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## Family control, institutional environment and cash dividend policy: Evidence from China <sup>☆</sup>

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### ABSTRACT

Using a sample of 1486 Chinese A-share listed companies for the period 2004–2008, this study empirically tests the impact of family control, institutional environment and their interaction on the cash dividend policy of listed companies. Our results indicate that (1) family firms have a lower cash dividend payout ratio and propensity to pay dividends than non-family firms; (2) a favorable regional institutional environment has a significant positive impact on the cash dividend payout ratio and propensity to pay dividends of listed companies; and (3) the impact of the regional institutional environment on cash dividends is stronger in family firms than in non-family firms. Somewhat surprisingly, we find that controlling family shareholders in China may intensify Agency Problem I (the owner–manager conflict) rather than Agency Problem II (the controlling shareholder–minority shareholder conflict), and thus have a significant negative impact on cash dividend policy. In contrast, a favorable regional institutional environment plays a positive corporate governance role in mitigating Agency Problem I and encouraging family firms to pay cash dividends.

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## 1. Introduction

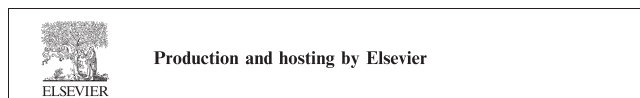
Mounting evidence shows that family firms are prevalent around the world and occupy an important position in the economic sphere (La Porta et al., 1999; Claessens et al., 2000; Faccio and Lang, 2002; Anderson and Reeb, 2003a).<sup>1</sup> In recent

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<sup>1</sup> La Porta et al. (1999) use data on the ownership structure of large corporations in 27 wealthy economies to identify the ultimate controlling shareholders of these firms. Except in a few countries with very good shareholder protection, such as the United Kingdom, Japan and the United States, firms across the world almost all have concentrated ownership, and the dominant form of controlling ownership is family ownership. Similarly, Claessens et al. (2000) show that about 40% of listed companies in East Asian countries are controlled by families, and Faccio and Lang (2002) find that the proportion in Western Europe is 44.29%. Even in the United States, which is characterized by dispersed ownership, Anderson and Reeb (2003a) report that 34% of S&P500 companies can be classified as family firms.



years, the increased popularity of corporate governance research has led to a growing number of scholars investigating family firms. A possible explanation is that the special features of control rights in family firms provide a unique perspective for corporate governance research. On one hand, as an internal corporate governance mechanism, family control may bring about more effective management and supervision, and thus lead to lower owner–manager agency costs than in non-family firms. On the other hand, the moral risks arising from the abuse of control rights by large shareholders (including family shareholders) is potentially more serious, and expropriation by large shareholders has become a prominent agency problem (Shleifer and Vishny, 1997). Whether these advantages and disadvantages of family control equate to a net governance benefit or cost in family firms is an open question. Prior literature suggests that family control has an important impact on many aspects of listed companies, such as corporate performance (Anderson and Reeb, 2003a; Villalonga and Amit, 2006; Perez-Gonzalez, 2006; Amit et al., 2009), diversification (Anderson and Reeb, 2003b), cost of debt financing (Anderson et al., 2003), effectiveness of the board of directors (Anderson and Reeb, 2004) and information disclosure (Ali et al., 2007; Chen et al., 2008; Anderson et al., 2009). Unfortunately, there are few studies that focus on whether and how family control affects the dividend policy of listed companies.

La Porta et al. (1997, 1998, 2000a) incorporate the law into corporate governance research, and reveal the important impact of legal origins on investor protection and corporate governance. La Porta et al. (2000b) empirically find that stronger minority shareholder rights are associated with a higher dividend payout, which confirms the “outcome model” of dividends. Following this work, scholars have conducted in-depth cross-country studies on the relationship between the legal environment and corporate dividend policy (Faccio et al., 2001; Kalcheva and Lins, 2007; Bartram et al., 2008; Brockman and Unlu, 2009). This strand of literature can be termed as cross-country comparative analysis, and assumes that the differences in institutional environment across regions of the same country can be ignored. However, this assumption is clearly inconsistent with the reality in China, a large developing country with an economy in transition. In fact, a survey by Fan et al. (2007) and the World Bank (2006) concludes that there are large institutional gaps across Chinese provinces, including the process of marketization and the investment climate, due to regional differences in history, natural environment, regional development and social culture. In other words, the impact of differences in regional institutional environment on corporate behavior, including the dividend policy of listed companies, should not be simply ignored.

Inspired by these two streams of literature, we aim to determine the impact of family control, institutional environment and the interaction between them on the cash dividend policies of Chinese listed companies. This study is deeply embedded in the special background of China, where family businesses are playing an increasingly important role as a result of the reform of the initial public offering (IPO) regulations and the privatization of state-controlled listed companies (Xia, 2008). These changes mean that the impact of the external environment on the corporate behavior of listed companies is potentially greater in the emerging and transitional market of China than in Western countries. This study is significant in that it provides an important basis for improving the corporate governance of listed companies and promoting China’s market-oriented reforms.

This study makes three main contributions. First, from the perspective of family control, we provide new evidence of the impact of large shareholders on the cash dividend policy of listed companies. The literature both at home and abroad pays little attention to the relationship between family control and dividend policy, and this study thus presents some of the first evidence in this area. In addition, past studies on Chinese firms suggest that large shareholders have a strong motivation to distribute cash dividends so that they can turn untradeable shares into cash in this disguised form before their shares can be traded freely (Yuan, 2001; Chen et al., 2003; Chen et al., 2009; Lee and Xiao, 2004), and that dividend policy is designed to cater to the demands of large shareholders rather than minority shareholders (Huang and Shen, 2007). However, we document that as a specific type of controlling shareholder, family shareholders avoid paying high cash dividends, which suggests that large shareholders have heterogeneous preferences for dividend policy.

Second, we examine the governance effect of the regional institutional environment, thereby extending existing cross-country studies to encompass a more microscopic perspective. La Porta et al. (1997, 1998, 2000a,b) argue that differences in legal origins across countries have important effects on corporate behavior. Based on this logic, we investigate differences in regional institutional environments (including the process of marketization and the investment climate) in China, and their impact on the cash dividend policy of listed companies. We find that in China, the largest emerging and transitional country in the world, the quality of the regional institutional environment has a significant effect on the dividend policy of listed companies, which confirms and enriches the “outcome model” of dividends proposed by La Porta et al. (2000b).

Third, the literature ignores possible connections between different corporate governance mechanisms. Here, we incorporate family control and the institutional environment, which are internal and external governance mechanisms, respectively, into a unified analytical framework, thereby deepening our understanding of the interaction between different corporate governance mechanisms. The results show that family firms have a higher cash dividend payout ratio and propensity to pay dividends in better institutional environments, as a good institutional environment helps to weaken the “entrenchment effect” of family control and thus encourages family firms to distribute cash dividends. Our results indicate that a favorable external environment improves the effectiveness of internal corporate governance, suggesting a close interaction between internal and external corporate governance mechanisms.

## 2. Literature review and hypothesis development

### 2.1. Cash dividend policy and two kinds of agency problems

In the literature on corporate governance and dividend policies, researchers usually focus on two kinds of agency problems.<sup>2</sup> The traditional agency theory of dividend policy was developed by relaxing the assumption of no divergence between the interests of management and shareholders, which is one of the essential assumptions made by Miller and Modigliani (1961) in their “dividend irrelevance proposition.” The main idea behind this is that the existence of information asymmetry and the impossibility of complete contracting inevitably cause a conflict of interest between shareholders (the principal) and management (the agent) (Jensen and Meckling, 1976). Cash dividend payments reduce free cash flow and force management to enter the capital market for financing, thus exposing them to strict external monitoring by the market. Thus, cash dividends alleviate Agency Problem I (Rozeff, 1982; Easterbrook, 1984; Jensen, 1986). The traditional agency theory on dividend policy thus emphasizes the conflict of interest between managers and shareholders, and confines its research objectives to firms with dispersed ownership in just a few countries such as the United States and United Kingdom, consistent with the Berle and Means (1932) paradigm. However, with the rise of the “law and finance” paradigm, recent cross-country studies document that concentrated ownership by large controlling shareholders is the dominant form of ownership structure in most countries, and that the attendant Agency Problem II of expropriation by large shareholders is the main agency problem around the world (La Porta et al., 1999; Claessens et al., 2000; Faccio and Lang, 2002; Holderness, 2009). Several representative studies have been published within this context that show that strong investor protection laws help to encourage listed companies to distribute cash dividends and alleviate expropriation by insiders to some extent, thus protecting the interests of investors (La Porta et al., 2000b; Faccio et al., 2001; Kalcheva and Lins, 2007; Brockman and Unlu, 2009). Compared with the developed Western capital markets, China, as an emerging and transitional economy, has a long way to go to improve its regulation of listed companies. The literature indicates that the dividend policy of Chinese listed companies is deeply imbedded in the special institutional environment of China and is the result of the coexistence of both types of agency problems.

Quite a few studies by domestic researchers confirm that dividend payments can alleviate Agency Problem I, which is caused by excess free cash flow. Lv and Wang (2002) find that cash dividend payouts are negatively related to managerial ownership. They argue that the interests of management and shareholders converge as managerial ownership increases, thereby weakening the effect dividend payments have on reducing agency costs. Yang and Shen (2004) investigate the market reaction to cash dividend announcements and find that the payment of cash dividends can reduce agency costs in companies with more free cash flow. Liao and Wan (2005) reach a similar conclusion, that over-invested firms experience a larger price appreciation than under-invested firms around dividend increase announcement events, which indicates that agency theory is applicable in China. However, many other researchers argue that cash dividends may be used as an important vehicle for tunneling by large shareholders (Lee and Xiao, 2004). Before the reform of untradeable shares, a large proportion of the shares owned by large shareholders were untradeable, and dividend payments were one of the most important ways for large shareholders to obtain a return on their investment. In such circumstances, high dividend payments are more likely to benefit the interests of large shareholders rather than minority investors. For example, Yuan (2001) shows that controlling shareholders in China divert funds from firms through cash dividend payments, and that listed companies may waste the cash obtained from stock dividends rather than maximizing the interests of shareholders. A case study of Fo Shan Zhao Ming by Chen et al. (2003) documents that high cash dividends do not necessarily enhance a firm's value if the dividend policy leads to expropriation from minority shareholders. Lee and Xiao (2004) argue that controlling shareholders tend to give up subscription rights and use receipts from rights offerings to pay cash dividends, thereby essentially selling a portion of their untradeable shares to minority shareholders. Similarly, Chen et al. (2009) indicate that Chinese companies may use high dividend payments to divert the proceeds from an IPO or rights issue into the pockets of controlling shareholders, and their empirical results support this hypothesis.

The coexistence of two kinds of agency problems in Chinese listed companies leads to many anomalies in dividend policy. Li (1999) summarize several distinct characteristics of dividend policy in China, such as a low dividend payout ratio, an increasing number of non-payment firms, many forms of dividend payments, changeable and unstable dividend payouts and other irregular behavior. These anomalies have been roundly criticized for a long time, and have attracted attention from regulators, who have taken various measures to encourage listed companies to pay reasonable dividends to investors. There is no doubt that studies on the dividend policies of listed companies are a great challenge and an issue of practical importance, especially in China where the institutional environment is distinct and full of complex factors.

Corporate governance, which can be seen as a series of institutional arrangements to address the issues arising from the separation of ownership and control (Shleifer and Vishny, 1997), plays a critical role in corporate dividend policy. Several interesting questions on the relationship between family control and corporate governance present themselves, such as the impact of family control (an internal governance mechanism) and institutional environment (an external governance mechanism) on the dividend policy of listed companies, and the role, from the perspective of agency theory, that family

<sup>2</sup> Following Villalonga and Amit (2006), we refer to the classic owner–manager conflict described by Berle and Means (1932) or Jensen and Meckling (1976) as Agency Problem I and the controlling shareholder–minority shareholder conflict as Agency Problem II.

control and the institutional environment play in corporate governance. This study focuses on and provides a comprehensive analysis of these issues.

## 2.2. Family control and cash dividend policy

According to agency theory, two kinds of agency problems co-exist in family firms, which makes it difficult to draw conclusions about the theoretical relationship between family control and cash dividend policy.

In terms of Agency Problem I, family control seems to play two different roles. On one hand, family shareholders have a greater incentive to monitor managers and bring about more effective management, which is usually referred to as the “convergence effect.” Compared with other investors, family shareholders have a longer investment horizon and more undiversifiable investment risk (Anderson and Reeb, 2003a,b; Villalonga and Amit, 2006). As a result, family shareholders are more willing to focus on the company’s long-term performance and participate in company management, and their relatively concentrated ownership of the company ensures that they have a strong voice in the firm (Jensen and Meckling, 1976; Shleifer and Vishny, 1986). Family shareholders can thus alleviate agency conflicts between owners and managers either by serving as company leaders or by monitoring the managers.<sup>3</sup> However, family control may also intensify Agency Problem I, resulting in an “entrenchment effect.” Due to a lack of effective supervision, family shareholders, as the insiders in the company, may have increased access to the use of corporate resources, which increases agency costs and leads to low dividend payments. This phenomenon is particularly serious in family firms that go public through a reverse merger (also known as “back-door listing”). In addition, uncompetitive family members who occupy leading positions in family firms may also impair corporate efficiency, or even damage corporate value. In this case, family control may intensify the owner–manager conflict and exert a negative effect on dividend policy.

In terms of Agency Problem II, family shareholders may use their controlling position in the firm to extract private benefits at the expense of minority shareholders. Shleifer and Vishny (1997) argue that the main agency problem in most countries is the controlling shareholder–minority shareholder conflict, rather than the owner–manager conflict. Johnson et al. (2000) define the transfer of assets and profits out of firms for the benefit of their controlling shareholders as “tunneling,” which includes transfer pricing that is advantageous to controlling shareholders, excessive executive compensation, dilutive share issues and insider trading. In China, funds occupation, related party transactions and loan guarantees are the most common tunneling methods used by large shareholders. The tunneling behavior of controlling shareholders seriously harms the interests of minority shareholders, one consequence of which is lower dividend payments, because companies are unable to distribute high cash dividends when corporate resources are being used for other purposes. Faccio et al. (2001) suggest that the predominant form of ownership in East Asia is family control, and that companies have a lower payout ratio in Asia than in Europe because corporate insiders tend to choose to invest in projects with low or negative returns that give them opportunities for expropriation. The Research Center of Shanghai Stock Exchange (2005) points out that private listed companies in China are usually controlled by families, which run high moral risks in engaging in expropriation. Liu and Liu (2007) confirm this view, and find a close link between financial irregularities and expropriation in family firms in China.

Because of these dual agency conflicts, it is difficult to judge whether and how family control affects corporate dividend policy, which is largely an empirical question. Hu et al. (2007) and Cesari (2009) study listed companies in the United States and Italy, respectively, and find that the payout ratio of family firms is significantly lower than that of non-family firms. Conversely, Schmid et al. (2010) and Setia-Atmaja et al. (2009) reach the opposite conclusion, finding that family firms are more willing to pay dividends than other firms. In China, according to the statistics of Hu (2002), listed family firms pay significantly lower dividends than non-family firms. Similarly, Bradford et al. (2009) show that state-owned enterprises (SOEs) are more generous in their dividend payments than private companies. In the special institutional circumstances of China, SOEs have an advantage in procuring external financing and are subject to preferential policies because of the “soft budget constraint” (Lin and Li, 2004).<sup>4</sup> Relatively speaking, family firms and privately controlled firms in general in China pay lower dividends than SOEs, because the former are more constrained in obtaining external equity and debt, and *ceteris paribus*, depend more on internal equity to finance growth (Bradford et al., 2009). Based on this discussion, we propose Hypothesis 1 as follows.

**H1:** Cash dividends are lower among family firms than non-family firms.

## 2.3. Institutional environment and cash dividend policy

Compared with other corporate governance mechanisms, such as ownership structure, independent directors, information disclosure, independent auditors, market for executives and mergers and acquisitions market, the institutional environment is a more inherent governance mechanism (Xia and Fang, 2005). In recent years, a large number of cross-coun-

<sup>3</sup> Note that the “convergence effect” of family control may weaken the motivation of family firms to pay cash dividends. According to agency theory, cash dividend payment is an important means of reducing the owner–manager conflict (Easterbrook, 1984; Jensen, 1986). As family shareholders help to strengthen corporate management and the supervision of managers, family firms need to pay less cash dividends to reduce the costs of Agency Problem I.

<sup>4</sup> Lu and Yao (2004) point out that the non-state sector’s contribution to the GDP of China is more than 70%, yet surprisingly the non-state sector obtained less than 20% of the total official bank loans granted in the past few years, with the remaining 80% going to the state-owned sector.

try studies have confirmed that the external institutional environment determines the arrangement of corporate control rights and thus corporate behavior, including dividend policy. Testing a cross-section of 4000 companies from 33 countries with different legal origins, La Porta et al. (2000b) find that dividends are higher in common law rather than in civil law jurisdictions, which suggests that higher cash dividend payments are the “outcome model” of better legal protection of investors. This view is supported by a series of other cross-country studies. Faccio et al. (2001) report that listed companies pay higher dividends in Europe than in Asia, a phenomenon that they attribute to the stronger investor protection offered by European legislation. Bartram et al. (2008) find that investors in countries with better legal protection can use legal rights to obtain dividends to reduce agency costs. Kalcheva and Lins (2007) suggest that in countries with weak shareholder protection, the value of firms is higher when controlling managers pay dividends. Brockman and Unlu (2009) show that country-level creditor rights influence dividend policies around the world, with both the probability and amount of dividends paid out being significantly lower in countries with weaker creditor rights. They argue that the agency costs of debt play a more decisive role in determining dividend policies than the previously documented agency costs of equity.

These cross-country studies assume that regional differences in the institutional environment inside a country are insignificant. However, although this may be appropriate for a small country or a country with balanced regional development, it is unlikely to be applicable to China. China began its transition from a centrally planned system to a market economy in 1978, and the ensuing market-oriented reforms have resulted in decisive progress but also a widening regional disparity within the country (especially in terms of economic development in the southeastern coastal provinces versus the western regions). Some macroeconomic evidence confirms this view. There are huge differences in institutional environment across provinces in areas such as the process of marketization and investment climate that cannot simply be ignored (Fan et al., 2007; World Bank, 2006). If the legal origins of countries have a significant impact on corporate dividend policy (La Porta et al., 2000b), then from a more microscopic perspective we can expect that regional differences in the institutional environment within a country should also have a key effect on dividend policy.

According to the literature on law and finance, a favorable regional institutional environment helps to protect minority shareholders and encourages listed companies to distribute cash dividends. A possible explanation is that in regions with stronger investor protection, companies face more fierce market competition in terms of products, factors, labor and capital. Moreover, companies in better regional institutional environments are also supervised by relatively sound legal systems and monitored by more professional government agencies. The governance effect of the external environment works well in at least two respects. First, a favorable institutional environment monitors managers and encourages them to maximize corporate value. In a competitive market environment, managers must do their best to improve corporate management and economic performance just to survive and earn a good reputation, and companies must subject themselves to supervision by the market to prevent them from distributing excessive cash flow to shareholders (Easterbrook, 1984). Second, a favorable institutional environment reduces expropriation from minority shareholders and protects the interests of outside investors. In a good institutional environment with sound legal systems, tunneling behavior is effectively curbed, as the marginal costs of transferring profits to controlling shareholders greatly increase and expropriation is more likely to be exposed and punished. Furthermore, sound legal systems help to prevent self-dealing behavior, such as outright theft from the firm, excessive compensation, or the issuance of additional securities to management and their relatives (Shleifer and Vishny, 1997), thereby reducing the “entrenchment effect” created by insiders (including family shareholders).

Accordingly, a favorable regional institutional environment is expected to assist in mitigating the two kinds of agency problems and encourage companies to distribute excess cash flows to outside shareholders. In a sense, as an important external corporate governance mechanism, the institutional environment plays an essential and vital role in dividend policy and the protection of minority shareholders. However, in China, the positive effect of the institutional environment on cash dividends is probably weaker in SOEs than in family firms. In fact, the behavior of SOEs (including their dividend policy) is to a great extent determined by administrative orders from higher authorities or the needs of local government agencies.<sup>5</sup> In addition, the appointment and appraisal of managers in SOEs seems to be conducted through the structure of the administration. Undoubtedly, the governance effect of the market-oriented institutional environment on SOEs and their managers is weakened by administrative intervention, because neither market mechanisms nor the legal system work as effectively as in non-SOEs. The decisions of family firms are much more affected by the external institutional environment. Given these differences, we expect that all listed firms, and especially family firms, will be more willing to pay cash dividends in regions with a better institutional environment. Based on this theoretical analysis, we propose Hypotheses 2 and 3 as follows.

**H2:** The better the regional institutional environment, the higher the cash dividends of listed companies.

**H3:** The impact of the regional institutional environment on cash dividends is stronger in family firms than in non-family firms.

<sup>5</sup> For example, Chen et al. (2003) find that the high cash dividends paid for years by Fo Shan Zhao Ming were to a great extent determined by local government, rather than market behavior. In China, when the fiscal revenue of local governments is relative strained, listed companies controlled by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) are usually required to pay enormous cash dividends to prop up local governments, regardless of the high costs of doing so.

**Table 1**  
Variable definitions.

Variables	Symbol	Definitions
Propensity to pay cash dividend	Cdumdiv	Equals 1 if the company pays cash dividends, and 0 otherwise
Cash dividend payout ratio	Cpayout	Cash dividend per share divided by earnings per share
	Cdyield	Cash dividend per share divided by the year-end share price
Family control	Family	Equals 1 if the company is controlled by a family, and 0 otherwise
Institutional environment	Market	The marketization index provided by Fan et al. (2007), where the higher the value of the variable <i>Market</i> , the faster the process of regional marketization and the better the regional institutional environment
	Invest	The investment climate index, which is set to 6, 5, 4, 3, 2, and 1, respectively, according to the ranking of China's six regions by the World Bank (2006), where the higher the value of the variable <i>Invest</i> , the better the institutional environment of the provinces in a region
Firm size	Size	Natural logarithm of total assets
Financial leverage	Lev	Ratio of total debt to total assets
Profitability	Roa	Ratio of net income to total assets
Investment opportunities	Tobin's Q	Ratio of (stock price × number of tradable shares + net assets per share × number of non-tradable shares + book value of liability) to total assets
Cash holdings	Cash	Ratio of cash and cash equivalents to total assets
Maturity	Lnage	Natural logarithm of firm age since founding
SEO regulations	Dumroe	Equals 1 if the company's ROE is between 6% and 7%, and 0 otherwise
Year effects	Year	Four year dummy variables set for the five-year sample period
Industry effects	Ind	Twenty industry dummy variables are set according to the Industry Classification Standard announced by the CSRC, excluding the financial industry

### 3. Research design

#### 3.1. Sample selection and data sources

We choose all listed companies in the Chinese A-share market for the period 2004–2008 as the original sample. The sample selection process is as follows: (1) financial companies are excluded because of the special nature of the financial industry; (2) companies whose ultimate controllers are missing or not known are excluded; (3) first-year IPO firms are excluded to eliminate IPO effects; (4) loss companies that still pay dividends are excluded; (5) to minimize the influence of outliers, the top and bottom 1% of the continuous financial variables are winsorized. In total, we have 5463 firm-year observations from 1486 unique companies for the period 2004–2008. The financial data and corporate governance data are all obtained from the China Stock Market and Accounting Research (CSMAR) Database and the Wind.NET information terminal. The institutional environment indices are taken from Fan et al. (2007) and the World Bank (2006).

#### 3.2. Variables and models

##### 3.2.1. Variable descriptions

Table 1 contains summary descriptions of the variables used in the empirical analysis. Three sets of variables merit further explanation. The first set are the key dependent variables, which include the cash dividend payout ratio and propensity to pay dividends. Following Fama and French (2001) and DeAngelo et al. (2006), we use a dummy variable *Cdumdiv* to measure the probability of paying cash dividends. Specifically, *Cdumdiv* equals 1 if the company pays cash dividends, and 0 otherwise. We construct two measures of corporate payouts: cash dividend per share divided by earnings per share (*Cpayout*) and cash dividend per share divided by the year-end share price (*Cdyield*).

The second set of variables are the test variables, namely, *Family* and *Institutional Environment*. The dummy variable *Family* is employed to represent family control, and equals 1 if the company is controlled by a family, and 0 otherwise. Following Su and Zhu (2003), Ding et al. (2008), and Amit et al. (2009), we define a family firm as a firm whose largest ownership stake can be traced back to an individual, a family, or a team of co-founders or their family members. Family companies are identified according to the information on the ultimate controller in the CSMAR Database and corporate annual reports.

Following Amit et al. (2009), we employ two alternative measures of *Institutional Environment*. The first measure is the marketization index (*Market*), which is taken from the NERI Index of the Marketization of China's Provinces: 2006 Report (Fan et al., 2007). The report constructs a marketization index of Chinese provinces using principal components analysis based on five aspects: "relationship between government and market," "development of non-state-owned economy," "degree of product market development," "degree of element market development," and "development of market intermediaries and legal environment system." We also use the marketization index provided by Fan et al. (2007) as a proxy for institutional environment. The higher the value of *Market*, the faster the process of regional marketization and the better the regional institutional environment. As the marketization index is relatively stable for various regions and across years,

following Xia and Fang (2005) we use the regional marketization index for 2004 to represent the quality of the institutional environment of Chinese provinces over the sample period.<sup>6</sup>

The second measure of institutional environment is *Invest*, which is based on the World Bank (2006) ranking of 30 Chinese provinces according to their investment climate. Using a survey of 12,400 firms from 120 cities in China, the World Bank (2006) report determines investment climate by an index that captures the city's characteristics, local government efficiency and progress in constructing a harmonious society. Based on this index, the World Bank (2006) ranks China's regions from best to worst as follows: (1) Southeast (Jiangsu, Shanghai, Zhejiang, Fujian, and Guangdong), (2) Bohai (Shandong, Beijing, Tianjin, and Hebei), (3) Central (Anhui, Henan, Hubei, Hunan, and Jiangxi), (4) Northeast (Heilongjiang, Jilin, and Liaoning), (5) Southwest (Yunnan, Guizhou, Guangxi, Sichuan, Chongqing, and Hainan), and (6) Northwest (Shanxi, Shaanxi, Neimenggu, Ningxia, Qinghai, Gansu, and Xinjiang). The ranking does not include Tibet. Amit et al. (2009) argue that the ranking of investment climate can be viewed as a measure of regional institutional efficiency in China. Accordingly, for the aforementioned six regions, the variable *Invest* is set to 6, 5, 4, 3, 2, and 1, respectively. The higher the value of *Invest*, the better the institutional environment of the provinces in a region.

The third set of variables are the control variables. Following the literature on corporate payout policy (Fama and French, 2001; Denis and Osobov, 2008; Jensen et al., 1992; Fenn and Liang, 2001; John et al., 2008), we control for several firm characteristics in our empirical analysis: firm size (*Size*), financial leverage (*Lev*), profitability (*Roa*), investment opportunities (*Tobin's Q*), cash holdings (*Cash*) and maturity (*Lnage*). Additionally, we also control for industry and year effects by adding corresponding dummy variables. It is worth noting that the China Securities Regulatory Commission (CSRC) has strict rules for seasoned equity offerings (SEO) by listed companies, which could affect corporate dividend policy. For example, the "Administrative Measures on Securities Issues of Listed Companies" released by the CSRC on May 6, 2006 requires that a listed company shall not make an SEO unless its weighted average ROE in the three most recent fiscal years is not less than 6%. In this special context in China, a large number of listed companies pay cash dividends just to meet the requirements for raising additional capital in the stock market, as dividend distribution helps to increase their ROE. To control for listed companies' incentives to meet this regulatory threshold, we add a dummy variable *Dumroe* in our analysis. As the ROE is likely to be slightly larger than 6% if a company has tried to manipulate it by paying cash dividends, *Dumroe* is set to 1 if the company's ROE is between 6% and 7%, and 0 otherwise.<sup>7</sup>

### 3.2.2. Research models

There are two kinds of dependent variables in our empirical analysis: the dummy variable, *Cdumdiv*, and the continuous variables, *Cpayout* and *Cdyield*. Following Brockman and Unlu (2009), we employ the following logistic regression and Tobit regression models to test our hypotheses.

$$\text{Logit} (C\text{dumdiv}) = \alpha + \beta_1 \text{Family} + \beta_2 \text{Institutional Environment} + \sum_{i=3}^n \gamma_i CV_i + \varepsilon \quad (1)$$

$$\text{Tobit} (C\text{payout} | C\text{dyield}) = \alpha + \beta_1 \text{Family} + \beta_2 \text{Institutional Environment} + \sum_{i=3}^n \gamma_i CV_i + \varepsilon \quad (2)$$

$$\text{Logit} (C\text{dumdiv}) = \alpha + \beta_1 \text{Family} + \beta_2 \text{Institutional Environment} + \beta_3 \text{Family} \times \text{Institutional Environment} + \sum_{i=4}^n \gamma_i CV_i + \varepsilon \quad (3)$$

$$\text{Tobit} (C\text{payout} | C\text{dyield}) = \alpha + \beta_1 \text{Family} + \beta_2 \text{Institutional Environment} + \beta_3 \text{Family} \times \text{Institutional Environment} + \sum_{i=4}^n \gamma_i CV_i + \varepsilon \quad (4)$$

where  $\alpha$  is the intercept,  $\beta_i$  and  $\gamma_i$  are the regression coefficients of the test variables and the control variables, respectively, and  $\varepsilon$  is the residual error. We use the White (1980) adjustment to control for heteroskedasticity. The definitions of *Cdumdiv*, *Cpayout*, *Cdyield*, *Family*, and *Institutional Environment* are provided in Table 1, and *CV* includes all of the control variables presented in Table 1. Models (1) and (2) are used to examine Hypotheses 1 and 2 on the impact of family control and the institutional environment on the cash dividend policy of listed companies. In Models (3) and (4), the interaction term *Family*  $\times$  *Institutional Environment* is added to test Hypothesis 3 to examine whether the impact of the regional institutional environment on cash dividends is stronger in family firms than in non-family firms.

<sup>6</sup> The main reason why we do so is that Fan et al. (2007) provide data for the marketization index across various regions in China from 2001 to 2005 only. In robustness tests, we test the subsamples in 2004 and 2005 and our main results remain unchanged.

<sup>7</sup> An alternative method of setting *Dumroe* is used in the sensitivity analysis, where it is set to 1 if a company's ROE is between 5% and 7% (or 6% and 8%), and 0 otherwise. The results are similar to those presented here. We thank the anonymous referees for their helpful comments on this matter.

**Table 2**

Distribution of family firms during the period 2004–2008.

Year	2004	2005	2006	2007	2008	Total
Number of listed companies	1135	1199	1300	1314	1314	6321
Number of family firms	245	277	354	380	404	1660
Proportion of family firms	21.59%	23.10%	27.23%	28.92%	29.42%	26.26%

**Table 3**

Descriptive statistics.

	N	Mean	Median	Min.	Max.	SD	Q1	Q3
Cdumdiv	6321	0.46464	0.00000	0.00000	1.00000	0.49879	0.00000	1.00000
Cpayout	6320	0.22439	0.00000	0.00000	14.28571	0.47468	0.00000	0.36229
Cdyield	6321	0.00816	0.00000	0.00000	0.14523	0.01358	0.00000	0.01199
Family	6321	0.26262	0.00000	0.00000	1.00000	0.44009	0.00000	1.00000
Market	6321	7.35361	7.52000	1.55000	9.81000	1.88757	5.76000	9.36000
Invest	6281	4.29868	5.00000	1.00000	6.00000	1.75442	3.00000	6.00000
Size	6320	21.36687	21.31354	18.67574	24.76032	1.10339	20.65293	22.02584
Lev	6319	0.56996	0.53520	0.07706	3.01233	0.36582	0.39514	0.65999
Roa	6321	0.04678	0.04880	-0.35481	0.32077	0.09158	0.02359	0.08390
Tobin's Q	6320	1.50635	1.20033	0.79457	6.55881	0.88119	1.04098	1.59415
Cash	5956	0.13141	0.10787	0.00171	0.51056	0.10094	0.05943	0.17635
Lnage	6316	2.36386	2.39790	0.00000	3.91202	0.36962	2.07944	2.63906
Dumroe	6321	0.05695	0.00000	0.00000	1.00000	0.23177	0.00000	0.00000

## 4. Empirical results and analysis

### 4.1. Descriptive statistics

The distribution of family firms during the period 2004–2008 is reported in Table 2. Note that the proportion of family firms has followed an upward trend in the past five years. In 2004, the proportion of family companies in the Chinese A-share market was about 21.6%, which increased to 29.4% by the end of 2008. This proportion of family firms in China is close to the 34% for the US S&P500 index (Anderson and Reeb, 2003a), but is lower than the 44.3% for Western Europe and 40% for East Asia (Faccio and Lang, 2002; Claessens et al., 2000). There is no doubt that family firms are playing an increasingly important role and have become an integral part of the Chinese capital market.

Table 3 shows descriptive statistics of the variables used in our analysis. The mean of *Dumdiv* is 46.5%, indicating that about half of the listed companies in China pay cash dividends. *Cpayout* is 22.4% on average, indicating that less than a quarter of net profit is used to pay cash dividends. The mean of *Cdyield* is only 0.8%, which means that the cash dividend yield is significantly lower than the one-year fixed deposit rate (about 2–4%). Overall, this analysis indicates that the cash dividend payout ratio and propensity to pay dividends of Chinese listed companies is low. Table 3 also shows large differences in the quality of the institutional environment across the various regions of China. For example, the maximum and minimum scores for the marketization index (*Market*) are 9.81 and 1.55, the former being about six times higher than the latter. Similarly, the descriptive statistics for investment climate (*Invest*) across regions show obvious differences. In short, it is clear that the institutional environment across China's provinces is very uneven, and cannot be ignored when researching the cash dividend policy of listed companies.

### 4.2. Group tests

To further investigate how family control and the institutional environment influence the cash dividend policy of listed companies, we conduct a group test (*t*-test) by splitting the sample into four subgroups (see Table 4).<sup>8</sup> The results of the group test provide statistical support for all of the hypotheses. Specifically, family firms pay more cash dividends than non-family firms, listed companies registered in regions with a better institutional environment pay more cash dividends, and the impact of the regional institutional environment on cash dividends is stronger in family firms than in non-family firms.

Taking the group test of *Cdumdiv* in Panel A of Table 4 as an example, in the High *Market* (Low *Market*) subgroup, the proportion of cash dividend payers in family firms is about 43.3% (24.9%), whereas the proportion of non-family firms that pay dividends is 57.0% (45.9%), the latter figure being 1.32 (1.84) times higher than the former. This analysis shows that non-family firms and firms located in a favorable regional environment are more willing to pay cash dividends, and that the better the regional institutional environment, the smaller the differences in cash dividend payments between family firms and

<sup>8</sup> We also use a non-parametric test (the Mann–Whitney rank sum test) and obtain similar results.



**Table 4**  
Group tests of cash dividend policy (difference in means tests).

	Marketization index ( <i>Market</i> )			Investment climate ( <i>Invest</i> )		
	High	Low	High vs. low <i>t</i> -test	High	Low	High vs. low <i>t</i> -test
<i>(A) Group test of Cdumdiv</i>						
Family firms	0.433 (N = 823)	0.249 (N = 837)	8.065***	0.424 (N = 907)	0.242 (N = 732)	7.886***
Non-family firms	0.570 (N = 2102)	0.459 (N = 2559)	7.632***	0.552 (N = 2526)	0.461 (N = 2116)	6.202***
Total	0.532 (N = 2925)	0.407 (N = 3396)	9.986***	0.518 (N = 3433)	0.405 (N = 2848)	9.045***
Family vs. non-family <i>t</i> -test	-6.768***	-10.933***		-6.647***	-10.647***	
<i>(B) Group test of Cpayout</i>						
Family firms	0.184 (N = 823)	0.094 (N = 837)	5.027***	0.188 (N = 907)	0.080 (N = 732)	5.910***
Non-family firms	0.284 (N = 2102)	0.231 (N = 2558)	3.582***	0.274 (N = 2526)	0.234 (N = 2115)	2.635***
Total	0.256 (N = 2925)	0.197 (N = 3395)	4.916***	0.251 (N = 3433)	0.195 (N = 2847)	4.668***
Family vs. non-family <i>t</i> -test	-5.524***	-6.952***		-4.945***	-7.148***	
<i>(C) Group test of Cdyield</i>						
Family firms	0.007 (N = 823)	0.003 (N = 837)	7.764***	0.007 (N = 907)	0.003 (N = 732)	8.041***
Non-family firms	0.010 (N = 2102)	0.009 (N = 2559)	3.090***	0.010 (N = 2526)	0.009 (N = 2116)	2.765***
Total	0.009 (N = 2925)	0.007 (N = 3396)	5.267***	0.009 (N = 3433)	0.007 (N = 2848)	5.435***
Family vs. non-family <i>t</i> -test	-6.140***	-10.850***		-6.192***	-10.828***	

Notes: *N* is the number of observations.

\* Significance at the 10% levels (two-tailed).

\*\* Significance at the 5% levels (two-tailed).

\*\*\* Significance at the 1% levels (two-tailed).

non-family firms. Analogous results hold for the *Invest* subgroups in Panels B and C of Table 4. Overall, the group tests on cash dividend policy provide initial support for our hypotheses.

#### 4.3. Correlation analysis

Table 5 presents the correlation matrix of the main variables. *Market* is strongly correlated with *Invest*, with an average correlation coefficient of about 0.90, indicating a high consistency between the two proxy variables for institutional environment. To control for multicollinearity, *Market* and *Invest* are examined separately in our regression analysis. The proxy variables for cash dividend policy, *Cdumdiv*, *Cpayout* and *Cdyield*, are negatively correlated with *Family* at the 1% level and positively correlated with *Market* and *Invest* at the 1% level, which are consistent with Hypotheses 1 and 2. Additionally, *Cdumdiv*, *Cpayout* and *Cdyield* are significantly correlated with the main control variables *Size*, *Lev*, *Roa*, *Tobin's Q*, *Cash*, *Lnage* and *Dumroe*. The correlations between the test variables and the control variables are all less than 0.40, which means that multicollinearity is not a concern for the regression analysis.

#### 4.4. Regression results

In this section, we report the results of the regression analysis. Table 6 reports the logistic regression and Tobit regression results for the full sample. Consistent with Hypothesis 1, the regression coefficient of *Family* is significantly negative at the 1% level in all six regressions, confirming that family firms have a lower cash dividend payout ratio and propensity to pay dividends than non-family firms in China. We argue that this provides new evidence on the impact of large shareholders on corporate cash dividend policy. Past studies by domestic researchers suggest that large shareholders have a strong motivation to distribute cash dividends so that they can turn untradeable shares into cash in this disguised form before their shares can be traded freely (Yuan, 2001; Chen et al., 2003; Chen et al., 2009; Lee and Xiao, 2004). However, the results of this study document that family shareholders are a particular type of controlling shareholder that tend to avoid paying high cash dividends. In other words, the relationship between large shareholders and corporate dividend policy cannot be generalized. Our empirical results suggest that different kinds of large shareholders have heterogeneous preferences for corporate dividend policy.

According to Table 6, *Market* and *Invest* are positively and significantly associated with *Cdumdiv*, *Cpayout*, and *Cdyield* at the 1% level in all of the regressions, indicating that a favorable institutional environment has a positive impact on corporate cash dividend policy, which verifies Hypothesis 2. At the national level, La Porta et al. (2000b) find that legal origin has a significant impact on corporate dividend policy, and that a higher cash dividend payment is the “outcome model” of better legal protection of investors. However, their cross-country study ignores differences in the regional institutional environment inside a country, something this study contributes beyond their work. We confirm and enrich the “outcome model” of dividends proposed by La Porta et al. (2000b) from a more microscopic perspective by investigating the impact of regional differences in institutional environment on corporate dividend policy in China. We find that the institutional environment (the process of marketization and the investment climate) affects corporate decision making.

**Table 5**  
Correlation matrix.

	Cdumdiv	Cpayout	Cdyield	Family	Market	Invest	Size	Lev	Roa	Tobin's Q	Cash	Lnage	Dumroe
Cdumdiv		0.939***	0.939***	-0.149***	0.111***	0.117***	0.390***	-0.237***	0.500***	-0.082***	0.240***	-0.178***	0.086***
Cpayout	0.507***		0.950***	-0.171***	0.117***	0.122***	0.340***	-0.259***	0.418***	-0.117***	0.225***	-0.184***	0.088***
Cdyield	0.645***	0.484***		-0.167***	0.108***	0.114***	0.393***	-0.249***	0.498***	-0.183***	0.221***	-0.193***	0.082***
Family	-0.149***	-0.108***	-0.147***		0.042***	0.047***	-0.251***	0.072***	0.001	0.149***	-0.086***	0.084***	-0.012
Market	0.123***	0.066***	0.073***	0.035***		0.912***	0.093***	-0.034***	0.064***	-0.027**	0.113***	0.163***	0.021
Invest	0.122***	0.057***	0.074***	0.025**	0.882***		0.088***	-0.038***	0.067***	-0.033***	0.098***	0.100***	0.022*
Size	0.390***	0.148***	0.333***	-0.257***	0.096***	0.087***		0.099***	0.245***	-0.372***	0.060***	-0.033***	0.014
Lev	-0.236***	-0.145***	-0.176***	0.121***	-0.011	-0.024*	-0.172***		-0.218***	-0.032**	-0.303***	0.147***	-0.036***
Roa	0.396***	0.135***	0.308***	-0.035***	0.059***	0.052***	0.236***	-0.288***		0.204***	0.211***	-0.055***	0.037***
Tobin's Q	-0.092***	-0.086***	-0.193***	0.140***	-0.005	-0.016	-0.339***	0.291***	0.108***		0.027**	0.132***	-0.033***
Cash	0.207***	0.104***	0.128***	-0.062***	0.113***	0.101***	0.003	-0.252***	0.222***	0.084***		-0.141***	0.039***
Lnage	-0.178***	-0.096***	-0.174***	0.072***	0.143***	0.067***	-0.047***	0.157***	-0.063***	0.137***	-0.122***		-0.026**
Dumroe	0.086***	0.035***	0.047***	-0.012	0.018	0.023*	0.013	-0.047***	0.023*	-0.035***	0.022*	-0.021*	

Notes: The upper half is the Pearson correlation matrix and the lower half is the Spearman rank correlation matrix.

\* Significance at the 10% levels (two-tailed).

\*\* Significance at the 5% levels (two-tailed).

\*\*\* Significance at the 1% levels (two-tailed).

**Table 6**  
Regression results for the full sample.

	<i>Logit (Cdumdiv)</i>		<i>Tobit (Cpayout)</i>		<i>Tobit (Cdyield)</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
Family	-0.340*** (-4.12)	-0.323*** (-3.92)	-0.097*** (-5.71)	-0.092*** (-5.41)	-0.003*** (-4.57)	-0.003*** (-4.33)
Market	0.145*** (7.42)		0.029*** (7.19)		0.001*** (6.04)	
Invest		0.141*** (7.02)		0.029*** (6.88)		0.001*** (5.84)
Size	0.924*** (19.79)	0.923*** (19.83)	0.127*** (16.82)	0.127*** (16.89)	0.007*** (19.47)	0.007*** (19.71)
Lev	-3.202*** (-15.41)	-3.191*** (-15.36)	-0.613*** (-15.10)	-0.612*** (-15.13)	-0.025*** (-15.61)	-0.025*** (-15.57)
Roa	19.580*** (18.60)	19.581*** (18.68)	2.285*** (19.54)	2.289*** (19.68)	0.157*** (24.55)	0.157*** (24.65)
Tobin's Q	-0.414*** (-5.18)	-0.421*** (-5.33)	-0.085*** (-6.81)	-0.087*** (-7.04)	-0.007*** (-12.42)	-0.007*** (-12.75)
Cash	1.747*** (4.34)	1.829*** (4.53)	0.383*** (5.12)	0.392*** (5.25)	0.013*** (4.31)	0.014*** (4.41)
Lnage	-1.067*** (-10.18)	-1.024*** (-9.80)	-0.180*** (-8.67)	-0.171*** (-8.32)	-0.008*** (-9.05)	-0.007*** (-8.83)
Dumroe	0.786*** (5.82)	0.800*** (5.87)	0.166*** (6.65)	0.168*** (6.72)	0.007*** (6.70)	0.007*** (6.77)
Year and Ind Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	-17.094*** (-17.00)	-16.713*** (-16.64)	-2.144*** (-12.46)	-2.068*** (-12.012)	-0.119*** (-15.79)	-0.116*** (-15.50)
$\chi^2$	1094.58	1101.80				
F			58.09	58.79	51.86	51.17
Pseudo R <sup>2</sup>	0.340	0.339	0.232	0.232	-0.343	-0.340
N	5950	5912	5949	5911	5950	5912

Notes: The *t*-values are adjusted using the heteroskedasticity adjustment approach of White (1980).

\* Significance at the 10% levels (two-tailed).

\*\* Significance at the 5% levels (two-tailed).

\*\*\* Significance at the 1% levels (two-tailed).

**Table 7**  
Regression results for subsamples.

	<i>Logit (Cdumdiv)</i>			<i>Tobit (Cpayout)</i>			<i>Tobit (Cdyield)</i>		
	(1)		$\chi^2$ test	(2)		$\chi^2$ test	(3)		$\chi^2$ test
High	Low	High		Low	High		Low		
<i>(A) Sample split by market</i>									
Family	-0.212* (-1.83)	-0.502*** (-4.07)	2.92*	-0.057** (-2.57)	-0.146*** (-5.46)	6.48**	-0.001 (-1.43)	-0.005*** (-5.07)	9.32***
Size	0.969*** (14.47)	0.878*** (13.31)	0.94	0.114*** (11.73)	0.141*** (11.92)	3.28*	0.006*** (14.37)	0.007*** (13.69)	4.88**
Lev	-3.651*** (-11.76)	-2.921*** (-9.68)	2.84*	-0.667*** (-12.07)	-0.595*** (-9.37)	0.73	-0.026*** (-12.24)	-0.026*** (-9.93)	0.00
Roa	18.633*** (12.14)	21.113*** (14.16)	1.34	1.918*** (11.67)	2.649*** (15.30)	9.37***	0.140*** (16.82)	0.175*** (17.71)	7.47***
Tobin's Q	-0.362*** (-3.69)	-0.514*** (-3.99)	0.89	-0.097*** (-6.81)	-0.079*** (-3.63)	0.51	-0.006*** (-10.24)	-0.007*** (-7.59)	0.51
Cash	0.963* (1.73)	2.683*** (4.41)	4.37**	0.209** (2.22)	0.593*** (4.88)	6.22**	0.006* (1.66)	0.021*** (4.05)	5.23**
Lnage	-1.043*** (-6.96)	-1.027*** (-6.85)	0.01	-0.155*** (-5.83)	-0.199*** (-6.07)	1.08	-0.007*** (-6.25)	-0.008*** (-5.98)	0.49
Dumroe	0.741*** (3.80)	0.816*** (4.13)	0.07	0.151*** (5.83)	0.171*** (4.63)	0.15	0.006*** (4.58)	0.007*** (4.59)	0.18
	(4)			(5)			(6)		
<i>(B) Sample split by invest</i>									
Family	-0.168 (-1.56)	-0.531*** (-3.97)	4.37**	-0.046** (-2.16)	-0.160*** (-5.34)	9.85***	-0.001 (-0.87)	-0.007*** (-5.34)	16.00***
Size	0.993*** (16.54)	0.848*** (12.55)	2.31	0.127*** (12.90)	0.136*** (10.24)	0.32	0.007*** (17.66)	0.007*** (13.02)	0.02
Lev	-3.587*** (-12.10)	-2.814*** (-8.49)	3.14*	-0.686*** (-12.59)	-0.569*** (-7.92)	1.82	-0.027*** (-12.48)	-0.025*** (-8.64)	0.22
Roa	19.025*** (17.00)	21.094*** (16.02)	0.93	1.999*** (12.18)	2.715*** (12.71)	8.71***	0.142*** (20.55)	0.181*** (19.87)	8.63***
Tobin's Q	-0.339*** (-3.60)	-0.531*** (-4.54)	1.27	-0.080*** (-4.99)	-0.093*** (-4.22)	0.23	-0.006*** (-8.55)	-0.008*** (-8.23)	3.21*
Cash	1.137** (2.24)	3.088*** (4.90)	5.32**	0.238** (2.60)	0.644*** (5.07)	6.48**	0.008** (2.33)	0.021*** (4.20)	3.86**
Lnage	-0.969*** (-7.11)	-1.040*** (-6.21)	0.11	-0.155*** (-6.22)	-0.193*** (-5.36)	0.76	-0.007*** (-6.99)	-0.008*** (-5.42)	0.31
Dumroe	0.624*** (3.53)	0.949*** (4.70)	1.39	0.140*** (4.14)	0.189*** (4.51)	0.98	0.006*** (4.44)	0.007*** (4.36)	0.53

Notes: The industry and year dummies, intercepts and explanatory power of the regression models are not reported due to space limitations.

\* Significance at the 10% levels (two-tailed).

\*\* Significance at the 5% levels (two-tailed).

\*\*\* Significance at the 1% levels (two-tailed).

**Table 8**  
Family control, institutional environment and cash dividend policy.

	Logit ( <i>Cdumdiv</i> )		Tobit ( <i>Cpayout</i> )		Tobit ( <i>Cdyield</i> )	
	(1)	(2)	(3)	(4)	(5)	(6)
Family	-0.859** (-2.50)	-0.873*** (-3.84)	-0.317*** (-4.53)	-0.264*** (-5.44)	-0.013*** (-4.85)	-0.010*** (-5.51)
Market	0.126*** (5.55)		0.022*** (4.59)		0.001*** (3.32)	
Family × Market	0.068 (1.57)		0.029*** (3.25)		0.001*** (3.86)	
Invest		0.110*** (4.76)		0.021*** (4.20)		0.001*** (3.11)
Family × Invest		0.122*** (2.62)		0.037*** (3.82)		0.002*** (4.26)
Size	0.925*** (19.79)	0.925*** (19.83)	0.128*** (16.88)	0.128*** (16.95)	0.007*** (19.53)	0.007*** (19.77)
Lev	-3.210*** (-15.43)	-3.214*** (-15.44)	-0.618*** (-15.15)	-0.620*** (-15.24)	-0.025*** (-15.69)	-0.026*** (-15.73)
Roa	19.592*** (18.60)	19.630*** (18.67)	2.274*** (19.42)	2.278*** (19.57)	0.157*** (24.51)	0.157*** (24.62)
**Tobin's Q	-0.414*** (-5.18)	-0.424*** (-5.36)	-0.086*** (-6.85)	-0.088*** (-7.12)	-0.007*** (-12.42)	-0.007*** (-12.80)
Cash	1.764*** (4.37)	1.847*** (4.57)	0.385*** (5.13)	0.390*** (5.22)	0.013*** (4.32)	0.014*** (4.38)
Lnage	-1.051*** (-10.00)	-1.001*** (-9.58)	-0.173*** (-8.35)	-0.164*** (-7.97)	-0.007*** (-8.67)	-0.007*** (-8.45)
Dumroe	0.776*** (5.75)	0.782*** (5.74)	0.162*** (6.52)	0.163*** (6.55)	0.006*** (6.56)	0.007*** (6.58)
Year and Ind	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	-17.005*** (-16.91)	-16.662*** (-16.57)	-2.108*** (-12.26)	-2.050*** (-11.92)	-0.117*** (-15.64)	-0.115*** (-15.41)
$\chi^2$	1090.72	1097.20				
F			56.19	56.84	50.12	49.56
Pseudo R <sup>2</sup>	0.341	0.340	0.234	0.234	-0.345	-0.342
N	5950	5912	5949	5911	5950	5912

Notes: The *t*-values are adjusted using the heteroskedasticity adjustment approach of White (1980).

\* Significance at the 10% levels (two-tailed).

\*\* Significance at the 5% levels (two-tailed).

\*\*\* Significance at the 1% levels (two-tailed).

The financial characteristic variables *Size*, *Roa* and *Cash* have a positive impact on cash dividend policy, whereas *Lev*, *Tobin's Q* and *Lnage* have a negative effect. As expected, the regression coefficient of *Dumroe* is significantly positive at the 1% level in all of the regressions, indicating that listed companies have a strong motivation to pay cash dividends to meet the requirement for SEOs.

We next split the full sample into two subsamples according to the quality of regional institutional environment to form a High-Market (High-Invest) subsample and a Low-Market (Low-Invest) subsample. We then study the impact of family control on corporate cash dividend policy in these different institutional environments and report the results in Table 7.

Table 7 shows that family control in China has a negative effect on cash dividend policy across the subsamples. However, this negative effect is particularly strong when the regional institutional environment is relatively poor, with the regression coefficients of *Family* having smaller absolute values and a lower significance level in the High-Market and High-Invest subsamples. The  $\chi^2$  tests show that the differences in the regression coefficients of *Family* in each of the two subsamples are statistically significant at the 10% level in all of the regressions. This empirical research on the subsamples not only verifies the results of the group tests, but also shows that the impact of family control on cash dividend policy is affected by the external institutional environment. To be specific, a favorable regional institutional environment plays a positive role in corporate governance by encouraging listed companies to distribute cash dividends and by weakening the negative impact of family control. However, family control has a decisive influence on corporate cash dividend policy when the regional institutional environment is poor.

Table 8 shows the empirical results for the models that test Hypothesis 3. *Market* and *Invest* are significantly positively correlated with all of the dependent variables, again confirming the "outcome model" of dividends. Similar to Table 6, the regression coefficient of *Family* is significantly negative in the various regressions. The main focus is on the interaction term *Family × Institutional Environment*, which serves to investigate the role that the regional institutional environment plays in the relationship between family control and corporate cash dividend policy. Except for regression (1), the regression coefficients of *Family × Market* and *Family × Invest* are positive at a statistical significance level of 1% in all of the regressions. The results are robust across the two measures of institutional environment, indicating that the impact of regional institutional environment on cash dividends is stronger for family firms than for non-family firms, thus confirming Hypothesis 3. In other words, the favorable institutional environment helps to promote listed companies, and especially family firms, to distribute cash dividends. Moreover, the empirical results for the interaction term *Family × Institutional Environment* also reveal the governance effect of the external environment on the effectiveness of internal family control, showing that there are close connections across different corporate governance mechanisms, which are ignored in many previous studies. We argue that although China's emerging and transitional market is not yet mature, with the promotion of market-oriented reforms and improvement of the external environment, a favorable institutional environment is playing an increasingly important role in corporate governance and is becoming a strong driving force regulating corporate behavior and improving the capital market.

**Table 9**

Level of funds occupation and cash dividend policy: test of the roles of family control and institutional environment.

	<i>Logit (Cdumdiv)</i>			<i>Tobit (Cpayout)</i>			<i>Tobit (Cdyield)</i>		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Family	-0.334*** (-3.03)	-0.394*** (-3.60)	-0.376*** (-3.43)	-0.091*** (-3.88)	-0.101*** (-4.38)	-0.097*** (-4.15)	-0.003*** (-3.19)	-0.003*** (-3.60)	-0.003*** (-3.44)
Accratio	-9.395*** (-8.86)	-20.284*** (-4.87)	-13.935*** (-5.37)	-2.136*** (-9.22)	-5.202*** (-5.69)	-3.628*** (-6.08)	-0.086*** (-9.03)	-0.204*** (-5.03)	-0.137*** (-5.41)
Family × Accratio	1.287 (0.66)	12.789** (2.39)	3.868 (0.96)	0.273 (0.58)	1.732 (1.19)	0.414 (0.33)	0.012 (0.69)	0.060 (1.06)	0.006 (0.14)
Market		0.101*** (3.89)			0.015*** (2.91)			0.000** (2.00)	
Market × Accratio		1.396*** (2.66)			0.391*** (3.47)			0.015*** (3.05)	
Family × Accratio × Market		-1.397** (-2.01)			-0.165 (-0.95)			-0.005 (-0.75)	
Invest			0.106*** (3.97)			0.017*** (3.09)			0.001** (2.51)
Invest × Accratio			0.989* (1.81)			0.322*** (2.67)			0.011** (2.16)
Family × Accratio × Invest			-0.408 (-0.51)			0.002 (0.01)			0.002 (0.29)
Size	0.820*** (17.23)	0.799*** (16.51)	0.797*** (16.50)	0.108*** (14.22)	0.101*** (13.05)	0.101*** (13.12)	0.006*** (17.34)	0.006*** (16.38)	0.006*** (16.57)
Lev	-2.693*** (-11.81)	-2.686*** (-11.65)	-2.666*** (-11.51)	-0.532*** (-12.01)	-0.514*** (-11.60)	-0.513*** (-11.58)	-0.022*** (-12.66)	-0.021*** (-12.24)	-0.021*** (-12.19)
Roa	19.145*** (17.71)	19.132*** (17.39)	19.199*** (17.32)	2.075*** (16.95)	2.038*** (16.53)	2.047*** (16.66)	0.151*** (23.10)	0.150*** (22.75)	0.151*** (22.86)
Tobin's Q	-0.372*** (-4.56)	-0.375*** (-4.55)	-0.385*** (-4.68)	-0.075*** (-5.89)	-0.074*** (-5.83)	-0.076*** (-6.04)	-0.006*** (-11.81)	-0.006*** (-11.78)	-0.006*** (-12.11)
Cash	1.781*** (4.28)	1.562*** (3.71)	1.655*** (3.93)	0.351*** (4.69)	0.320*** (4.27)	0.330*** (4.44)	0.012*** (3.93)	0.011*** (3.61)	0.012*** (3.74)
Lnage	-0.832*** (-7.95)	-0.925*** (-8.74)	-0.880*** (-8.35)	-0.129*** (-6.29)	-0.142*** (-6.94)	-0.133*** (-6.56)	-0.006*** (-6.99)	-0.006*** (-7.42)	-0.006*** (-7.19)
Dumroe	0.718*** (5.31)	0.725*** (5.29)	0.734*** (5.33)	0.148*** (5.99)	0.147*** (6.00)	0.148*** (6.05)	0.006*** (6.13)	0.006*** (6.14)	0.006*** (6.17)
Year and Ind	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$\chi^2$	1063.13	1099.22	1098.70						
F				54.81	52.15	52.26	48.46	45.90	45.21
Adj. R <sup>2</sup>	0.355	0.362	0.360	0.250	0.257	0.256	-0.360	-0.365	-0.361
N	5924	5924	5886	5923	5923	5885	5924	5924	5886

Notes: The *t*-values are adjusted using the heteroskedasticity adjustment approach of White (1980). The intercepts are not reported due to space limitations.

\* Significance at the 10% levels (two-tailed).

\*\* Significance at the 5% levels (two-tailed).

\*\*\* Significance at the 1% levels (two-tailed).

**Table 10**  
Overhead expense ratio and cash dividend policy: test of the roles of family control and institutional environment.

	<i>Logit (Cdumdiv)</i>			<i>Tobit (Cpayout)</i>			<i>Tobit (Cdyield)</i>		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Family	-0.121 (-0.88)	-0.172 (-1.26)	-0.163 (-1.21)	-0.044 (-1.58)	-0.046* (-1.66)	-0.045* (-1.66)	-0.002* (-1.66)	-0.002* (-1.79)	-0.002* (-1.83)
Msr	-4.258*** (-6.48)	-2.569 (-1.18)	-1.672 (-1.25)	-0.862*** (-6.47)	-1.122** (-2.27)	-0.650** (-2.15)	-0.039*** (-6.85)	-0.029 (-1.44)	-0.019 (-1.51)
Family × Msr	-2.803* (-1.95)	-8.278** (-2.17)	-8.649*** (-3.14)	-0.581** (-1.99)	-2.581*** (-3.04)	-2.230*** (-3.57)	-0.015 (-1.29)	-0.104*** (-3.07)	-0.085*** (-3.47)
Market		0.147*** (4.69)			0.020*** (3.30)			0.001*** (3.11)	
Market × Msr		-0.238 (-0.78)			0.034 (0.52)			-0.001 (-0.50)	
Family × Msr × Market		0.755* (1.66)			0.251*** (2.68)			0.011*** (3.05)	
Invest			0.158*** (4.78)			0.025*** (3.82)			0.001*** (3.59)
Invest × Msr			-0.608* (-1.83)			-0.046 (-0.68)			-0.005 (-1.59)
Family × Msr × Invest			1.381*** (2.71)			0.358*** (3.33)			0.016*** (3.69)
Size	0.850*** (18.00)	0.825*** (17.15)	0.826*** (17.20)	0.118*** (15.42)	0.110*** (14.17)	0.110*** (14.26)	0.006*** (18.03)	0.006*** (17.07)	0.006*** (17.30)
Lev	-3.342*** (-15.00)	-3.357*** (-14.81)	-3.357*** (-14.76)	-0.664*** (-15.40)	-0.646*** (-15.00)	-0.645*** (-15.01)	-0.027*** (-15.79)	-0.026*** (-15.37)	-0.026*** (-15.37)
Roa	19.777*** (18.21)	19.778*** (17.88)	19.853*** (18.08)	2.153*** (17.52)	2.108*** (17.04)	2.117*** (17.28)	0.156*** (23.80)	0.154*** (23.44)	0.155*** (23.68)
Tobin's Q	-0.378*** (-4.54)	-0.380*** (-4.49)	-0.391*** (-4.66)	-0.074*** (-5.86)	-0.074*** (-5.84)	-0.077*** (-6.11)	-0.006*** (-11.92)	-0.006*** (-11.87)	-0.006*** (-12.29)
Cash	1.692*** (4.09)	1.494*** (3.58)	1.579*** (3.77)	0.361*** (4.77)	0.337*** (4.49)	0.346*** (4.62)	0.012*** (3.96)	0.012*** (3.76)	0.012*** (3.85)
Lnage	-0.933*** (-8.89)	-1.009*** (-9.51)	-0.959*** (-9.10)	-0.157*** (-7.58)	-0.166*** (-8.01)	-0.157*** (-7.66)	-0.007*** (-8.19)	-0.007*** (-8.41)	-0.007*** (-8.20)
Dumroe	0.774*** (5.77)	0.761*** (5.65)	0.774*** (5.70)	0.160*** (6.42)	0.157*** (6.33)	0.158*** (6.40)	0.006*** (6.57)	0.006*** (6.50)	0.006*** (6.56)
Year and Ind	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$\chi^2$	1067.32	1086.94	1092.26						
F				55.02	51.60	52.09	49.08	46.12	45.79
Adj. R <sup>2</sup>	0.344	0.351	0.351	0.236	0.243	0.243	-0.348	-0.352	-0.350
N	5935	5935	5897	5935	5935	5897	5935	5935	5897

Notes: The *t*-values are adjusted using the heteroskedasticity adjustment approach of White (1980). The intercepts are not reported due to space limitations.

\* Significance at the 10% levels (two-tailed).

\*\* Significance at the 5% levels (two-tailed).

\*\*\* Significance at the 1% levels (two-tailed).

#### 4.5. Further analysis of family control and institutional environment

The foregoing empirical results suggest that family firms pay less cash dividends than non-family firms, and that a favorable regional institutional environment helps to encourage family firms to distribute cash dividends. This raises two questions that deserve further attention. The first is why family firms are more reluctant to pay cash dividends, and the second is how the institutional environment influences the dividend policy of family firms. To answer these questions, we attempt to uncover the motivation behind the cash dividend policy of family firms from the perspective of Agency Problems I and II, and further investigate the role of the institutional environment in these problems.

There are two possible explanations for the low cash dividend payment of family firms based on agency theory. From the perspective of Agency Problem II, family shareholders may use their controlling position to extract private benefits, like any other large shareholder. Such tunneling behavior destroys corporate value and leads to low cash dividend payments. In China, occupying funds is considered to be one of the most prevalent tunneling methods used by large shareholders (Jiang and Yue, 2005). We thus explore whether family control intensifies Agency Problem II and reduces cash dividend payments from the perspective of funds occupation.<sup>9</sup> The other possible explanation relates to Agency Problem I. In reality, controlling family shareholders, acting as insiders, may freely squander corporate wealth due to a lack of effective supervision, and the occupation of leading positions by unserviceable family members usually reduces corporate efficiency. Thus, family control may increase the costs of Agency Problem I and result in low cash dividend payments.

Following the literature on corporate governance, we investigate the impact of family control on the two kinds of agency conflicts, and thus cash dividend policy, by using the variables *Accratio* and *Msr* to measure the level of funds occupation by large shareholders and the overhead expense ratio of the company, respectively. *Accratio* is a proxy for Agency Problem II, and is measured as other accounts receivables over total assets.<sup>10</sup> *Msr*, which is a proxy for Agency Problem I, is measured as overhead expense over prime operating revenue.<sup>11</sup> We expect that, if family shareholders intensify Agency Problem II (I) relative to other large shareholders, then family control strengthens the negative relationship between the level of funds occupation (overhead expense ratio) and cash dividend payments.<sup>12</sup> We then empirically test the role that agency conflicts and the institutional environment play in the relationship between family control and cash dividend policy, and present the results in Tables 9 and 10.

Table 9 shows that *Accratio* is negatively associated with cash dividend payments (*Cdumdiv*, *Cpayout*, and *Cdyield*), but that family control does not strengthen this association, as the regression coefficients of the interaction term (*Family* × *Accratio*) are not significant. This indicates that a high level of funds occupation does not provide a sufficiently powerful explanation for the relatively passive cash dividend policy of family firms. Note that a favorable institutional environment helps to alleviate the negative effect of funds occupation on cash dividend payments, as the regression coefficients of *Market* × *Accratio* and *Invest* × *Accratio* are significantly positive at the 10% level in all models. However, this corporate governance effect of the institutional environment does not differ between family firms and non-family firms, because the signs of *Family* × *Accratio* × *Market* and *Family* × *Accratio* × *Invest* are insignificant. Clearly, it is possible that the institutional environment exerts a positive impact on the payout policy of family firms by some means other than by lowering the costs of Agency Problem II.

Table 10 presents evidence that the cost of Agency Problem I (*Msr*) is negatively related to the cash dividend payout ratio and propensity to pay dividends, and that family control enhances this negative relationship, as the regression coefficients on *Family* × *Msr* are significantly negative at the 10% level in almost all of the regressions. Remarkably, these results mean that family control does not necessarily bring about positive governance, but rather intensifies Agency Problem I and has a negative impact on corporate dividend policy. In addition, although a favorable institutional environment cannot mitigate the negative effect of the costs of Agency Problem I on cash dividend policy for all companies, because the regression coefficients of *Market* × *Msr* and *Invest* × *Msr* are all insignificant, it does have an outstanding governance effect on family firms, as the coefficient on *Family* × *Msr* × *Market* and *Family* × *Msr* × *Invest* are all significantly positive.

We argue that controlling family shareholders in China may intensify Agency Problem I rather than Agency Problem II, and have a significant negative impact on cash dividend policy, whereas a favorable regional institutional environment plays a positive role in corporate governance in helping to mitigate Agency Problem I and encouraging family firms to pay cash dividends.

<sup>9</sup> Although there are certain limitations in investigating Agency Problem II in family firms from just this perspective, it is unrealistic for this study to examine all possible kinds of tunneling by large shareholders.

<sup>10</sup> Jiang and Yue (2005) find that funds occupation is an important way for large shareholders to tunnel funds away from minority shareholders, noting that funds occupation by large shareholders is usually the main component of other accounts receivables. Following Jiang and Yue (2005), Xia (2008) and Wang et al. (2009), we employ the level of other accounts receivables as the proxy for Agency Problem II in China.

<sup>11</sup> Ang et al. (2000) adopt the expense ratio (operating expenses scaled by annual sales) and the asset utilization ratio (annual sales divided by total assets) as proxies for the costs of Agency Problem I. However, Song and Han (2005) and Zhang et al. (2008) argue that the expense ratio is not closely related to agency costs, and use the overhead expense ratio and asset utilization ratio as measurements. Note that the asset utilization ratio is to some extent determined by the size of firm, operational risk and industry characteristics, among others, whereas the overhead expense ratio captures managerial efficiency relative to non-pecuniary compensation and perquisites. We thus employ the overhead expense ratio as the proxy for the costs of Agency Problem I. The top and bottom 1% of *Accratio* and *Msr* are winsorized to minimize the influence of outliers.

<sup>12</sup> In fact, the group test results show that the mean (median) of *Accratio* is 0.125 (0.038) and 0.064 (0.021) for family firms and non-family firms, respectively. Moreover, the mean (median) of *Msr* is 0.178 (0.081) for family firms and 0.111 (0.070) for non-family firms. In other words, the level of funds occupation by large shareholders and the overhead expense ratio are both higher in family firms than in non-family firms.

**Table 11**

Two characteristics of ultimate control rights in family firms, non-family control and cash dividend policy.

	N	Cdumdiv	Cpayout	Cdyield
<i>(A) Descriptive statistics (mean)</i>				
(1) Famboard	892	0.41816	0.17277	0.00605
(2) NonFamboard	768	0.24869	0.09881	0.00338
(3) Dlist	816	0.45343	0.19288	0.00667
(4) NonDlist	837	0.23178	0.08675	0.00305
(5) Non-Family	4661	0.50912	0.25497	0.00936
<i>(B) Statistical tests</i>				
t-Test	(1) vs. (5)	-4.988***	-4.577***	-6.480***
	(2) vs. (5)	-13.619***	-8.368***	-11.137***
	(3) vs. (5)	-2.937***	-3.307***	-5.037***
	(4) vs. (5)	-15.110***	-9.420***	-12.289***

\* Significance at the 10% levels (two-tailed).

\*\* Significance at the 5% (two-tailed).

\*\*\* Significance at the 1% (two-tailed).

We next turn to two characteristics of the ultimate control rights of family shareholders to further analyze the two kinds of agency conflicts in family firms: whether family members participate in management (*Famboard* and *NonFamboard*)<sup>13</sup> and whether a family firm is listed by IPO (*Dlist* and *NonDlist*).<sup>14</sup> Table 11 reports the main descriptive statistics and results of the *t*-tests. According to agency theory, firms managed by family members or listed by IPO should have a lower Agency Problem I but a higher Agency Problem II. Table 11 shows that cash dividends are lower for all four types of family firms relative to non-family firms. In particular, the cash dividends of family firms that are not managed by family members (*NonFamboard*) or that go public through a reverse merger (*NonDlist*) are less than half those of non-family firms. Comparatively speaking, there are smaller differences in payout policies between family firms managed by family members (*Famboard*) or listed by IPO (*Dlist*) and non-family firms. These results suggest that family control does not sharply reduce cash dividend payments in family firms that face Agency Problem II, that is, *Famboard* and *Dlist* firms, and further that paying cash dividends is not a priority for family firms confronted with Agency Problem I, that is *NonFamboard* and *NonDlist* firms.

In short, Table 11 confirms our earlier finding that Agency Problem I rather than Agency Problem II has a greater negative impact on the corporate cash dividend policy of family firms. From the perspective of agency theory, somewhat surprisingly, the “entrenchment effect” due to the role of insiders, which in family firms constitute controlling family shareholders, rather than the role of tunneling, explains why family firms have a more passive cash dividend policy than non-family firms.<sup>15</sup>

#### 4.6. Robustness tests

In this section, we conduct several robustness tests.<sup>16</sup> First, we use an alternative definition of family firms. Our main empirical analysis is based on a definition of family firms that does not require a minimum threshold for family ownership. In accordance with Miller et al. (2007), Maury (2006) and La Porta et al. (1999), we also employ stricter definitions of family firms that require controlling family shareholders to hold at least 5%, 10% or 20% of the ownership of the company, respectively, and our main results remain unchanged. Second, we use an alternative institutional environment index. Fan et al. (2007) report the regional marketization index for China's provinces up to 2005 only, so we use the index for 2005 to represent the institutional environment of various provinces over the sample period. The results are robust. Additionally, following Amit et al. (2009), we use the dummy variable *Genv* to measure regional institutional efficiency, which equals 1 if the value of *Market (Invest)* of the province in which the firm is headquartered is high, and 0 if it is low. We repeat all of the regressions and find that the results are consistent with the main results. Third, we re-analyze the subsamples by running the regressions only on subsamples from 2004 and 2005 because of the missing regional marketization index after 2006, and obtain consistent results. Fourth, we conduct panel data analysis to control for the impact of unobservable factors on the cash dividend policy of listed companies. We adopt unbalanced panel data models to estimate the logistic and Tobit regressions, and our main results do not change. Fifth, we use an alternative method to control for the incentive to meet reg-

<sup>13</sup> In fact, the chairman and vice-chairmen of a company do manage daily operations in China (Research Center of Shanghai Stock Exchange, 2005). We thus consider them and managers to be company leaders. If one or more family members hold a leading position in a family firm, then *Famboard* equals 1, and 0 otherwise. However, if no family members hold a leading position in a family firm, then *NonFamboard* equals 1, and 0 otherwise. We hand collect this information from the annual reports of the listed companies, internet search engines such as Google and Baidu, and news reports.

<sup>14</sup> *Dlist* is set to 1 if the family firm is listed by IPO, and 0 otherwise. *NonDlist* is set to 1 if the family firm goes public through a reverse merger, and 0 otherwise. This data is collected from the CSMAR database and is selectively compared with the information disclosed in annual reports.

<sup>15</sup> Remarkably, agency theory does not fully explain why family firms are less willing to pay cash dividends, because the cash dividends of family firms managed by family members or listed by IPO are also significantly lower than those of non-family firms. Wei (2010) provides a possible explanation from the perspective of financing constraints, suggesting that family firms usually face higher financial constraints. Wei further explains why various types of family firms pay lower cash dividends than non-family firms, arguing that agency theory combined with the financial constraints hypothesis provides a relatively complete and reasonable explanation for the relatively passive dividend policy of family firms.

<sup>16</sup> Detailed results of the robustness tests are not reported due to space limitations.



ulatory thresholds. To control for the impact of CSRC regulations on cash dividend payments, we exclude 659 observations that involved an SEO in the period 2005–2009, and the results confirm our earlier findings. Finally, we address the endogeneity problem. Family firms are more likely to be located in the more advanced coastal areas of China, where firms have more investment opportunities and are inclined to invest, rather than distribute cash dividends. Obviously, this may also explain the lower cash dividend payments of family firms. To address this endogeneity problem, and following Amit et al. (2009), we use a two-stage approach to estimate several treatment effects models. In the first stage, a probit model is used to predict *Family* by regressing it on *Market (Invest)*, *Size*, *Roa*, *Lev*, *Tobin's Q*, *Cash*, *Lnage*, and *Dumroe*, to produce a new dummy *Fampredict* that denotes family control. In the second stage, we use *Fampredict* to substitute for *Family* in testing Hypothesis 1. The results show that *Fampredict* is negatively and significantly associated with *Cdumdiv*, *Cpayout*, and *Cdyield* at the 10% level in all of the regressions, indicating that our results are not driven by endogeneity.

## 5. Conclusion

As an internal corporate governance mechanism, family control plays an important role in corporate behavior, but the external institutional environment, such as the speed of marketization and the investment climate, also has a profound effect on company decisions. Using a sample of 1486 Chinese A-share listed companies for the period 2004–2008, this study empirically tests the impact of family control, institutional environment and their interaction on the cash dividend policy of listed companies. Our results show that family firms have a lower cash dividend payout ratio and propensity to pay dividends than non-family firms, and that a favorable regional institutional environment has a significant positive impact on the cash dividend payout ratio and the propensity to pay dividends of listed companies. We also document that the impact of the regional institutional environment on cash dividends is stronger in family firms than in non-family firms. Additionally, we find that controlling family shareholders in China seem to intensify Agency Problem I rather than Agency Problem II, which has a significant negative impact on cash dividend policy. In contrast, a favorable regional institutional environment plays a positive corporate governance role by helping to mitigate Agency Problem I and encouraging family firms to pay cash dividends.

This study has theoretical and practical significance for research on the corporate governance effects of family control and the external environment. The empirical results show that different kinds of large shareholders may have heterogeneous preferences for corporate cash dividend policy, with family shareholders avoiding paying high cash dividends, a favorite method of turning untradeable shares into cash among other types of large shareholders in China. Somewhat surprisingly, we also find that family control intensifies Agency Problem I rather than reducing it. This result is particularly relevant for future guidelines and regulation governing agency issues in family firms. Finally, we suggest that a high cash dividend payout is most likely the “outcome model” of a favorable regional institutional environment. This study thus provides important evidence to further promote marketization reforms and improve the regional institutional environment in China.

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