insiders and outsider. When the shareholder base expands, agency conflicts escalate and insiders increase their expropriations of outsiders by directing (tunneling) firm resources for private motives. Our results suggest that in countries where investor protection is poor, regulatory changes and improvements to governance practices must be made before the shareholder base can benefit the firm.

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ESSAY 2: THE SHAREHOLDER BASE AND EARNINGS MANAGEMENT IN CHINA

0. ABSTRACT

We examine the effects of the shareholder base on earnings management in China in this study. Consistent with popular belief, we find that a larger shareholder base provides a monitoring effect on earnings management in China. However, investors in China are still relatively inexperienced and fail to see the link between earnings management and tunneling. Specifically, we find a negative relation between discretionary accruals and the shareholder base. In addition, we find some weak evidence that the shareholder base provides a controlling effect on real activities manipulation. Our results also show a positive relation between the shareholder base and tunneling activities in China. The rapid rise of the shareholder base in China provides insiders with more opportunities to extract private benefits at the expense of the minority shareholders. Our results suggest that improvements to the legal system and corporate governance are important before an expanding shareholder base can benefit firms and all the shareholders for countries that have a poor record of investor protection and where firms are heavily controlled by the state.

1. INTRODUCTION

High quality financial reporting is necessary for financial markets to operate efficiently (Leuz, Nanda and Wysocki, 2003). It reduces shareholders' and creditors' monitoring and contracting costs as well as improves firms' contracting terms (Ball, Robin and Wu, 2000, 2003; and Ball and Shivakumar, 2005). However, insiders often engage in earnings management as they may not have strong enough incentives to commit to quality financial reporting (Ball et al., 2000, 2003; Armstrong, Jagolinzer and Larcker, 2010; and Johnson, Fleischman, Valentine and Walker, 2012). A major reason is that the separation of ownership and control in firms results in agency conflicts between managers and stakeholders (Shleifer and Vishny, 1997). Managers, as a result, frequently manage corporate earnings to expropriate private benefits at the expense of shareholders and creditors (Leuz et al., 2003).

Existing studies have found significant evidence of corporate earnings management in developed economies (Dechow, Ge and Schrand, 2010). Recent investigations suggest that earnings management is also prevalent in developing countries (Leuz et al., 2003). Researchers have focused on finding evidence of earnings management, less attention has been paid to the examination of factors that can deter the phenomenon. The existing literature suggests that earnings management can be moderated if investor protection is strong and/or when the legal system is well developed (Shleifer and Wolfenzon, 2002; Leuz et al., 2003; Burgstahler Hail and Leuz, 2006; and DeFond, Hung, and Trezevant, 2007). In addition, there is evidence that the presence of large shareholders has a monitoring effect on firm financial reporting behavior (Agrawal and Mandelker 1990; Cheng, Huang, Li, and Lobo, 2010). In this study, we extend the

literature by investigating if a large shareholder base can provide a disciplinary effect on earnings management in China.

Practitioners have paid significant attention to the shareholder base. According to a survey by the National Investor Relations Institute (NIRI) and the Rock Center for Corporate Governance at Stanford University, 91 percent of companies discuss shareholder composition at the senior-executive level and firm CEOs spend 4.2 days per quarter managing their shareholder base given the fact that more than three-quarters of firms see significant stock market benefits from managing their shareholder base. The shareholder base, however, has received relatively less attention from researchers (Bodnaruk and Ostberg, 2013). Nevertheless, the effects of the shareholder holder base can be inferred from related studies in the finance literature. Following Merton (1987), a large shareholder base implies higher levels of investor recognition. As investors become more aware of the firm, the effect of market discipline on firm behavior is likely strengthened. Consistent with this implication, a large number of shareholders may reduce asymmetric information between insiders and outsiders (Holmstrom and Tirole, 1993) and thus discourages earnings management by insiders. The literature on the effects of stock liquidity also implies that a large shareholder base likely reduces managerial opportunism and improves firm value (Edmans, 2009; Admati and Pfleiderer, 2009). Fang, Noe, and Tice (2009) argue that liquidity increases the information content of performance-sensitive managerial compensation and thus improves firm performance. Based on the above, one can argue that the shareholder base likely has a moderating effect on corporate earnings management. Some researchers, however, suggest that the shareholder base is basically a proxy for agency problem; that is, a larger shareholder base implies higher levels of agency conflicts. For example, Rozeff (1982), Demestz and Lehn (1985), Shleifer and Vishny (1986), and Pagano and Roel (1998) find that firm value is negatively affected when the number of

shareholders increases and firm ownership becomes diffused. They attribute this to the agency problems caused by the inability of individual shareholders in monitoring firm managers.

We focus our attention on the effects of the shareholder base on earnings management in China for several reasons. First, the effect of the shareholder base on earnings management in China has not been examined yet in the literature. The extant literature has provided evidence that firms in China suffer significant agency costs due to the presence of state ownership and/or government related controlling shareholders. For firms in China, the conflict between insiders and outsiders dominate other forms of agency problems. It would be of interest to know if a broad shareholder base could monitor firm earning management as government-related ownership is diluted. Second, China presents an interesting case for examining the shareholder base because before the Shanghai and Shenzhen Stock Exchanges were created in 1991, publicly traded firms and individual investors virtually did not exist. According to the 2013 China Securities Depository and Clearing Statistical Yearbook, the number of A-share stock trading accounts (each investor can only register for one trading account) increased from 58.5 million to 171.9 million between 2000 and 2013 at an annual rate of eight percent; the number of B-share stock trading accounts increased from 0.025 million to 2.51 million over the same period an annual rate of 117.7 percent. The statistics suggest that the shareholder base in China has been growing at a phenomenal rate unseen in other countries and it presents an interesting opportunity for investigating the effect of the shareholder base that arises primarily because investors are enthusiastic about stock ownership. Third, there is some evidence that shareholders in China are eager to protect their interests by monitoring firm behavior. Chen, Ke and Yang (2013) find evidence that after the passage of an investor-friendly regulation in 2004 in China, firms that have a higher level of minority shareholders are more likely to veto value-decreasing proposals while the firm management also

submits fewer proposals that may decrease firm value. Accordingly, a larger shareholder base may have a constraining effect on earnings management in China. This is the first study to show how the shareholder base affects the quality of corporate behavior for firms domiciled in weak investor protection countries.

Following the existing literature on earnings management in China (Wang and Yung, 2011; Yang, Chi, and Young, 2012; Qi, Yang, and Tian, 2014; Zhu et al., 2015), we measure earnings management in China by discretionary accruals. We also investigate earnings management in China by examining real activities manipulation. According to Roychowdhury (2006), real activities manipulation includes price discounts to inflate sales temporarily, overproduction to lower cost of goods sold, and reduction of discretionary expenditures to improve reported profit margins. We include the examination of real activities management in our investigation of earnings management in China because survey results suggest that firms are unlikely to rely solely on accrual manipulation to manage earnings (Bruns and Merchant, 1990; Graham, Harvey, and Rajgopal, 2005). In addition, we expand our investigation to also examine the effect on the shareholder base on tunneling by insiders in China because there is evidence that tunneling is an incentive for earnings management to extract economic resources from minority shareholders (Aharony, Wang, and Yuan, 2010). According to Aharony et al. (2010), investors in China fail to see the link between earnings management and tunneling. We want to determine if a larger shareholder base arouses the attention of investors to the association between earnings management and tunneling.

Using a sample of 20,937 firm-year observations that includes all the publicly traded non-financial firms in China between 1998 and 2013, we find a negative relation between discretionary accruals and the shareholder base. In addition, we also find some weak evidence that the

shareholder base provides a controlling effect on real activities manipulation by firms in China. The results are consistent with the implications of the existing literature (Merton, 1987; Holmstrom and Tirole, 1993; Edmans, 2009; Admati and Pfleiderer, 2009; Fang et al., 2009) that a large shareholder base is good for investors. Our results also show a positive relation between the shareholder base and tunneling activities in China. The finding is consistent with the results of Aharony et al. (2010) that investors in China fail to see a link between earnings management and tunneling. The finding implies that despite a larger shareholder base provides a monitoring effect on earnings management in China, investors in China are still relatively inexperienced and fail to see the link between earnings management and tunneling. The rapid rise of the shareholder base in China provides insiders with more opportunities to extract private benefits at the expense of the minority shareholders.

This study contributes to the literature in several ways. First, this is the first study to investigate the effect of the shareholder base on earnings management in China. Consistent with the conventional belief in western countries that a larger shareholder base helps discipline firm discretionary behavior, our findings suggest that an expanding shareholder base helps monitor earnings management in China. Second, the results expand the conclusion of Aharony et al. (2010) that investors in China in general are not sophisticated, allowing insiders to extract private benefits at the expense of minority shareholders. The findings point to the importance of investor protection in developing economies where corporate governance and the rule of law are not strong. This observation is related to the literature on investor protection and emerging market developments and has important practical implications. Third, the observation that investors in China fail to see the link between earnings management and tunneling add to the earnings management literature that support the view that earnings management is intended to disguise the true underlying

performance of the firm to enhance managers' private benefits at the expense of investors (Dechow and Skinner, 2000; and Baderscher, 2011). Lastly, this study add to the literature on investor behavior in China and echo the view of Eun and Huang (2007) that investors in China are sentiment-driven. An article in Wall Street Journal (August 22, 2001) compares the stock markets of China to "casinos, driven by fast money flows in and out of stocks with little regard for their underlying value."

The rest of this paper is structured as follows. Section 2 develops hypotheses. Section 3 describes the data and sample. Section 4 presents the analysis and discusses the results. Section 5 concludes the paper.

2. THEORETICAL BACKGROUND AND HYPOTHESES

Earnings management is prevalent among business corporations (see survey paper by Dechow et al., 2010). Earnings are a combination of cash flows and adjustments. The adjustments are subject to managerial discretion and can be manipulated either upward or downward. According to Moeller (2000), upward adjustments of accruals are used to signal good future corporate performance (signaling) or to conceal past poor performance (manipulation). Downward adjustments are used prior to the issuance of options (Coles, Hertzel, and Kalpathy, 2006) or prior to share repurchases (Gong, Louis, and Sun, 2008). Research has also found that managers use accruals to manipulate earnings upward in order to increase their compensation (Bergstresser and Philippon, 2006), increase stock sales (Beneish and Vargus, 2002; and Shu and Chiang 2014), enhance managerial job security (Mergenthaler, Rajgopal, and Srinivasan, 2009), and meet investor expectations regarding earnings forecasts (Bartov, Givoly, and Hayn, 2002; Das, Shroff, and Zhang, 2009).

Researchers have held different views regarding the objective of firm earnings management. One view suggests that earnings management is made to reveal private information about the future prospects of a firm (Degeorge, Patel, and Zeckhauser, 1999; Louis and Robinson, 2005). A second view in the accounting choice literature argues that firms manage earnings to disguise the true underlying performance of the firm to enhance managers' private benefits at the expense of investors (Dechow and Skinner, 2000; and Baderscher, 2011). A third explanation for managers' discretionary accounting choices is contracting. According to this view, managers manipulate earnings to obtain better compensation contracts (Bergstresser and Philippon, 2006; and Coles et al., 2006). The third explanation, however, is likely less applicable to firms in China because Chinese firms are largely state-owned and executive compensation is frequently determined by the state. The fourth view is specific in China. Li, Selover and Stein (2011) find that that firms in China tend to adjust their earnings to zero to keep their financial performance away from the government's scrutiny.

Existing studies have documented significant evidence of earnings management, in the form of discretionary accruals manipulation, among firms in China (Wang and Yung, 2011; Chi et al., 2012; Qi et al., 2014). A general conclusion is that the concentrated ownership structure of firms in China is a driving force of firm earning management as the controlling shareholders have incentives to manage earnings to either satisfy short-term government objectives or extract benefits for private motives. Aharony et al. (2010) find that firms in China inflate earnings in the pre-IPO period by using related party trades and then use tunneling to extract resources from minority shareholders in the post-IPO period. According to Aharony et al. (2010), tunneling is an incentive for earnings management during the IPO process among firms in China.

Given that the conflicting implications of Merton (1987) and Rozeff (1982) regarding the likely effects of the shareholder base, we develop three pairs of hypotheses as follow:

H1a: The shareholder base and firm abnormal accruals are negatively related if investor recognition is elevated and the information asymmetry between insiders and outsiders is reduced when the shareholder base expands.

H1b: The shareholder base and firm abnormal accruals are positively related if agency conflicts escalate when the shareholder base expands.

H2a: The shareholder base and real activities manipulation are negatively related if investor recognition is elevated and the information asymmetry between insiders and outsiders is reduced when the shareholder base expands.

H2b: The shareholder base and real activities manipulation are positively related if agency conflicts escalate when the shareholder base expands.

H3a: The shareholder base and tunneling are negatively related if investor recognition is elevated and the information asymmetry between insiders and outsiders is reduced when the shareholder base expands.

H3b: The shareholder base and tunneling are positively related if agency conflicts escalate when the shareholder base expands.

3. DATA

Our sample of 20,937 firm-year observations includes all the publicly traded non-financial firms in China between 1998 and 2013. The source of the data is the China Center for Economic Research (CCER) Database, which provides yearly financial reports, equity trading and corporate governance information on companies listed on the Shanghai and Shenzhen stock exchanges.

Consistent with previous studies, missing values of data are filled manually using internet available information from http://finance.sina.com.cn/. To reduce the effect of outliers, we winsorize the financial variables with extreme values at the 1st and 99th percentiles.

In Table 2.1, we provide definitions of the variables used in the study. Many of the firm-level variables are same as those used in Bodnaruk and Ostberg (2013), Roychowdhury (2006) and Ma, Ma and Tian (2013).

[Insert Table 2.1 about here]

Table 2.2 provides descriptive statistics of the sample. Included are the mean, median, standard deviation, and 25th and 75th percentiles. The average firm in our sample has 50,164 shareholders of record (Shareholder Base); the median firm has 30,207 shareholders. The mean and median values of firm size, measured by Market Capitalization, are RMB 9.69 billion and RMB 2.86 billion, respectively. The mean (median) total assets is RMB 7.26 billion (1.82 billion). Total discretionary accruals have a mean of -52.92 million and a median of 8.8 million. Firms in the sample are profitable operations with a mean (median) ROA of 5.82% (4.57%) and a mean (median) ROE of 9.56% (7.84%). The firms have an average 1-year buy-and-hold stock return of 24%. On average, firm age is in excess of 10 years.

[Insert Table 2.2 about here]

3.1 MEASURES OF THE SHAREHOLDER BASE

We use two measures of the shareholder base in this study. The first measure is the raw shareholder base, computed as the natural logarithmic value of the number of registered shareholders in order to control for the skewness in the distribution of the variable. The second measure is the excess shareholder base, computed using the model developed by Bodnaruk and Ostberg (2013). The regression equation is as follows:

$$Ln\ (number\ of\ Shareholders)_{it} = \beta_{0i} + \beta_{1i}\ \log\ (1 + firm\ age)\ _{it} + \beta_{2i}\ ROE_{it}$$
$$+ \beta_{3i}\ \log\ (Market\ Cap)\ _{it} + \beta_{4i}\ \log(\frac{B}{M})_{it} + \beta_{5i}\ (\frac{1}{share\ price})\ _{it}$$
$$+ \beta_{6i}\ Past\ year\ return_{it} + \beta_{7i}\ Volatility_{it}$$
$$+ \beta_{8i}\ Stock\ liquidity_{it} + Exchange\ dummies$$
$$+ Industry\ dummies + Year\ dummies + \varepsilon_{it} \qquad (1)$$

In this estimation model, the logarithmic value of the number of shareholders (LogSH) is the dependent variable. The independent variables include firm age, return on equity, B/M ratio, market capitalization, 1/share price, stock liquidity, past year return, and volatility. We define the regression residuals of equation (1) as Excess Shareholder Base (ExShBase). In the regression, we control for market capitalization because larger firms are likely to have more shareholders due to higher levels of media coverage and investor recognition. Stock liquidity controls for volume-based liquidity. In addition, 1/share price controls for the liquidity associated with transaction costs. Firm age and volatility control for firm risk. Return on equity and past year return control for the impact of recent performance on the number of shareholders. Book-to-market ratio controls for the effect of stock valuation on the shareholder base.

3.2 MEASURE OF DISCRETIONARY FINANCIAL REPORTING

Our first measure of earnings management is discretionary accruals. Following Lee and Masulis (2011), we define discretionary accruals as the residual term of equation (2).

$$TCA_{it} = \alpha_0 + \alpha_1 CFO_{it-1} + \alpha_2 CFO_{it} + \alpha_3 CFO_{it+1} + \alpha_4 \Delta Rev_{it} + \alpha_5 PPE_{it} + \varepsilon_{it} \quad (2)$$

where total discretionary accruals (TCA) is calculated by net income before extraordinary items (EBXI) minus cash flow from operation (CFO) (Wang, 2006; Jo, Kim, and Park, 2007).

Rev is total revenue, and PPE is property, plant, and equipment. All the variables are drawn from the CCER database and are scaled by the average of total assets between year t -1 and year t.

3.3 MEASURE OF REAL ACTIVITIES MANIPULATION

Real activities manipulation refers to departures from normal operational practices. These deviations include price discounts to temporarily increase sales, overproduction to lower cost of goods sold, and reduction of discretionary expenditures to report improve reported margins. Following Roychowdhury (2006), we run the following cross-sectional regressions for every industry and year:

$$CFO_t/A_{t-1} = \alpha_0 + \alpha_1 \left(1/A_{t-1}\right) + \beta_1 \left(S_t/A_{t-1}\right) + \beta_2 \left(\Delta S_t/A_{t-1}\right) + \varepsilon_t \quad (3)$$

$$PROD_t/A_{t-1} = COGS_t + \Delta INV_t$$

$$= \alpha_0 + \alpha_1 \left(1/A_{t-1}\right) + \beta_1 \left(S_t/A_{t-1}\right) + \beta_2 \left(\Delta S_t/A_{t-1}\right) + \beta_3 \left(\Delta S_{t-1}/A_{t-1}\right) + \varepsilon_t \quad (4)$$

$$DISEXP_t/A_{t-1} = \alpha_0 + \alpha_1 \left(1/A_{t-1}\right) + \beta_1 \left(S_{t-1}/A_{t-1}\right) + \varepsilon_t \quad (5)$$

where At is the total assets at the end of period t, St is the sales and ΔS =St –St-1.

For every firm-year, abnormal cash flow from operations (production costs and discretionary expenses) is the actual CFO (production costs and discretionary expenses) minus the "normal" CFO (production costs and discretionary expenses) calculated using estimated

coefficients from the corresponding industry-year model and the firm-year's sales and lagged assets.

3.4 MEASURE OF TUNNELING

The existing literature show that firms in China suffer from significant expropriations by insiders (Aharony et al., 2010; Jiang, Lee, and Yue, 2010). Besides corporate dividend payout, a form of expropriation by the controlling shareholders (Lee and Xiao, 2007; Wei and Xiao, 2009; Cheng, Fung, and Leung, 2009; Chen, Jian and Xu, 2009; Lin, Chiou and Chen, 2010; Huang, Shen and Sun, 2011; Liu, Uchida and Yang, 2014), tunneling is another way to transfer resources away from firms to controlling shareholders (Johnson et al., 2000). Although Johnson et al. (2000) find that controlling shareholders use related party transactions to transfer assets in developed markets, it is believed that tunneling is even more serious in emerging markets because of the weak legal system (Friedman, Johnson and Mitton, 2003).

According to existing literatures, three measurements of tunneling are commonly used: related party transactions (Jian and Wong, 2010; Cheung, Rau, and Stouraitis, 2006), loan guarantees to related parties (Berkman, Cole, and Fu, 2009), and fund occupations (Jiang et al., 2010; Ma et al., 2013). Because of data access and effectiveness, following follow Jiang et al. (2010) and Ma et al. (2013), we use fund occupation by controlling shareholders as a proxy for tunneling, which is the ratio of the total amount of "other receivables" in the balance sheet to total assets. "Other receivables" item includes receivables that are not part of ordinary business transactions. These receivables are interest free loans made by listed firms to other parties where a large proportion of these funds are occupied for a long period of time, and in many cases are

never paid back to the listed firms (Jiang et al., 2010). It is a widespread tunneling practice in China.

4. ANALYSIS AND RESULTS

4.1 UNIVARIATE ANALYSIS

Table 2.3 reports univariate results comparing the characteristics of firms with a large shareholder base (quartile 4) and firms with a small shareholder base (quartile 1). In panel A, we report results based on the raw shareholder base (LogSH). As can be seen in panel A, firms with a higher shareholder base have lower levels of abnormal accruals. The mean difference and median difference of discretionary accruals between firms of quartile 1 and quartile 4 are significant at the one percent level. The same can be found in Panel B where the excess shareholder base is used. These univariate results provide some initial support of the notion that the shareholder base help monitor firm financial reporting behavior.

Regarding real activities manipulation, the results in Panel A show that firms with a larger raw shareholder base have higher levels of discretionary expenditures (the mean difference is significant at one percent) and higher levels of production cost (the median difference is significant at one percent). The findings suggest that the shareholder base negates efforts to manipulate downwards production cost and discretionary expenditures. In Panel B where the excess shareholder base is used, firms with a large excess shareholder base also have a higher abnormal production cost. Thus, we have some evidence in Table 2.3 that the shareholder base has a controlling effect on real activities manipulation. However, in Panel B of Table 2.3, firms with a larger excess shareholder base have lower levels of CFO which is consistent with real activities management.

Table 2.3 also provides evidence that firms with a larger shareholder base are associated with higher levels of tunneling. The mean and median differences in Panel A and Panel B between firms in quartile 1 and firms in quartile 4 are significant at the one percent level. The univariate results in table 3 suggests that despite firms reduce their efforts in managing earnings given the presence of an expanding shareholder base, they nevertheless escalate efforts of tunneling to extract resources from minority shareholders. The results suggest that investors fail to see the link between earnings management and tunneling.

[Insert Table 2.3 about here]

4.2 DISCRETIONARY ACCRUALS AND SHAREHOLDER BASE

To analyze the impact of the shareholder base on discretionary financial reporting, we follow Wang's (2006) earnings quality regression models by adding the shareholder base as the independent variable of interest.

$$Discretionary\ Accruals_{it} = \beta_{0i} + \beta_{1i}\ Shareholder\ Base_{\ it-1} + \beta_{2i}\ X_{it-1} + Industry\ dummies + Year\ dummies + \varepsilon_{it} \quad (6)$$

where discretionary accruals is the residual of equation (2) and measured by the raw, industry mean-adjusted, and industry median-adjusted value, respectively. The control variables, X_{it}, are firm size (measured by log(TA), firm age (measured by Log(1+firm age)), ROA (measured by earnings to average assets), leverage (measured by total liabilities/total assets), sales growth rate (measured by change of sales divided by sales in last year), and loss dummy that has a value of one if net income is negative and zero otherwise . Also included is a (0,1) dummy variable that has a value of one if the firm is ultimately controlled by the state, and is zero otherwise. Lagged values

of independent variables are used in the estimation in order to control for potential endogeneity problems. We also control for industry fixed effects and year fixed effects in the model.

In Table 2.4, regression results using equation (6) are reported. In columns (1) to (3), regression results based on the raw shareholder base (LogSH) are reported with dependent variables as raw, industry mean-adjusted, and industry median-adjusted discretionary accruals, respectively. In columns (4) to (6), regression results are based on the excess shareholder base. As can be seen in Table 2.4, the coefficient on the raw shareholder base is negative and significant at the one percent level in columns (1) to (3). The results suggest that a larger shareholder base is associated with reduced discretionary accruals. In columns (4) to (6), the coefficient on the excess shareholder base is also negative and significant at the one percent level. That is, we find strong evidence in Table 2.4 that the lagged shareholder base negatively impacts discretionary financial reporting by firms in China.

Although it is not the main focus of this paper, Table 2.4 also provides information about other conventional determinants of discretionary accruals. Specifically, firms with a higher leverage (LagLev) and firms ultimately controlled by state (State) and are associated with less discretionary accruals, which are consistent with Wang (2006). However, the coefficients on LagTA, LagGrowth and LagROA are significantly positive, indicating that large and previous profitable firms have greater discretionary accruals.

[Insert Table 2.4 about here]

4.3 REAL ACTIVITIES MANIPULATION AND SHAREHOLDER BASE

Roychowdhury (2006) find evidence on managers manipulating real activities to avoid reporting annual losses. Expanding the regression model of Roychowdhury (2006), we add the shareholder base as an independent variable.

$$Y_{it} = \beta_0 + \beta_1 Shareholder\ Base_{it-1} + \beta_2 X_{it} + \varepsilon_{it} \quad (7)$$

where Y_{it} is measured by abnormal CFO, abnormal discretionary expenses, and abnormal production costs, respectively. Excepting shareholder base, we follow Roychowdhury (2006) and use NIdev (NI scaled by lagged TA, which is similar to ROA), MFG[3] (1 for manufacturing industry and 0 otherwise), HASDEBT, STATE and a series RANK variables to proxy for the sources of cross-sectional variation in incentives for real activities manipulation. Control variables are expressed as deviations from the respective industry-year means in order to be consistent with the deviated dependent variables. Researchers have argued that firms with small annual profits (just right of zero) are more likely to manage their earnings to report income marginally above zero (Roychowdhury, 2006), therefore we define SUSPECT_NI as a (0, 1) variable that has a value of 1 if firm-years have net income scaled by total assets that is greater or equal to zero but less than 0.005, and 0 otherwise.

Table 2.5 presents the results of equation (7). The coefficient on raw shareholder base is insignificant in column (1) where the dependent variable is abnormal CFO. The coefficient on raw shareholder base is positive at the one percent level in column (2) where the dependent variable is abnormal discretionary expenses. This observation implies that the shareholder base negates efforts to manipulate discretionary expenses downward. The coefficient on raw shareholder base is also significantly positive at the five percent level in column (3) where the dependent variable is abnormal production costs. The result suggests that the shareholder base totally negates

[3] Manufacturing industries are identified on "The Guidelines for the Industry Classification of Listed Companies" which is issued by CSRC.

manipulations to lower the firm's production cost. In columns (4) through (6) where the excess shareholder base is used as an independent variable, the coefficients are not significant. Thus the results in Table 2.5 provide some evidence that the shareholder base has a negating effect on real activities manipulation.

As can be seen in Table 2.5, net income (NIdev) shows a consistent and statistically significant positive effect on real activities manipulation, indicating that firms with higher net income do not engage in real activities manipulation to avoid losses. Although overproduction as an earnings management strategy is only available to firms in manufacturing industries, production costs should be higher in these firms, we do not find any significantly relationship between MFG and real activities manipulation. The coefficient on SUSPECT_NI is significantly negative in column (1) but positive in column (3), showing some evidence that firms with small annual profits have lower abnormal operation cash flow and also negates manipulations to lower the firm's production cost. The coefficients on mb_rank are positive with abnormal CFO and negative with abnormal discretionary expenses and abnormal production costs. This indicates that firms with higher growth opportunities have incentives to manipulate lower costs and expenses and increase abnormal CFO. Firms with higher current liabilities (cl_rank) excluding short-term debts are less likely to manipulate as we find that cl_rank is negatively associated with abnormal CFO but positively related to both abnormal discretionary expenses and abnormal production costs. Institutional ownership (inst_rank) monitors managers both not to avoid losses and not to engage in real activities manipulation, particularly if such activities hurt firm value. The results show that firms with higher institutional ownership have lower abnormal production cost and higher abnormal CFO, which is contrary to our expectation.

In sum, Table 2.5 only provides some weak evidence that the shareholder base mitigates real activities manipulation by firms in China.

[Insert Table 2.5 about here]

4.4 TUNNELING AND SHAREHOLDER BASE

Given the weak investor protection in China, the controlling shareholders have strong incentives to extract private benefits at the expense of the minority shareholders (Aharony et al. 2010; Ma et al. 2013), tunneling behavior has frequently been detected among firms in China. We extend our investigation to examine the effect of the shareholder base on tunneling in China.

$$Tunneling_{it} = \beta_{0i} + \beta_{1i}\, Shareholder\ Base_{\ it} + \beta_{2i}\, X_{it} + Industry\ dummies + Year\ dummies + \varepsilon_{it} \quad (8)$$

where X_{it} represents the control variables. In 2005, the Chinese government implemented a reform aimed at eliminating the so-called non-tradable shares typically held by the state or by politically connected controlling shareholders. Researchers suggest that before the reform insiders of firms in China had incentives to tunnel corporate resources for personal needs because they were unable to realize the value of their stock holdings. One of the objectives of the reform was to provide a proper channel for insiders to realize the value of their equity holdings in the market and thus mitigate the incentive to expropriate corporate resources for personal motives. Reform is a (0, 1) dummy variable that shows the time periods before and after institutional reform of 2005. Other control variables include percentage of common shares held by largest shareholders (Block) and managers (MgShare), firm size, return on assets (ROA), leverage, sales growth, and percentage of independent directors.

In Table 2.6, we run a set of regression on tunneling. Column (1) to (4) are results based on raw shareholder base and column (5) to (8) are results on excess shareholder base. With more control variables (column 4), raw shareholder base is positively related to tunneling. Although this is not consistent when independent variable is excess shareholder base in column 8, with less control variables (column 5 to 7), we find the positive relationship between shareholder base and tunneling. This implies expansion of shareholder base doesn't arouse the attention of investors to the association between earnings management and tunneling.

Reform is consistently negative with tunneling, which implies that after non-tradable share reform the controlling shareholders have less incentive to tunnel because they now balance their private benefits from tunneling with any loss from negative market reactions (Ma et al. 2013). Firm size is significantly negative with tunneling as large firms are subjected to more public scrutiny. The results also show a negative impact of both ROA and sales growth on tunneling because previous poor firm performance provides less opportunity to controlling shareholders to tunneling. Under better corporate governance, firms having more independent directors in the board have less incentive to tunneling. Also, STATE shows that tunneling is worse when the controlling shareholder is a non-state-owned firms. What's more, tunneling problem is more severe in low-BLOCK firms because of the effective control of largest blockholder in China. These findings show that "tunneling is larger for small firms, more levered firms, less profitable firms, and non-state-owned firms, suggesting that the private benefits of insider tunneling are more likely to outweigh the costs in these firms" (Jiang et al., 2010, p2).

Overall, our results are consistent with the view of Aharony et al. (2010) that investors in China fail to see the link between earnings management and tunneling. A larger shareholder base

implies higher levels of agency conflicts and firms in China are frequently expropriated to satisfy the private motives of insiders through tunneling.

[Insert Table 2.6 about here]

4.5 ROBUSTNESS

4.5.1 The effect of the institutional reform of 2005

In 2005, the Chinese government implemented a reform aimed at eliminating the so-called non-tradable shares typically held by the state or by politically connected controlling shareholders. Researchers suggest that before the reform insiders of firms in China had incentives to tunnel corporate resources for personal needs because they were unable to realize the value of their stock holdings. One of the objectives of the reform was to provide a proper channel for insiders to realize the value of their equity holdings in the market and thus mitigate the incentive to expropriate corporate resources for personal motives. Accordingly, we expect the expropriation of outsiders by insiders to become less after 2005. In other words, we expect the function of the shareholder base to serve as a proxy for agency conflicts between insiders and outsiders to decline after the 2005 reform. To confirm our prediction, we examine if the coefficient on the shareholder base changes in the post reform period.

We report only the regression coefficient on the shareholder base for brevity sake in Table 2.7. To examine the effect of the shareholder base on discretionary accruals, the negative coefficient on the raw shareholder base indeed becomes smaller in the post-reform period. For example, the coefficient on the raw shareholder base is -0.0119 in the post-reform period compared to -0.0046 in the pre-reform period. Similar results are found when industry mean-adjusted and

industry median-adjusted discretionary accruals are used. The results imply that after the 2005 reform, the effect of the shareholder base as a proxy for agency conflicts between insiders and outsiders in China has declined. What's more, the coefficient on the excess shareholder base is also significant. Thus, we have consistent results on the effect of the shareholder base on discretionary accruals in China in this robustness test.

Regarding real activities manipulation, the coefficient of the shareholder base on abnormal CFO is significantly positive in the pre-reform period and becomes smaller after reform when shareholder base is measured with both raw and excess. This implies firms with larger shareholder base are more likely to manipulate higher cash flow in pre-reform period, but the incentive decreases in post-reform period. The effects of shareholder base on abnormal discretionary expenses and abnormal production costs are higher in the post-reform period. Although the results are partially significant, they still suggest that the shareholder base totally negates manipulations to lower the firm's production cost and discretionary expenses after reform. For example, the coefficient of excess shareholder base on abnormal production costs is significant negative in pre-reform period but positive in post-reform period. This imply firms try to lower the production costs in pre-reform period but negate manipulations in post-reform period. Thus, the results on real activities manipulation are consistent with our prediction and suggest that the shareholder base is a proxy for agency conflicts in China.

[Insert Table 2.7 about here]

4.5.2 The effect of foreign equity owners

Consistent with the view of Rozeff (1982), our main regression results in Tables 2.4 to 2.6 imply that the shareholder base is a proxy for agency conflicts for firms in China and that a large shareholder base is not beneficial. In our second robustness test, we want to see if the presence of foreign equity owners could mitigate the conflict between outsiders and insiders in China. It is very likely foreign equity owners are more interested in maximizing the value of their investments than aligning their objectives with those of the state officials. Thus, the presence of foreign equity owners may provide a monitoring function that mitigates the expropriation by insiders. Accordingly, we expect the effect of the shareholder base to be less significant when foreign equity owners are present.

In Panel A of Table 2.8, we report only the regression coefficient on the shareholder base for brevity sake. We divide the firms into two groups, those with foreign equity owners and those without foreign equity owners. As can be seen in Panel A, the negative effect of the raw shareholder base on discretionary accruals is significantly less for firms with foreign owners than firms without foreign owners. Similar result is found on the effect of excess shareholder base on raw discretionary accruals, but not consistent on adjusted discretionary accruals. The effect of excess shareholder base on adjusted discretionary accruals is insignificant for firms with foreign owners whereas the effect of the excess shareholder base on adjusted discretionary accruals is negative and highly significant for firms without foreign owners. In sum, the results based on the raw shareholder base strongly support our view that foreign equity owners' monitoring mitigates the expropriation by insiders.

Regarding real manipulation activities, only partially significant results are shown based on the raw shareholder base. The coefficient on abnormal production costs is 0.0132 for firms with foreign owners compared to 0.009 for firms without foreign owners. The results show that firms

with foreign equity ownership have less incentive to lower the production costs than firms without foreign equity ownership.

In Panel B and C of Table 2.8, the coefficient of the raw and excess shareholder base on firm tunneling in China is significantly negative for firms with foreign equity owners whereas the coefficient is positive for firms without foreign equity owners. Consistent with previous findings, the result is significantly positive only for firms without foreign equity owners when the excess shareholder base is used in the equation. The results support our hypothesis that foreign equity owners have monitoring function to mitigate tunneling and without the monitoring effect of foreign shareholders, investors fail to see the link between tunneling and earning management. The percentage of independence directors of board show the similar results as the negative effect of independence directors on tunneling is stronger for firms with foreign equity owners. Interestingly, the largest shareholders in firms without foreign equity shareholders still control efficiently to reduce tunneling. However, when firms have foreign equity shareholders, the coefficient of block shareholders on tunneling becomes positive, implying the largest shareholders' tunneling incentive increase. This may be caused by our measurement on tunneling. In another word, block shareholders of firms with foreign equity shareholders may be more likely to use other tunneling methods rather than other receivables to expropriate minor shareholders.

Overall, we have very strong results on the effects of the shareholder base on firm discretionary accruals and tunneling behavior but weak results on the effect on firm real manipulation activities in Table 2.8.

[Insert Table 2.8 about here]

4.5.3. The effects of institutional investors and free cash flow

As there is ample evidence based on US data that institutional investors can monitor firm behavior effectively, the effect of the shareholder base may be less significant among firms with a high institutional ownership. On the other hand, firms with significant free cash flows are more likely associated with agency conflicts. Therefore, the effect of the shareholder base is likely elevated among firms with high levels of free cash flow. We perform additional robustness tests on subsamples based on free cash flow and institutional ownership.

In Panel A of Table 2.9, we report only the regression coefficient on the shareholder base for brevity sake. We divide the firms into two groups, those with low institutional ownership (percentage of shares held by institutional owners is below the mean) and those without high institutional ownership (percentage of shares held by institutional owners is above the mean). As can be seen in Panel A, the negative effect of the raw shareholder base on discretionary accruals is slightly less for firms with high institutional owners than firms with low institutional ownership. The similar effect of excess shareholder base on discretionary accruals becomes stronger. For example, the coefficient of excess shareholder base on discretionary accruals is -0.0063 for firms with low institutional ownership but -0.0105 for firms with high institutional ownership at the one percent significant level. This finding supports that institutional investors can monitor firms' behavior effectively.

In panel B of Table 2.9, we compare the effect of shareholder base between firms in quartile 1 (low) and firms in quartile 4 (high) of free cash flow. The effect of shareholder base is stronger for firms with high free cash flow compared with firms with low free cash flow, which suggests firms with higher free cash flow are more likely to do earning management.

In both panel A and B of Table 2.9, the shareholder base does not show any comparable effect on real manipulation activities among those two groups.

In panel C and D of Table 2.9, we report the impact of shareholder base on firm tunneling behavior among firms with low and high institutional ownership. The effect of shareholder base among firms with high institutional ownership is weaker than firms with low institutional ownership. For example, the coefficient of excess shareholder base is 0.003 in column (3) when firms have below average institutional ownership, compared with 0.0015 in column (7) when have above average institutional ownership. This is consistent with Jiang et al. (2010), institutional ownership is highest among low tunneling firms, suggesting these institutions tend to avoid owning high tunneling firms. This also implies that institutional investors may have more experiences than individual investor to see the link between tunneling and earning management and institutional ownership do have monitoring effect on tunneling behavior.

Regarding robustness tests of tunneling on subsamples based on free cash flow, we obtained mixed results and they are therefore not tabulated.

[Insert Table 2.9 about here]

5. SUMMARY

Business executives popularly believe that managing the shareholder base of a firm can lead to significant stock market benefits for the company. Although researchers concur that the shareholder base is an important determinant of corporate decisions, research on the shareholder base has been scant.

This study examines the effects of the shareholder base on earnings management in China. Using a sample of 20,937 firm-year observations of publicly traded nonfinancial companies from 1998 to 2013, we find that we find a negative relation between discretionary accruals and the shareholder base. In addition, we also find some weak evidence that the shareholder base provides a controlling effect on real activities manipulation. Our results also show a positive relation between the shareholder base and tunneling activities in China. The finding implies that despite a larger shareholder base provides a monitoring effect on earnings management in China, investors in China are still relatively inexperienced and fail to see the link between earnings management and tunneling. The rapid rise of the shareholder base in China provides insiders with more opportunities to extract private benefits at the expense of the minority shareholders. Our results suggest that in countries where investor protection is poor, regulatory changes and improvements to governance practices must be made before the shareholder base can benefit the firm.

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CONCLUSION

Business executives popularly believe that managing the shareholder base of a firm can lead to significant stock market benefits for the company. Although researchers concur that the shareholder base is an important determinant of corporate decisions, research on the shareholder base has been scant.

This thesis includes two essays to examines the effects of the shareholder base on firm behavior, earnings management and firm value in China. In essay 1, we find that a large shareholder base is associated with reduced capital expenditures, a lower standard deviation of the return on assets and a lower standard deviation of the return on equity. Firms with a larger shareholder base are associated with higher dividend payouts. In addition, the shareholder base has a negative impact on firm value in China. Our results are consistent with the implication that the shareholder base in China is a proxy for agency conflicts between insiders and outsider. When the shareholder base expands, agency conflicts escalate and insiders increase their expropriations of outsiders by directing (tunneling) firm resources for private motives.

Essay 2 examines the effects of the shareholder base on earnings management in China. We find a negative relation between discretionary accruals and the shareholder base. In addition, we also find some weak evidence that the shareholder base provides a controlling effect on real activities manipulation. Our results also show a positive relation between the shareholder base and tunneling activities in China. The finding implies that despite a larger shareholder base provides a monitoring effect on earnings management in China, investors in China are still relatively inexperienced and fail to see the link between earnings management and tunneling. The rapid rise of the shareholder base in China provides insiders with more opportunities to extract private benefits at the expense of the minority shareholders.

All the results suggest that in countries where investor protection is poor, regulatory changes and improvements to governance practices must be made before the shareholder base can benefit the firm.

APPENDICES

APPENDIX A: SUMMARY TABLES

Table 1. 1: Variable definition

Variable	Definition
Shareholder base	Number of common shareholders of record (in 000s)
Market cap	Year-end equity market capitalization
Book-to-market (BM)	Ratio of book value to market value of the firm
Leverage	Ratio of total liabilities to total assets
Operating income	Ratio of operating income to total assets
Cash	Ratio of cash holdings to total assets
Dividend payout	Ratio of cash dividends to sales
Earnings	Ratio of earnings to total assets
Retained earnings	Ratio of retained earnings to total assets
Stock liquidity	Annual volume of shares traded divided by the number of shares outstanding at the end of the year
1-year stock return	The change of closing price at the end of the year divided by the closing price at the end of previous year
Volatility	Stock return volatility, computed as the standard deviation of daily stock returns for the year
Capital expenditure (CAPEX)	Ratio of capital expenditure to total assets of the firm
Firm age	Log (1+ firm age)
ROA	Ratio of earnings to average assets
ROE	Ratio of earnings to average equity
State	A (0,1) dummy variable that has a value of zero if the firm is ultimately controlled by state, and one otherwise

* Data are obtained from China Center for Economic Research (CCER) data files

Table 1. 2: Descriptive Statistics of the sample

Variable	N	Mean	Standard Deviation	25th Percentile	50th Percentile	75th Percentile
Shbase(1000)	20,125	50.75	74.38	16.49	30.82	59.01
Lnsh	20,125	10.36	0.94	9.71	10.34	10.99
ExShBase	16,097	0.00	0.59	-0.33	0.04	0.38
MktCap(million)	20,125	6,732	14,370	1,715	2,925	5,607
TA(million)	20,125	5,225	11,752	994	1,871	4,078
Sales(million)	20,125	3,630	9,035	446	1,034	2,601
Capex/TA	20,125	0.07	0.06	0.02	0.05	0.09
Cash/TA	20,125	0.20	0.15	0.09	0.16	0.27
Div/Sales	20,125	0.06	0.06	0.02	0.04	0.07
B/M	20,125	0.40	0.24	0.22	0.35	0.52
Stock liquidity	20,125	2.87	3.41	0.63	1.76	3.67
1-year return	20,125	0.22	0.75	-0.25	-0.02	0.44
Volatility	18,594	0.03	0.01	0.02	0.03	0.03
Firm Age	20,125	10.60	5.25	7.00	10.00	14.00
ROE (%)	20,125	8.93	6.22	4.43	7.87	11.81
ROA (%)	20,125	5.72	4.62	2.29	4.64	7.88
Growth	17,615	0.01	0.02	0.00	0.01	0.01

Table 1. 3: Estimation of the excess shareholder base

log(Shareholder Base)	Estimate	St. Error	t Value	Pr > |t|
C	-4.2064	0.1354	-31.07	<.0001
log(1+firm age)	0.2630	0.0118	22.31	<.0001
ROE	-0.0079	0.0007	-11.1	<.0001
log(mkt cap)	0.6125	0.0056	110.31	<.0001
log(B/M)	0.4140	0.0108	38.51	<.0001
1/Share price	4.9138	0.0875	56.16	<.0001
Stock liquidity	0.0127	0.0020	6.39	<.0001
Past year return	0.0630	0.0087	7.25	<.0001
Volatility	1.7228	0.4273	4.03	<.0001
Industry dummies	Yes			
Exchange dummies	Yes			
Year dummies	Yes			
Adj. R^2	0.5837			
N	16086			

Table 1. 4: Persistence of raw shareholder base

	Quartile 4 (largest)	3	2	Quartile 1 (smallest)
Panel A. Persistence of the shareholder base for firms that are in the highest quartile of raw shareholder base in Year 0				
Year 0	1			
	494			
1	0.76	0.20	0.03	0.01
	377	98	13	6
2	0.73	0.21	0.04	0.02
	359	106	20	9
3	0.74	0.23	0.03	0.01
	365	112	14	3
4	0.76	0.19	0.03	0.01
	375	96	17	6
5	0.74	0.22	0.03	0.01
	364	110	16	4
Panel B. Persistence of raw shareholder base for firms that are in the lowest quartile of raw shareholder base in Year 0				
Year 0				1
				814
1	0.02	0.07	0.21	0.70
	16	57	170	571
2	0.05	0.11	0.27	0.57
	41	89	221	463
3	0.07	0.15	0.34	0.44
	54	126	275	359
4	0.09	0.22	0.34	0.35
	72	177	277	288
5	0.13	0.27	0.33	0.28
	102	216	271	225

Table 1.4 (continued): Persistence of excess shareholder base

	Quartile 4 (largest)	3	2	Quartile 1 (smallest)
Panel C. Persistence of excess shareholder base for firms that are in the highest quartile of excess shareholder base in Year 0				
Year 0	1			
	614			
1	0.53	0.30	0.10	0.06
	327	187	64	36
2	0.50	0.31	0.14	0.06
	304	189	83	38
3	0.48	0.28	0.14	0.10
	293	171	86	64
4	0.48	0.25	0.15	0.13
	294	152	90	78
5	0.45	0.24	0.18	0.13
	275	149	112	78
Panel D. Persistence of excess shareholder base for firms that are in the lowest quartile of excess shareholder base in Year 0				
Year 0				1
				1455
1	0.11	0.12	0.13	0.63
	167	181	186	921
2	0.21	0.25	0.28	0.27
	300	366	402	387
3	0.22	0.25	0.27	0.26
	324	360	390	381
4	0.24	0.25	0.25	0.26
	347	370	362	376
5	0.26	0.27	0.24	0.24
	373	386	345	351

Table 1. 5: Univariate analysis

Panel A: Univariate analysis comparing characteristics of firms in quartile 1 (smallest) and quartile 4 (largest) of the raw Shareholder Base

Variable	Quartile 1 Mean(median)	Quartile 4 Mean(median)	Diff. in means (p-value)	Diff. in medians (p-value)
Capex/TA	0.0675	0.0615	0.0060***	0.0049***
	(0.0504)	(0.0454)	(<.0001)	(0.0004)
Capex ind mean-adj	0.0067	-0.0018	0.0086***	0.0048***
	(-0.0089)	(-0.0137)	(<.0001)	(<.0001)
Capex ind median-adj	0.0221	0.0134	0.0087***	0.0054***
	(0.0053)	(-0.0001)	(<.0001)	(<.0001)
Dividends	0.0526	0.0753	-0.0227***	-0.0083***
	(0.0367)	(0.0451)	(<.0001)	(<.0001)
Dividends ind mean-adj	-0.0066	0.0071	-0.0137***	-0.0028***
	(-0.0165)	(-0.0137)	(<.0001)	(0.0006)
Dividends ind median-adj	0.0118	0.0276	-0.0158***	-0.0030***
	(-0.0011)	(0.0019)	(<.0001)	(<.0001)
ROE	10.2474	8.4222	1.8253***	1.6596***
	(8.7590)	(7.0995)	(<.0001)	(<.0001)
ROA	6.3341	4.5945	1.7396***	1.5516***
	(5.1616)	(3.6100)	(<.0001)	(<.0001)
Ln(B/M)	-1.3364	-0.8416	-0.4947***	-0.4865***
	(-1.2998)	(-0.8133)	(<.0001)	(<.0001)
OCF (million)	118.1427	1630.3200	-1512.1773***	-176.3343***
	(55.0768)	(231.4111)	(<.0001)	(<.0001)
Ln(TA)	20.9996	22.6014	-1.6018***	-1.4778***
	(20.9118)	(22.3897)	(<.0001)	(<.0001)
Total Assets (million)	2080.2200	21601.4400	-19521.22***	-4085.63***
	(1207.5300)	(5293.1600)	(<.0001)	(<.0001)
Cash/TA	0.2124	0.1495	0.0629***	0.0465***
	(0.1734)	(0.1269)	(<.0001)	(<.0001)
Sales growth	0.0110	0.0061	0.0049***	0.0030***
	(0.0086)	(0.0056)	(<.0001)	(<.0001)
Leverage	42.1625	48.8428	-6.6803***	-7.7870***
	(42.3968)	(50.1838)	(<.0001)	(<.0001)
Sales (million)	1693.3700	17830.6600	-16137.29***	-2033.4883***
	(716.2117)	(2749.7000)	(<.0001)	(<.0001)
Ln(sales)	20.4410	21.8996	-1.4586***	-1.3453***
	(20.3895)	(21.7348)	(<.0001)	(<.0001)
N	4022	4021		

Panel B: Univariate analysis compared firm characteristics between negative and positive Excess Shareholder Base

Variable	Negative Mean(median)	Positive Mean(median)	Diff in means (p-value)	Diff in medians (p-value)
Capex/TA	0.0648	0.0602	0.0045***	0.0030***
	(0.0467)	(0.0437)	(<.0001)	(0.0014)
Capex ind mean-adj	0.0025	-0.0022	0.0047***	0.0039***
	(-0.0116)	(-0.0155)	(<.0001)	(<.0001)
Capex ind median-adj	0.0179	0.0132	0.0047***	0.0019***
	(0.0013)	(-0.0007)	(<.0001)	(<.0001)
Dividends	0.0630	0.0641	-0.0011	-0.0001
	(0.0400)	(0.0401)	(0.6050)	(0.7578)
Div ind mean-adj	-0.0001	0.0001	-0.0002	0.0007
	(-0.0152)	(-0.0159)	(0.9316)	(0.2938)
Div ind median-adj	0.0188	0.0195	-0.0007	0.0000
	(0.0000)	(0.0000)	(0.7274)	(0.6129)
ROE	9.7483	8.2930	1.4552***	1.4575***
	(8.3775)	(6.9200)	(<.0001)	(<.0001)
ROA	5.6519	4.7109	0.9410***	0.8800***
	(4.5400)	(3.6600)	(<.0001)	(<.0001)
Ln(B/M)	-1.1128	-0.9909	-0.1219***	-0.1196***
	(-1.0690)	(-0.9494)	(<.0001)	(<.0001)
OCF(million)	782.3416	316.7672	465.5744***	-1.6437
	(92.3496)	(93.9932)	(<.0001)	(0.5964)
Ln(TA)	21.6644	21.6751	-0.0106	-0.1078***
	(21.4516)	(21.5594)	(0.5633)	(<.0001)
Total Assets(million)	9752.5700	6172.7800	3579.7900***	-235.7600***
	(2071.6100)	(2307.3700)	(<.0001)	(<.0001)
Cash/TA	0.1822	0.1675	0.0147***	0.0075***
	(0.1476)	(0.1401)	(<.0001)	(0.0010)
Sales growth	0.0091	0.0070	0.0021***	0.0015***
	(0.0076)	(0.0061)	(<.0001)	(<.0001)
Leverage	45.8920	46.7386	-0.8465***	-0.8583**
	(46.9499)	(47.8082)	(0.0044)	(0.0350)
Sales(million)	8448.5600	4418.9700	4029.5900***	-24.2000
	(1229.5100)	(1253.7100)	(<.0001)	(0.3805)
Ln(sales)	21.0642	21.0356	0.0287	-0.0195
	(20.9299)	(20.9494)	(0.1965)	(0.3805)
N	7588	8499		

Table 1. 6: Effect of the shareholder base on capital expenditures

	(1)	(2)	(3)	(4)	(5)	(6)
	Raw capital expenditures	Industry mean-adjusted capital expenditures	Industry median-adjusted capital expenditures	Raw capital expenditures	Industry mean-adjusted capital expenditures	Industry median-adjusted capital expenditures
Intercept	0.0601***	-0.0130	0.0008	0.0488***	-0.0250	-0.0114
	(0.0000)	(0.1938)	(0.9356)	(0.0000)	(0.0101)	(0.2399)
Raw Sh base	-0.0033***	-0.0034***	-0.0035***			
	(0.0000)	(0.0000)	(0.0000)			
Excess Sh base				-0.0010	-0.0013	-0.0013
				(0.2127)	(0.1140)	(0.1251)
Firm age	-0.0084***	-0.0073***	-0.0075***	-0.0096***	-0.0086***	-0.0088***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
B/M	-0.0029***	-0.0014	-0.0015	-0.0041***	-0.0026***	-0.0028***
	(0.0057)	(0.1854)	(0.1374)	(0.0001)	(0.0082)	(0.0044)
1-year return	0.0009	0.0009	0.0008	0.0008	0.0008	0.0007
	(0.2691)	(0.2767)	(0.3260)	(0.3189)	(0.3476)	(0.4025)
Cash	-0.0109**	-0.0099**	-0.0092**	-0.0080*	-0.0068	-0.0061
	(0.0140)	(0.0234)	(0.0343)	(0.0692)	(0.1125)	(0.1554)
EBITDA	0.0079***	0.0079***	0.0076***	0.0076***	0.0074***	0.0071***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Growth rate	0.0737***	0.0678***	0.0691***	0.0927***	0.0862***	0.0880***
	(0.0032)	(0.0064)	(0.0057)	(0.0002)	(0.0005)	(0.0004)
Leverage	-0.0002***	-0.0001***	-0.0001***	-0.0002***	-0.0001***	-0.0001***
	(0.0000)	(0.0001)	(0.0000)	(0.0000)	(0.0004)	(0.0001)
Sales	0.0048***	0.0044***	0.0043***	0.0037***	0.0033***	0.0032***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
State	-0.0036**	-0.0037***	-0.0036***	-0.0041***	-0.0042***	-0.0041***
	(0.0011)	(0.0007)	(0.0010)	(0.0003)	(0.0001)	(0.0002)
Industry dummies	Yes	No	No	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.1279	0.0323	0.0325	0.1265	0.0307	0.0308
N				13326		

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 1. 7: Effect of the shareholder base on the standard deviation of return on assets (σ[ROA(t,t+4)])

	(1)	(2)	(3)	(4)	(5)	(6)
	Raw σ[ROA(t,t+4)]	Industry mean-adjusted σ[ROA(t,t+4)]	Industry median-adjusted σ[ROA(t,t+4)]	Raw σ[ROA(t,t+4)]	Industry mean-adjusted σ[ROA(t,t+4)]	Industry median-adjusted σ[ROA(t,t+4)]
Intercept	1.7972	2.1206	2.0534	1.1816	1.3703	1.2769
	(0.0208)	(0.0041)	(0.0058)	(0.1176)	(0.0550)	(0.0761)
Raw Sh base	-0.1799***	-0.2206***	-0.2297***			
	(0.0003)	(0.0000)	(0.0000)			
Excess Sh base				-0.0872	-0.1406**	-0.1501**
				(0.1405)	(0.0150)	(0.0100)
Firm age	0.1666*	0.1303	0.1300	0.0965	0.0418	0.0378
	(0.0935)	(0.1726)	(0.1771)	(0.3226)	(0.6558)	(0.6895)
B/M	-0.5497***	-0.5247***	-0.5227***	-0.6264***	-0.6069***	-0.6068***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
1-year return	-0.0044	0.0134	0.0117	-0.0043	0.0150	0.0135
	(0.9386)	(0.8109)	(0.8362)	(0.9401)	(0.7900)	(0.8118)
Cash	0.0510	0.0053	-0.0017	0.0691	0.0283	0.0223
	(0.2867)	(0.9090)	(0.9704)	(0.1473)	(0.5394)	(0.6316)
EBITDA	0.1157***	0.1018***	0.1058***	0.0917**	0.0658*	0.0681*
	(0.0051)	(0.0080)	(0.0063)	(0.0248)	(0.0818)	(0.0737)
Growth rate	-1.1457	-1.9546	-1.9608	-0.3578	-1.0848	-1.0582
	(0.5186)	(0.2599)	(0.2622)	(0.8390)	(0.5292)	(0.5426)
Leverage	-0.0156***	-0.0158***	-0.0164***	-0.0145***	-0.0147***	-0.0152***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Sales	0.0960***	0.1127***	0.1229***	0.0344	0.0395	0.0465
	(0.0083)	(0.0010)	(0.0004)	(0.2895)	(0.2020)	(0.1359)
State	-0.5008***	-0.4605***	-0.4540***	-0.5182***	-0.4827***	-0.4771***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Industry dummies	Yes	No	No	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.0419	0.0325	0.0328	0.0407	0.0403	0.0309
N				8422		

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 1. 8: Effect of the shareholder base on the standard deviation of return on equity (σ[ROE(t,t+4)])

	(1)	(2)	(3)	(4)	(5)	(6)
	Raw σ[ROE(t,t+4)]	Industry mean-adjusted σ[ROE(t,t+4)]	Industry median-adjusted σ[ROE(t,t+4)]	Raw σ[ROE(t,t+4)]	Industry mean-adjusted σ[ROE(t,t+4)]	Industry median-adjusted σ[ROE(t,t+4)]
Intercept	1.0822	2.3315**	2.2094**	0.1266	1.3083	1.1527
	(0.3277)	(0.0249)	(0.0351)	(0.9062)	(0.1932)	(0.2558)
Raw Sh base	-0.2890***	-0.3208***	-0.3260***			
	(0.0000)	(0.0000)	(0.0000)			
Excess Sh base				-0.1692**	-0.2574***	-0.2486***
				(0.0444)	(0.0016)	(0.0025)
Firm age	0.1432	0.1455	0.1645	0.0300	0.0158	0.0329
	(0.3108)	(0.2797)	(0.2258)	(0.8288)	(0.9046)	(0.8050)
B/M	-0.7288***	-0.6567***	-0.6684***	-0.8404***	-0.7553***	-0.7737***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
1-year return	0.0096	0.0305	0.0252	0.0113	0.0354	0.0296
	(0.9061)	(0.6997)	(0.7517)	(0.8896)	(0.6545)	(0.7110)
Cash	0.0933	0.0274	0.0321	0.1227	0.0618	0.0669
	(0.1703)	(0.6743)	(0.6255)	(0.0703)	(0.3416)	(0.3079)
EBITDA	0.0709	0.0789	0.0787	0.0318	0.0253	0.0245
	(0.2274)	(0.1448)	(0.1490)	(0.5840)	(0.6346)	(0.6475)
Growth rate	-0.3412	-0.4696	-0.4155	0.9003	0.7538	0.8381
	(0.8925)	(0.8476)	(0.8661)	(0.7192)	(0.7562)	(0.7322)
Leverage	0.0250***	0.0248***	0.0242***	0.0268***	0.0264***	0.0258***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Sales	0.1547***	0.1188**	0.1265***	0.0549	0.0105	0.0168
	(0.0028)	(0.0138)	(0.0093)	(0.2344)	(0.8099)	(0.7017)
State	-0.5760***	-0.5459***	-0.5205***	-0.6032***	-0.5771***	-0.5526***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Industry dummies	Yes	No	No	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.0433	0.0368	0.0363	0.0418	0.0354	0.0347
N				8422		

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 1. 9: Effect of the shareholder base on dividend payout

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	Raw dividend payout ratio	Industry mean-adjusted dividend payout ratio	Industry median-adjusted dividend payout ratio	Raw dividend payout ratio	Industry mean-adjusted dividend payout ratio	Industry median-adjusted dividend payout ratio
Intercept	0.2923***	0.1604***	0.2028***	0.3493***	0.2115***	0.2619***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Raw shareholder base	0.0141***	0.0122***	0.0141***			
	(0.0000)	(0.0000)	(0.0000)			
Excess shareholder base				-0.0012	-0.0009	-0.0011
				(0.5623)	(0.6460)	(0.5893)
Firm age	-0.0046	-0.0063	-0.0039	0.0007	-0.0017	0.0014
	(0.1824)	(0.0672)	(0.2505)	(0.8484)	(0.6206)	(0.6880)
B/M	0.0044	0.0033	0.0040	0.0110***	0.0092***	0.0109***
	(0.0870)	(0.1879)	(0.1053)	(0.0000)	(0.0001)	(0.0000)
1-year return	-0.0009	-0.0017	-0.0014	-0.0011	-0.0018	-0.0016
	(0.6624)	(0.3960)	(0.4649)	(0.5833)	(0.3555)	(0.4129)
Cash	0.0237**	0.0259**	0.0301**	0.0098	0.0137	0.0160
	(0.0285)	(0.0145)	(0.0047)	(0.3597)	(0.1918)	(0.1299)
EBITDA	0.0260***	0.0228***	0.0242***	0.0269***	0.0240***	0.0255***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
RE	0.0135	0.0112	0.0150	0.0148	0.0125	0.0164
	(0.2273)	(0.3118)	(0.1799)	(0.1849)	(0.2636)	(0.1437)
Leverage	0.0007***	0.0005***	0.0007***	0.0006***	0.0004***	0.0006***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Sales	-0.0129***	-0.0109***	-0.0134***	-0.0086***	-0.0074***	-0.0094***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
State	-0.0014	-0.0020	-0.0020	0.0008	0.0001	0.0004
	(0.5946)	(0.4494)	(0.4543)	(0.7610)	(0.9812)	(0.8806)
Industry dummies	Yes	No	No	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.0960	0.0432	0.0512	0.0910	0.0391	0.0459
N				13326		

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 1. 10: Effect of the shareholder base on firm value

	Raw shareholder base				Excess shareholder base			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	1.5905***	1.3531***	1.4655***	1.5363***	-0.1484	-0.1490	-0.1486	-0.1590
	(0.0000)	(0.0002)	(0.0000)	(0.0002)	(0.3337)	(0.3318)	(0.3330)	(0.3018)
Shareholder base	-0.1623***	-0.1636***	-0.1678***	-0.1634***	-0.2274***	-0.2267***	-0.2317***	-0.2286***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
SH*industry-adjusted capex/ta	-0.0686*				-0.6137			
	(0.0864)				(0.3838)			
SH* industry-adjusted σ [ROA]		-0.0049***				-0.0024		
		(0.0035)				(0.7676)		
SH* industry-adjusted σ [ROE]			-0.0021***				0.0020	
			(0.0004)				(0.7049)	
SH*industry-adjusted dividend payout				-0.0573				-0.3626
				(0.7096)				(0.4214)
Current Earnings	4.4230***	8.6868***	7.0493***	4.2911***	4.2830***	4.2846***	4.3057***	4.2831***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Past changes in Earnings	0.0505	0.0524	0.0515	0.0504	0.0509	0.0507	0.0502	0.0509
	(0.2669)	(0.2494)	(0.2574)	(0.2677)	(0.2635)	(0.2648)	(0.2695)	(0.2629)
Future changes in Earnings	0.8881***	0.8768***	0.8520***	0.9055***	0.8909***	0.8877***	0.8929***	0.8898***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Dividend payout ratio	-0.0191	-0.0033	-0.0432	0.5896	-0.0634	-0.0608	-0.0629	0.0424
	(0.9061)	(0.9835)	(0.7891)	(0.7221)	(0.6945)	(0.7064)	(0.6971)	(0.8375)
Past changes in Div payout ratio	0.0668	-0.0414	0.1546	0.1042	0.1142	0.0974	0.1057	0.0375
	(0.9529)	(0.9708)	(0.8911)	(0.9265)	(0.9195)	(0.9314)	(0.9255)	(0.9736)
Future changes in Div payout ratio	-1.3304	-1.1329	-1.1885	-1.2879	-1.4557	-1.4756	-1.4704	-1.4076
	(0.3282)	(0.4053)	(0.3822)	(0.3440)	(0.2849)	(0.2784)	(0.2801)	(0.3020)
Current financial expense	-2.9572	-3.2826	-0.4033	-3.2990	-2.3495	-2.2923	-2.3427	-2.4189
	(0.3853)	(0.3342)	(0.9082)	(0.3320)	(0.4894)	(0.5000)	(0.4907)	(0.4769)
Past changes in financial expense	-1.5477	-1.5796	-2.0552	-1.5446	-2.0355	-2.0283	-2.0183	-2.0235
	(0.6106)	(0.6031)	(0.4992)	(0.6113)	(0.5032)	(0.5047)	(0.5068)	(0.5057)
Future changes in financial expense	-7.9915**	-8.5060***	-8.1973***	-8.9200***	-8.8887***	-8.8752***	-8.8902***	-9.0456***
	(0.0115)	(0.0064)	(0.0086)	(0.0042)	(0.0043)	(0.0044)	(0.0043)	(0.0038)
Past changes in Assets	-0.0046*	-0.0047*	-0.0047*	-0.0046*	-0.0048**	-0.0048**	-0.0048**	-0.0048**
	(0.0587)	(0.0539)	(0.0550)	(0.0582)	(0.0483)	(0.0487)	(0.0499)	(0.0482)

Table 1. 11 (Continued): Effect of the shareholder base on firm value

	Raw shareholder base				Excess shareholder base			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Future changes in	-0.0296	-0.0302	-0.0273	-0.0312	-0.0265	-0.0263	-0.0268	-0.0263
Assets	(0.1646)	(0.1554)	(0.1999)	(0.1419)	(0.2117)	(0.2155)	(0.2075)	(0.2158)
Lagged Market Value	0.5807***	0.5813***	0.5800***	0.5806***	0.5812***	0.5811***	0.5811***	0.5811***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Future changes in	-0.1102***	-0.1101***	-0.1101***	-0.1102***	-0.1101***	-0.1101***	-0.1101***	-0.1101***
Market Value	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
State	-0.0493	-0.0511	-0.0413	-0.0489	-0.0904*	-0.0903*	-0.0906*	-0.0913*
	(0.3728)	(0.3559)	(0.4555)	(0.3773)	(0.0989)	(0.0994)	(0.0982)	(0.0959)
Adj. R^2	0.6047	0.6049	0.6051	0.6046	0.6046	0.6046	0.6046	0.6046
N	10040	10040	10040	10040	10040	10040	10040	10040

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 1. 12: Robustness tests - Effects of the shareholder base before and after the 2005 reform

Panel A. Effects of the shareholder base on firm risk-taking behavior and dividend payout before and after the 2005 reform

	Before the reform (1998-2005)				After the reform (2006-2013)			
	Raw shareholder base		Excess shareholder base		Raw shareholder base		Excess shareholder base	
	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|
Capex raw	-0.0054***	(0.0002)	-0.0005	(0.7633)	-0.003***	(0.0002)	-0.001	(0.3359)
Capex-adj-mean	-0.0048***	(0.0005)	-0.0004	(0.8266)	-0.003***	(0.0001)	-0.0013	(0.1863)
Capex-adj-median	-0.0044***	(0.0015)	-0.0001	(0.9547)	-0.0033***	(0.0000)	-0.0013	(0.1826)
stdroa(t,t+4)	-0.1185**	(0.0140)	-0.0452	(0.4193)	-0.2736***	(0.0063)	-0.1712	(0.1604)
stdroa-adj-mean(t,t+4)	-0.1578***	(0.0004)	-0.1128**	(0.0329)	-0.3022***	(0.0019)	-0.1926	(0.1109)
stdroa-adj-median(t,t+4)	-0.1606***	(0.0004)	-0.1228**	(0.0224)	-0.317***	(0.0012)	-0.2031*	(0.0942)
stdroe(t,t+4)	-0.1881**	(0.0127)	-0.1352	(0.1232)	-0.4392***	(0.0013)	-0.2692	(0.1044)
stdroe-adj-mean(t,t+4)	-0.243***	(0.0004)	-0.2422***	(0.0031)	-0.4147***	(0.0016)	-0.2874*	(0.0787)
stdroe-adj-median(t,t+4)	-0.2329***	(0.0009)	-0.2357***	(0.0047)	-0.439***	(0.0009)	-0.2838*	(0.0839)
Div raw	0.0232***	(0.0000)	0.0074	(0.1987)	0.0099***	(0.0000)	-0.0048***	(0.0021)
Div-adj-mean	0.0209***	(0.0000)	0.0071	(0.2107)	0.0079***	(0.0000)	-0.0043***	(0.0058)
Div-adj-median	0.0247***	(0.0000)	0.0078	(0.1731)	0.0095***	(0.0000)	-0.0045***	(0.0037)

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Panel B. Effect of the shareholder base on before and after the 2005 reform

	1998-2005				2006-2013			
Ln(shareholder base)	-0.2978***	-0.3016***	-0.3192***	-0.2996***	-0.2457***	-0.2459***	-0.2503***	-0.2459***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
SH*industry-adjusted capex/ta	-0.1103***				-0.0002			
	(0.0003)				(0.9931)			
SH* industry-adjusted Std dev of ROA		-0.0064***				-0.0045***		
		(0.0003)				(0.0000)		
SH* industry-adjusted Std dev of ROE			-0.0048***				-0.0045***	
			(0.0000)				(0.0000)	
SH*industry-adjusted dividend payout ratio				0.0742				-0.4558***
				(0.4423)				(0.0012)

	1998-2005				2006-2013			
Excess shareholder base	-0.3935***	-0.3872***	-0.3910***	-0.3945***	-0.0698**	-0.0340	-0.0370	-0.0696**
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0110)	(0.2209)	(0.1854)	(0.0109)
SH*industry-adjusted capex/ta	-0.1923				-0.9366*			
	(0.7138)				(0.0535)			
SH* industry-adjusted Std dev of ROA		-0.0160*				-0.0342***		
		(0.0588)				(0.0000)		
SH* industry-adjusted Std dev of ROE			-0.0030				-0.0198***	
			(0.5557)				(0.0000)	
SH*industry-adjusted dividend payout ratio				-0.2105				-1.8209***
				(0.5372)				(0.0000)

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 1. 13: Robustness tests - Effects of the shareholder base among firms with and without foreign equity owners

Panel A. Effects of the shareholder base on firm risk-taking behavior and dividend payout among firms with and without foreign equity owners

DV	With foreign owners				Without foreign owners			
	raw		Excess		raw		excess	
	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|
Capex raw	-0.0021	(0.3373)	-0.0004	(0.8722)	-0.0035***	(0.0000)	-0.0009	(0.3177)
Capex-adj-mean	-0.0017	(0.3977)	-0.0013	(0.5946)	-0.0036***	(0.0000)	-0.0013	(0.1546)
Capex-adj-median	-0.002	(0.3450)	-0.0015	(0.5284)	-0.0037***	(0.0000)	-0.0012	(0.1816)
stdroa(t,t+4)	-0.0558	(0.5868)	0.1204	(0.3045)	-0.1592***	(0.0035)	-0.0776	(0.2335)
stdroa-adj-mean(t,t+4)	-0.1346	(0.1399)	-0.0189	(0.8608)	-0.2044***	(0.0001)	-0.1303**	(0.0406)
stdroa-adj-median(t,t+4)	-0.1621	(0.0831)	-0.0371	(0.7375)	-0.2105***	(0.0001)	-0.1365**	(0.0332)
stdroe(t,t+4)	-0.045	(0.8054)	-0.1467	(0.4822)	-0.2695***	(0.0005)	-0.1376	(0.1341)
stdroe-adj-mean(t,t+4)	-0.1634	(0.3135)	-0.2921	(0.1278)	-0.3177***	(0.0000)	-0.2375***	(0.0075)
stdroe-adj-median(t,t+4)	-0.2099	(0.2042)	-0.2999	(0.1252)	-0.318***	(0.0000)	-0.2267**	(0.0114)
Div raw	0.0003	(0.9206)	-0.0212***	(0.0000)	0.0152***	(0.0000)	0.0022	(0.3244)
Div-adj-mean	-0.0049	(0.1281)	-0.0219***	(0.0000)	0.0134***	(0.0000)	0.0024	(0.2873)
Div-adj-median	0.0002	(0.9583)	-0.0192***	(0.0000)	0.015***	(0.0000)	0.0021	(0.3545)

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Panel B. Effect of the shareholder base on firm value among firms with and without foreign equity owners

	With foreign owners				Without foreign owners			
Ln(shareholder base)	-0.2970***	-0.2947***	-0.2996***	-0.3035***	-0.3333***	-0.3342***	-0.3492***	-0.3337***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
SH*industry-adjusted capex/ta	-0.1049				-0.0624***			
	(0.2165)				(0.0005)			
SH* industry-adjusted Std dev of ROA		-0.0081**				-0.0038***		
		(0.0233)				(0.0000)		
SH* industry-adjusted Std dev of ROE			-0.0031***				-0.0046***	
			(0.0025)				(0.0000)	
SH*industry-adjusted dividend payout ratio				-0.0597				-0.0651
				(0.8101)				(0.3571)

	With foreign owners				Without foreign owners			
Excess shareholder base	-0.5328**	-0.5209***	-0.5385***	-0.5012***	-0.2353***	-0.2226***	-0.2268***	-0.2377***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
SH*industry-adjusted capex/ta	-0.9560				-0.6105*			
	(0.4117)				(0.0653)			
SH* industry-adjusted Std dev of ROA		-0.0011				-0.0165***		
		(0.9470)				(0.0000)		
SH* industry-adjusted Std dev of ROE			0.0088				-0.0065***	
			(0.3531)				(0.0100)	
SH*industry-adjusted dividend payout ratio				-0.7148				-0.3687
				(0.2958)				(0.1245)

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2. 1: Variables definition

Variable	Definition
Shareholder base	Number of common shareholders of record (in 000s)
Market cap	Year-end equity market capitalization
Market-to-book (MB)	Ratio of market value to book value of the firm
Leverage	Ratio of total liabilities to total assets
Operating income	Ratio of operating income to total assets
Cash	Ratio of cash holdings to total assets
Dividend payout	Ratio of cash dividends to sales
Earnings	Ratio of earnings to total assets
Retained earnings	Ratio of retained earnings to total assets
Stock liquidity	Annual volume of shares traded divided by the number of shares outstanding at the end of the year
1-year stock return	The change of closing price at the end of the year divided by the closing price at the end of previous year
Volatility	Stock return volatility, computed as the standard deviation of daily stock returns for the year
Capital expenditure (CAPEX)	Ratio of capital expenditure to total assets of the firm
Firm age	Log (1+ firm age)
ROA	Ratio of earnings to average assets
ROE	Ratio of earnings to average equity
State	A (0,1) dummy variable that has a value of 1 if the firm is ultimately controlled by state, and 0 otherwise
Loss	A (0,1) dummy variable that has a value of 1 if Net Income is less than 0, and 0 otherwise
Total discretionary accruals (TCA)	Net income before extraordinary items (EBXI) minus cash flow from operation (CFO)
COGS	Cost of goods sold
Production costs (PROD)	COGS + Change in inventory
Discretionary expenses (DISEXP)	R&D + Advertising + Selling, General and Administrative expenses
SUSPECT_NI	A (0,1) dummy variable that has a value of 1 if EBXI scaled by lagged total assets is between 0 and 0.005, and 0 otherwise
MFG	A (0,1) dummy variable that has a value of 1 if the firm belongs to a manufacturing industry, and 0 otherwise
HASDEBT	A (0,1) dummy variable that has a value of 1 if there is long-term or short-term debt outstanding at the beginning of the year or at the end of the year, and 0 otherwise
CL	Current liabilities excluding short-term debt, scaled by total assets and expressed as deviation from the corresponding industry-year mean
INVREC	The sum of industry-year adjusted inventories and receivables as a percentage of total assets, and expressed as deviation from the corresponding industry-year mean

INST	Percentage of outstanding shares owned by institutional owners, expressed as deviation from the corresponding industry-year mean
X_RANK	X_RANK is a binary rank variable that has a value of 1 if X is above the median value for the corresponding year, and 0 otherwise. X is SIZE, MB, CL, INVREC and INST separately.
Reform	A (0,1) dummy variable that has a value of 1 if the firm-year observation is in the period after year 2005, and 0 otherwise
MgShares	The percentage of common shares held by top executives
Block	The percentage of common shares held by the largest shareholder
Independence	Number of independent directors/total number of directors

* Data are obtained from China Center for Economic Research (CCER) data files

Table 2. 2: Descriptive Statistics of the Sample

Variable	N	Mean	Std Dev	25th Pctl	50th Pctl	75th Pctl
Shbase(1000)	20937	50.16	73.81	16.29	30.21	58.02
ExShbase	16862	0.00	0.59	-0.33	0.04	0.38
Da	13627	0.00	0.06	-0.03	-0.01	0.02
Ab cfo	18421	0.00	0.11	-0.05	0.00	0.05
Ab disexp	18421	0.00	0.86	-0.03	-0.01	0.02
Ab prod	18420	0.00	0.40	-0.06	0.00	0.06
Tunneling	20937	0.03	0.06	0.00	0.01	0.04
Firm age	20937	10.69	5.24	7.00	10.00	14.00
TA(mil)	20937	7263.35	51021.79	956.62	1816.24	3969.35
MktCap(mil)	20937	9685.43	83982.36	1672.77	2862.46	5503.40
TCA(mil)	20937	-52.92	2772.71	-61.16	8.80	85.80
1-year return	20937	0.24	0.84	-0.25	-0.02	0.45
Leverage	20937	44.15	19.82	29.44	44.62	59.18
Growth	18414	0.01	0.02	0.00	0.01	0.01
ROA	20936	5.82	6.42	2.19	4.57	7.82
ROE	20937	9.56	15.79	4.36	7.84	11.89

Table 2. 3: Univariate analysis

Panel A: Comparing characteristics of firms in quartile 1 (smallest) and quartile 4 (largest) of the raw Shareholder Base

Variable	Quartile 1 Mean(median)	Quartile 4 Mean(median)	Diff. in Means (p-value)	Diff. in Median (p-value)
da	0.0133	-0.0038	0.0171	0.0145
	(0.0022)	(-0.0123)	(<.0001) ***	(<.0001) ***
abcfo	0.0028	0.0020	0.0008	0.0017
	(0.0017)	(0.0000)	(0.7358)	(0.4172)
abdisexp	-0.0395	0.0428	-0.0823	-0.0003
	(-0.0092)	(-0.0089)	(0.0002) ***	(0.8736)
abprod	-0.0075	0.0035	-0.0111	-0.0140
	(-0.0064)	(0.0076)	(0.3324)	(<.0001) ***
tunneling	0.0313	0.0350	-0.0036	-0.0040
	(0.0104)	(0.0144)	(0.0013) ***	(<.0001) ***
N	5235	5234		

Panel B: Comparing characteristics of firms between negative and positive Excess Shareholder Base

Variable	Negative Mean(median)	Positive Mean(median)	Diff. in Means (p-value)	Diff. in Median (p-value)
da	0.0060	-0.0054	0.0114	0.0099
	(-0.0038)	(-0.0137)	(<.0001) ***	(<.0001) ***
abcfo	0.0009	-0.0010	0.0019	0.0041
	(0.0009)	(-0.0032)	(0.2569)	(0.001) ***
abdisexp	0.0064	-0.0069	0.0133	-0.0001
	(-0.0089)	(-0.0088)	(0.2929)	(0.9238)
abprod	-0.0015	0.0016	-0.0031	-0.0057
	(-0.0009)	(0.0047)	(0.6005)	(<.0001) ***
tunneling	0.0334	0.0359	-0.0025	-0.0043
	(0.0116)	(0.0158)	(0.0021) ***	(<.0001) ***
N	12023	8914		

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2. 4: Regression results on discretionary accruals and shareholder base (the model below is based on Wang 2006)

	(1)	(2)	(3)	(4)	(5)	(6)
Discretionary accruals	raw	industry mean adjusted	industry median adjusted	raw	industry mean adjusted	industry median adjusted
Intercept	-0.0349	-0.0476	-0.0375	-0.0175	-0.0298	-0.0185
	(0.0033) ***	(0.0000) ***	(0.0008) ***	(0.1686)	(0.0125) **	(0.1220)
lagsh	-0.0098	-0.0096	-0.0097			
	(0.0000) ***	(0.0000) ***	(0.0000) ***			
lagexsh				-0.0096	-0.0094	-0.0095
				(0.0000) ***	(0.0000) ***	(0.0000) ***
lagage	-0.0011	-0.0003	-0.0005	-0.0047	-0.0035	-0.0039
	(0.4248)	(0.7889)	(0.7016)	(0.0023) ***	(0.0192) **	(0.0102) **
laggrowth	0.0438	0.0361	0.0367	0.0545	0.0475	0.0489
	(0.0401) **	(0.0897) *	(0.0853) *	(0.0166) **	(0.0361) **	(0.0318) **
laglev	-0.0005	-0.0004	-0.0004	-0.0004	-0.0004	-0.0004
	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***
lagloss	0.0209	0.0208	0.0219	0.0214	0.0217	0.0227
	(0.4639)	(0.4630)	(0.4427)	(0.4621)	(0.4545)	(0.4356)
lagroa	0.0030	0.0029	0.0028	0.0031	0.0030	0.0029
	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***
lagstate	-0.0023	-0.0022	-0.0022	-0.0033	-0.0032	-0.0033
	(0.0451) **	(0.0481) **	(0.0482) **	(0.0059) ***	(0.0067) ***	(0.0060) ***
lagta	0.0065	0.0068	0.0067	0.0013	0.0017	0.0015
	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0171) **	(0.0016) ***	(0.0037) ***
Industry dummies	Yes	No	No	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.1569	0.1283	0.1296	0.1510	0.1225	0.1242
N	13617			12440		

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2. 5: Cross-sectional variation in real activities manipulation

	(1)	(2)	(3)	(4)	(5)	(6)
	Ab CFO	Ab disexp	Ab prod	Ab CFO	Ab disexp	Ab prod
Intercept	-0.0017	-0.2288	-0.0801	0.0046	-0.0859	0.0283
	(0.8794)	(0.0003)***	(0.0402)**	(0.2341)	(0.0002)***	(0.0540)*
lagsh	0.0003	0.0150	0.0103			
	(0.7724)	(0.0120)**	(0.0057)***			
lagexsh				-0.0023	0.0147	0.0069
				(0.1638)	(0.1381)	(0.2821)
MFG	0.0025	0.0185	-0.0091	0.0025	0.0201	-0.0116
	(0.1397)	(0.0602)*	(0.1396)	(0.2062)	(0.0864)*	(0.1250)
NIdev	0.0057	0.8723	0.0158	0.0050	0.8734	0.0163
	(0.0000)***	(0.0000)***	(0.0006)***	(0.0002)***	(0.0000)***	(0.0014)***
SUSPECT_NI	-0.0148	0.0152	0.0298	-0.0166	0.0050	0.0337
	(0.0018)***	(0.5755)	(0.0792)*	(0.0020)***	(0.8739)	(0.0994)*
cl_rank	-0.0138	0.0500	0.0424	-0.0154	0.0512	0.0427
	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***
inst_rank	0.0176	0.0108	-0.0234	0.0162	0.0079	-0.0239
	(0.0000)***	(0.3102)	(0.0004)***	(0.0000)***	(0.5327)	(0.0036)***
hasdebt	0.0032	0.0211	0.0008	0.0037	0.0285	0.0012
	(0.0640)*	(0.0347)**	(0.8972)	(0.0641)*	(0.0152)**	(0.8704)
invrec_rank	-0.0245	0.0212	-0.0062	-0.0219	0.0264	-0.0102
	(0.0000)***	(0.0332)**	(0.3198)	(0.0000)***	(0.0272)**	(0.1862)
mb_rank	0.0095	-0.0475	-0.0247	0.0114	-0.0640	-0.0301
	(0.0000)***	(0.0000)***	(0.0001)***	(0.0000)***	(0.0000)***	(0.0001)***
size_rank	0.0086	0.0627	-0.0307	0.0070	0.0696	-0.0254
	(0.0000)***	(0.0000)***	(0.0000)***	(0.0006)***	(0.0000)***	(0.0011)***
state	0.0034	0.0199	-0.0109	0.0004	0.0288	-0.0104
	(0.0721)*	(0.0664)*	(0.1068)	(0.8670)	(0.0219)**	(0.2002)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.0323	0.4375	0.0080	0.0290	0.4614	0.0069
N	18387	18387	18386	14498	14498	14498

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2. 6: Impact of shareholder base on firm tunneling behavior

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	0.0630	0.0369	0.0302	0.1286	0.0599	0.0444	0.0272	0.1342
	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***
SHbase	-0.0003	0.0005	-0.0006	0.0035				
	(0.5342)	(0.2377)	(0.1621)	(0.0000) ***				
Excess SHbase					0.0029	0.0016	0.0015	0.0010
					(0.0000) ***	(0.0221) **	(0.0257) **	(0.1375)
Block		-0.0004	-0.0003	-0.0002		-0.0003	-0.0003	-0.0002
		(0.0000) ***	(0.0000) ***	(0.0000) ***		(0.0000) ***	(0.0000) ***	(0.0000) ***
MgShares			-0.0001	-0.0001			-0.0001	-0.0001
			(0.0174) **	(0.1100)			(0.0528) *	(0.0332) **
Leverage			0.0004	0.0004			0.0003	0.0004
			(0.0000) ***	(0.0000) ***			(0.0000) ***	(0.0000) ***
Sales growth				-0.1038				-0.1252
				(0.0000) ***				(0.0000) ***
ROA				-0.0005				-0.0005
				(0.0000) ***				(0.0000) ***
Firm size				-0.0066				-0.0050
				(0.0000) ***				(0.0000) ***
Independence				-0.0054				-0.0051
				(0.0064) ***				(0.0161) **
State	-0.0042	-0.0028	-0.0053	-0.0049	-0.0073	-0.0044	-0.0059	-0.0047
	(0.0000) ***	(0.0014) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***
Reform	-0.0377	-0.0249	-0.0234	-0.0188	-0.0335	-0.0272	-0.0261	-0.0216
	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***
Year Effect	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Industry Effect	No	Yes	Yes	Yes	No	Yes	Yes	Yes
R^2	0.1016	0.1785	0.1961	0.1806	0.0859	0.1459	0.1601	0.1805
N	18389	18384	18110	15246	14498	14495	14307	13879

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2. 7: Robustness tests - Effects of the shareholder base before and after the 2005 reform

DV	Before the reform (1998-2005)				After the reform (2006-2013)			
	raw Estimate	Pr > |t|	Excess Estimate	Pr > |t|	raw Estimate	Pr > |t|	excess Estimate	Pr > |t|
Da raw	-0.0046	(0.0000) ***	-0.0048	(0.0000) ***	-0.0119	(0.0000) ***	-0.0115	(0.0000) ***
Da-adj-mean	-0.0044	(0.0000) ***	-0.0044	(0.0000) ***	-0.0116	(0.0000) ***	-0.0116	(0.0000) ***
Da-adj-median	-0.0043	(0.0000) ***	-0.0045	(0.0000) ***	-0.0118	(0.0000) ***	-0.0117	(0.0000) ***
Abnormal CFO	0.0049	(0.0018) ***	0.0045	(0.0563) *	-0.0009	(0.5057)	-0.005	(0.0258) **
Abnormal discretionary expenses	-0.0002	(0.8321)	0.0011	(0.3934)	0.0194	(0.0318) **	0.0258	(0.0836) *
Abnormal production costs	-0.0028	(0.1302)	-0.0046	(0.1031)	0.0152	(0.0063) ***	0.0122	(0.2002)

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2. 8: Robustness tests - Effects of the shareholder base among firms with and without foreign equity owners

Panel 2.8A: Effects of the shareholder base on discretionary accruals and real activities manipulation among firms with and without foreign equity owners

DV	With foreign owners				Without foreign owners			
	raw Estimate	Pr > |t|	Excess Estimate	Pr > |t|	raw Estimate	Pr > |t|	excess Estimate	Pr > |t|
Da raw	-0.0078	(0.0000) ***	-0.0028	(0.0891) *	-0.0101	(0.0000) ***	-0.0106	(0.0000) ***
Da-adj-mean	-0.0058	(0.0004) ***	-0.0007	(0.6434)	-0.0101	(0.0000) ***	-0.0107	(0.0000) ***
Da-adj-median	-0.0062	(0.0001) ***	-0.0011	(0.4702)	-0.0101	(0.0000) ***	-0.0108	(0.0000) ***
Abnormal CFO	-0.0006	(0.8478)	-0.0054	(0.2024)	0.0002	(0.8763)	-0.0014	(0.4333)
Abnormal discretionary expenses	-0.0140	(0.7317)	0.0735	(0.2255)	0.0203	(0.0002) ***	0.0093	(0.3001)
Abnormal production costs	0.0130	(0.0030) ***	0.0085	(0.1811)	0.0106	(0.0103) **	0.0067	(0.3428)

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2.8 (continued): Robustness tests - Effects of the shareholder base among firms with and without foreign equity owners

Panel 2.8B: Impact of raw shareholder base on firm tunneling behavior among firms with and without foreign equity owners

	With Foreign Shareholders				Without Foreign Shareholders			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	0.1316	0.0522	0.0333	0.1053	0.0565	0.0344	0.0281	0.1357
	(0.0000) ***	(0.0144) **	(0.1216)	(0.0001) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***
SHbase	-0.0069	-0.0041	-0.0046	-0.0014	0.0004	0.0011	-0.0000	0.0041
	(0.0000) ***	(0.0186) **	(0.0082) ***	(0.5186)	(0.3769)	(0.0163) **	(0.9953)	(0.0000) ***
Block		0.0003	0.0003	0.0003		-0.0004	-0.0004	-0.0002
		(0.0021) ***	(0.0041) ***	(0.0040) ***		(0.0000) ***	(0.0000) ***	(0.0000) ***
MgShares			-0.0007	-0.0006			-0.0001	-0.0001
			(0.4560)	(0.6383)			(0.0247) **	(0.1558)
Leverage			0.0005	0.0004			0.0004	0.0004
			(0.0000) ***	(0.0000) ***			(0.0000) ***	(0.0000) ***
Sales growth				-0.2446				-0.0918
				(0.0002) ***				(0.0000) ***
ROA				-0.0009				-0.0005
				(0.0016) ***				(0.0000) ***
Firm size				-0.0037				-0.0071
				(0.0105) **				(0.0000) ***
Independence				-0.0118				-0.0047
				(0.0503) *				(0.0243) **
State	-0.0031	-0.0063	-0.0084	-0.0098	-0.0044	-0.0028	-0.0052	-0.0046
	(0.4452)	(0.1220)	(0.0409) **	(0.0099) ***	(0.0000) ***	(0.0016) ***	(0.0000) ***	(0.0000) ***
Reform	-0.0330	-0.0142	-0.0164	-0.0131	-0.0379	-0.0256	-0.0240	-0.0191
	(0.0000) ***	(0.0521) *	(0.0241) **	(0.0470) **	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***
Year Effect	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Industry Effect	No	Yes	Yes	Yes	No	Yes	Yes	Yes
R^2	0.1005	0.1826	0.2102	0.2032	0.1030	0.1835	0.2000	0.1831
N	1477	1477	1452	1276	16911	16906	16657	13969

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2.8 (continued): Robustness tests - Effects of the shareholder base among firms with and without foreign equity owners

Panel 2.8C: Impact of excess shareholder base on firm tunneling behavior among firms with and without foreign equity owners

	With Foreign Shareholders				Without Foreign Shareholders			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	0.0539	0.0139	-0.0079	0.1027	0.0605	0.0477	0.0311	0.1402
	(0.0000) ***	(0.1371)	(0.4308)	(0.0001) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***
Excess SHbase	0.0028	0.0028	0.0019	-0.0023	0.0028	0.0015	0.0015	0.0017
	(0.1965)	(0.2330)	(0.4142)	(0.3091)	(0.0002) ***	(0.0382) **	(0.0362) **	(0.0206) **
Block		0.0003	0.0003	0.0003		-0.0004	-0.0004	-0.0003
		(0.0047) ***	(0.0073) ***	(0.0062) ***		(0.0000) ***	(0.0000) ***	(0.0000) ***
MgShares			-0.0007	0.0004			-0.0001	-0.0001
			(0.8275)	(0.8798)			(0.0509) *	(0.0427) **
Leverage			0.0005	0.0004			0.0003	0.0004
			(0.0000) ***	(0.0000) ***			(0.0000) ***	(0.0000) ***
Sales growth				-0.2208				-0.1158
				(0.0009) ***				(0.0000) ***
ROA				-0.0011				-0.0005
				(0.0009) ***				(0.0000) ***
Firm size				-0.0042				-0.0052
				(0.0004) ***				(0.0000) ***
Independence				-0.0121				-0.0043
				(0.0485) **				(0.0569) *
State	-0.0074	-0.0096	-0.0113	-0.0102	-0.0071	-0.0039	-0.0054	-0.0044
	(0.0604) *	(0.0185) **	(0.0057) ***	(0.0091) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***
Reform	-0.0286	-0.0170	-0.0193	-0.0135	-0.0340	-0.0283	-0.0270	-0.0225
	(0.0000) ***	(0.0135) **	(0.0050) ***	(0.0424) **	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***
Year Effect	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Industry Effect	No	Yes	Yes	Yes	No	Yes	Yes	Yes
R^2	0.0679	0.1305	0.1542	0.2046	0.0879	0.1525	0.1658	0.1826
N	1278	1278	1261	1231	13219	13216	13045	12647

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2. 9: Robustness tests - Effects of the shareholder base among firms with low and high institutional ownership

Panel 2.9A: Effects of the shareholder base on discretionary accruals and real activities manipulation among firms with low and high institutional ownership

DV	Low				High			
	raw Estimate	Pr > |t|	Excess Estimate	Pr > |t|	raw Estimate	Pr > |t|	excess Estimate	Pr > |t|
Da raw	-0.0086	(0.0000) ***	-0.0063	(0.0000) ***	-0.0091	(0.0000) ***	-0.0105	(0.0000) ***
Da-adj-mean	-0.009	(0.0000) ***	-0.0065	(0.0000) ***	-0.0087	(0.0000) ***	-0.0105	(0.0000) ***
Da-adj-median	-0.0088	(0.0000) ***	-0.0066	(0.0000) ***	-0.0089	(0.0000) ***	-0.0107	(0.0000) ***
Abnormal CFO	0.0043	(0.0105) **	0.0019	(0.4892)	-0.0029	(0.0993) *	-0.0067	(0.0173) **
Abnormal discretionary expenses	0.0119	(0.0524) *	-0.0073	(0.3672)	0.0039	(0.7939)	0.0296	(0.2351)
Abnormal production costs	0.0042	(0.3027)	-0.0030	(0.6504)	0.0296	(0.0009) ***	0.0386	(0.0107) **

Panel 2.9B: Effects of the shareholder base on discretionary accruals and real activities manipulation among firms with low and high free cash flow

DV	Low				High			
	raw Estimate	Pr > |t|	Excess Estimate	Pr > |t|	raw Estimate	Pr > |t|	excess Estimate	Pr > |t|
Da raw	-0.0056	(0.0002) ***	-0.0064	(0.0005) ***	-0.0133	(0.0000) ***	-0.013	(0.0000) ***
Da-adj-mean	-0.0052	(0.0005) ***	-0.006	(0.0012) ***	-0.0129	(0.0000) ***	-0.0132	(0.0000) ***
Da-adj-median	-0.0051	(0.0007) ***	-0.0057	(0.0023) ***	-0.0131	(0.0000) ***	-0.0135	(0.0000) ***
Abnormal CFO	0.0057	(0.0834) *	0.0159	(0.0065) ***	-0.0101	(0.0000) ***	-0.0051	(0.1082)
Abnormal discretionary expenses	0.0232	(0.0647) *	0.0722	(0.0015) ***	0.0041	(0.6900)	-0.0089	(0.5674)
Abnormal production costs	0.0146	(0.0471) **	-0.0018	(0.8951)	0.0212	(0.0000) ***	0.0169	(0.0149) **

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2.9 (continued): Robustness tests - Effects of the shareholder base among firms with low and high institutional ownership

Panel 2.9C: Impact of raw shareholder base on firm tunneling behavior among firms with low and high institutional ownership

	Low				High			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	0.0263	0.0211	0.0156	0.1452	0.0161	0.0100	0.0069	0.0543
	(0.0000) ***	(0.0040) ***	(0.0377) **	(0.0000) ***	(0.0000) ***	(0.0336) **	(0.1501)	(0.0000) ***
SHbase	0.0019	0.0020	0.0010	0.0060	0.0002	0.0006	-0.0001	0.0023
	(0.0032) ***	(0.0015) ***	(0.1045)	(0.0000) ***	(0.5010)	(0.1026)	(0.8121)	(0.0000) ***
Block		-0.0003	-0.0003	-0.0002		-0.0001	-0.0001	-0.0001
		(0.0000) ***	(0.0000) ***	(0.0000) ***		(0.0000) ***	(0.0000) ***	(0.0032) ***
MgShares			-0.0001	-0.0001			-0.0001	-0.0000
			(0.0691) *	(0.1529)			(0.0449) **	(0.5341)
Leverage			0.0003	0.0004			0.0002	0.0003
			(0.0000) ***	(0.0000) ***			(0.0000) ***	(0.0000) ***
Sales growth				-0.0907				-0.0307
				(0.0003) ***				(0.0517) *
ROA				-0.0006				-0.0002
				(0.0000) ***				(0.0026) ***
Firm size				-0.0086				-0.0034
				(0.0000) ***				(0.0000) ***
Independence				-0.0032				0.0001
				(0.2625)				(0.9690)
State	-0.0028	-0.0021	-0.0038	-0.0036	-0.0014	-0.0002	-0.0019	-0.0017
	(0.0182) **	(0.1017)	(0.0029) ***	(0.0092) ***	(0.0571) *	(0.8406)	(0.0147) **	(0.0479) **
Reform	-0.0200	-0.0286	-0.0267	-0.0162	-0.0007	-0.0039	-0.0042	-0.0051
	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.6193)	(0.1435)	(0.1113)	(0.0778) *
Year Effect	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Industry Effect	No	Yes	Yes	Yes	No	Yes	Yes	Yes
R^2	0.0388	0.1049	0.1208	0.1359	0.0006	0.0399	0.0628	0.0743
N	8031	8030	7924	6827	6266	6262	6169	5453

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2.9 (continued): Robustness tests - Effects of the shareholder base among firms with low and high institutional ownership

Panel 2.9D: Impact of excess shareholder base on firm tunneling behavior among firms with low and high institutional ownership

	Low				High			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	0.0505	0.0458	0.0302	0.1539	0.0212	0.0186	0.0081	0.0535
	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0147) **	(0.0000) ***
Excess SHbase	0.0054	0.0030	0.0030	0.0039	0.0020	0.0017	0.0015	0.0013
	(0.0000) ***	(0.0070) ***	(0.0069) ***	(0.0007) ***	(0.0020) ***	(0.0083) ***	(0.0190) **	(0.0622) *
Block		-0.0004	-0.0003	-0.0002		-0.0001	-0.0001	-0.0001
		(0.0000) ***	(0.0000) ***	(0.0000) ***		(0.0000) ***	(0.0000) ***	(0.0005) ***
MgShares			-0.0001	-0.0001			-0.0001	-0.0001
			(0.1822)	(0.0912) *			(0.1286)	(0.1967)
Leverage			0.0003	0.0004			0.0002	0.0003
			(0.0000) ***	(0.0000) ***			(0.0000) ***	(0.0000) ***
Sales growth				-0.1039				-0.0738
				(0.0001) ***				(0.0000) ***
ROA				-0.0007				-0.0001
				(0.0000) ***				(0.0038) ***
Firm size				-0.0059				-0.0021
				(0.0000) ***				(0.0000) ***
Independence				-0.0020				0.0003
				(0.5120)				(0.8914)
State	-0.0065	-0.0034	-0.0044	-0.0030	-0.0028	-0.0009	-0.0021	-0.0015
	(0.0000) ***	(0.0145) **	(0.0019) ***	(0.0389) **	(0.0005) ***	(0.3133)	(0.0134) **	(0.0858) *
Reform	-0.0199	-0.0313	-0.0297	-0.0206	-0.0015	-0.0058	-0.0061	-0.0066
	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.0000) ***	(0.3725)	(0.0578) *	(0.0448) **	(0.0317) **
Year Effect	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Industry Effect	No	Yes	Yes	Yes	No	Yes	Yes	Yes
R^2	0.0374	0.0966	0.1093	0.1286	0.0038	0.0414	0.0598	0.0733
N	6435	6435	6353	6160	5400	5397	5317	5110

P-values are in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

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