Accounting Conservatism – Does Ownership Structure Matter?

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Abstract

In this study, we link different ultimate ownership structures and firm characteristics with the use of conditional accounting conservatism. We consider how individual firm characteristics can be related to the equity market demand or managerial motivation for the use of accounting conservatism. To empirically investigate this relation we consider two types of ownership structures who ex-ante have different firm characteristics which influence the equity market demand and managerial motivation for accounting conservatism, namely state-controlled and family-controlled firms. Using a sample of both types of firms listed on Hong Kong Stock Exchange and stock market and accounting measures of accounting conservatism, we find that state-controlled firms are significantly less conservative, which is consistent with the managerial motivation rather than equity market demand for accounting conservatism. Our results indicate that ownership structure does matter for managers in adopting accounting conservatism and investors should take into account these firm characteristics and different ownership structures when interpreting accounting figures.

1. Introduction

This study examines managerial motivation/incentive in the implementation of conditional accounting conservatism (accounting conservatism or conservatism hereafter). Accounting conservatism is an approach many firms use to limit, as they see it, the amount of risk in their accounting information, such as distortions in incentive contracts and implementation of suboptimal decisions (Kwon, 2005). Basu (1997) describes that accounting conservatism requires a "higher degree of verification to recognize good news as gains than to recognize bad news as losses." It plays an important role in monitoring managers (Ball, 2001), bonding managers with other contracting parties (Ball, 2001; Basu, 1997), and disciplining internal information sources to ensure better management practices (Ball, 2001; Ball & Shivakumar, 2005; Francis & Martin, 2010).

The literature suggests that motivation for accounting conservatism is driven by a number of factors (see also Garcia Lara, Garcia Osma & Penalva, 2009a). Firstly, prior literature shows that equity market demand is a determinant of accounting conservatism, and accounting conservatism also has an endogenous component related to firms' equity reporting incentives (Dechow, Ge & Schrand, 2010). For example, as investors of private firms have more information channels besides accounting reports than public firms, private firms have less demand for accounting conservatism and exhibit less conservatism in their financial reporting than public firms (Ball & Shivakumar, 2005). Secondly, the equity demand for accounting conservatism is driven by agency conflicts. For example, different managerial ownership structures result in different agency costs of firms and thus different demand for conservatism (Lafond & Roychowdhury, 2008; Shuto & Takada, 2010). Thirdly, Ball, Robin and Wu (2003) find that East Asian countries, which share a common law origin but have lower firm reporting

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incentives, do not have more accounting conservatism than code law countries. Differences in accounting conservatism within regions with the same standards or legal origin suggests that accounting conservatism has an endogenous component related to firms' reporting incentives. Finally, Pae, Thornton and Welker (2005) find that firm-level price-to-book ratios are a determinant of accounting conservatism and that the negative association is correlated with the accrual component of earnings.

This study complements and extends the literature on the equity market demand for accounting conservatism and agency costs. Our study is motivated by the existing established conflicting incentives between the firm and its managers regarding financial reporting. For example, managers use financial reporting discretion to manage earnings downward or upward to manipulate equity market anticipation prior to management buyouts (Perry & Williams, 1994; Fischer & Louis, 2008).[1] Therefore in this paper we consider whether managerial incentives influenced by firm characteristics, which can deviate from the equity market demand for accounting conservatism, can also impact the implementation of accounting conservatism. To examine our research questions, we require firms which ex-ante have different firm characteristics that could influence managerial motivations in applying accounting conservatism, and firms in which managerial incentives can deviate from equity market demand for conservatism. We examine two types of listed firms with different controlling shareholders and argue that state- and family-controlled firms, are good candidates for our study. Firstly, state- and family-controlled firms are very different in important characteristics that determine managers' incentives in implementing accounting conservatism, such as the alignment of

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[1] Furthermore, managers have sufficient discretion, in expensing stock options, valuing inventory, estimating depreciation, bad debt and warranty expense, recognizing revenue, and adopting more or less conservative financial reporting under generally accepted accounting principles (Bagnoli & Watts, 2005).

interests between managers and shareholders (Anderson, Mansi & Reeb, 2003; LaFond & Roychowdhury, 2008), objectives from politician's desire versus business vision built by the founder of the family-controlled firm (Shleifer & Vishny, 1994; Chen, Chen & Cheng, 2008; Zellweger, Kellermanns, Chrisman & Chua2012), different incentives to extract the private benefits of control due to differences in capital invested appointment methods and social and political goals (Chen, Sun, Tang & Wu, 2011), the allocation of residual control rights (Hart, Shleifer & Vishny,1997), the effectiveness of management monitoring (Garcia Lara, et al., 2009b; Chen et al., 2008); and the tenure of managers (Ball, 2001; Zellweger et al., 2012).

Secondly, as equity ownership structure affects the manger-shareholder agency conflict (Connelly, Hoskisson, Tibanyi & Certo, 2010), the equity market demand for accounting conservatism is different for state- and family-controlled firms. For example, founding families in family controlled-firms are a special class of large shareholders that potentially have unique incentive structures. This unique incentive structure can alleviate agency conflicts between manager and shareholder (Anderson, et al., 2003; Zellweger, et al., 2012). On the contrary, the manager-shareholder agency conflicts are substantial in state-controlled firms. For example, managers in state-controlled firms have different investment incentives to reduce costs and to improve quality or innovate, because these managers are not the shareholders, and hence they do not get the full benefit of activities which increase the share price (Hart, et al., 1997).

Specifically, we link firm characteristics of state- and family-controlled firms to predictions of accounting conservatism based on the equity market demand and the managerial motivation. Further, we compare accounting conservatism in state-controlled firms versus family-controlled firms within an equivalent institutional environment in terms of legal system, accounting standards and economy and market development. We sample industrial firms listed

on the main board of Hong Kong Stock Exchange (HKSE). We manually collect ultimate firm ownership data and firms are categorized as state-controlled firms if the ultimate owner of the firm is the state or family-controlled if the ultimate owner is family. Hong Kong listed firms provide an appropriate experimental setting for our study for several reasons. Firstly, the presence of controlling shareholders is common for publicly listed firms in Hong Kong and the majority of the firms listed on Hong Kong Stock Exchange could be classified as family-controlled or state-controlled (e.g. Claessens, Djankov & Lang, 2000). Secondly, Hong Kong is in line with developed countries in terms of law, regulation and free market development and thus closer to efficient market theories than less developed countries.[2] For example, according to the criteria proposed by La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998), Hong Kong law is in the common law family and Hong Kong scores five out of six in the shareholder rights measures; the financial market, the corporate governance practice and accounting standards in Hong Kong are at a development level comparable to developed economies and contrast sharply with those in developing economies (Cheung, Connelly, Limpaphayom, & Zhou, 2007).[3] Thirdly, there is no tax imposed on dividends or capital gains in Hong Kong, which eliminates the influences of taxation on free cash distribution policy and on the equity market demand for accounting conservatism (Louis, Sun & Urcan, 2012). Therefore, examining a sample of firms listed on one stock exchange (in our case, Hong Kong Stock Exchange) alleviates the concern of the possible confounding effect of different regulations and institutions on equity market demand for accounting conservatism in family-controlled versus state-controlled firms.

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[2] This is important because the return-based timely loss recognition measures assume market efficiency (e.g. Dechow, et al., 2010).

[3]Some of our sample firms are cross-listed in the Mainland China but are subject to the same law and enforcement systems, regulations and institutions as other firms incorporated in Hong Kong. For example, they have to observe Chapter 19A in the HKSE Main Board Listing Rules designed especially for issuers incorporated in Mainland China (http://www.hkex.com.hk/eng/rulesreg/listrules/mbrules/vol1_2.htm).

We employ timeliness of earnings to news model (Basu, 1997) as the measurement of accounting conservatism which is well established as a measure in the literature. The regression results from the timeliness of earnings to news model show, with strong levels of significance, that family-controlled firms exhibit more conservatism than state-controlled firms. In addition, our result is robust to alternative measures of accounting conservatism, the inclusion of the common control variables such as taxation, firm size, firm leverage, and market-to-book ratio and industry fixed effect. We also conduct additional analysis on subsamples including only those firms whose financial statements follow the highest quality benchmarks and are audited by big four auditors, and obtain qualitatively similar results. Overall, our finding is consistent with the prediction based on the managerial motivation for accounting conservatism rather than the prediction based on the equity market demand for conditional conservatism.

The main implication of our results is that the extent of accounting conservatism is determined not only by legal systems, accounting standards (Ball, Kothari & Robin, 2000), equity/debt market demands for conservatism (Ball et al., 2003; Ball & Shivakumar, 2005; Peek, Cuijpers & Buijink, 2010), but also the ownership structure as this influences the managerial motivation to implement conservatism. Our findings on managerial motivation to implement conservatism determined by firm characteristics complements the view on preparers' incentives determined by equity market demand (demand-driven view) (Ball et al., 2003; Ball & Shivakumar, 2005; Lafond & Roychowdhury, 2008) in understanding the practice of conservatism. Therefore, it is necessary to consider the reactions of managers, based on the firm ownership structure and firm characteristics, in the implementation of accounting conservatism.

The paper proceeds as follows. Section 2 builds the theoretical framework. Section 3 describes the research design and Section 4 presents the results. Section 5 discusses the implication of our results and concludes the paper.

2. Theoretical Framework

2.1 Firm characteristics and accounting conservatism

The literature suggests that there are six key firm characteristics that can be related to accounting conservatism. These firm characteristics are 1) alignment of interests between controlling shareholders and managers (agency problems) or whether the interests between controlling shareholders and managers are less or more aligned; 2) allocation of residual control rights or who holds the residual control rights; 3) business vision held by managers or whether managers hold clear and consistent business vision as controlling shareholders; 4) firms' objective functions or whether managers pursue political objectives in addition to business objectives; 5) effectiveness of management monitoring or how effectively shareholders monitor managers; and 6) job tenure of managers. In the next section we examine the relation between these four of these six firm characteristics and the equity market demand for conservatism.

2.2 Firm characteristics and equity market demand for accounting conservatism

Four of these key characteristics that are closely related to the equity market demand for conservatism are alignment of interests between controlling shareholders and managers, firm objective functions, effectiveness of management monitoring and management tenure. Firstly, the more aligned interests between shareholders and managers imply less agency conflict, which in turn reduces the need for accounting conservatism to play the role in monitoring managers, disciplining asymmetric internal information sources and bonding managers and other

contracting parties. Therefore, the greater the alignment of interests between shareholders and managers, the lower the equity market demand for accounting conservatism. Secondly, if managers pursue multiple objectives or political objectives in addition to business objectives, firm value would possibly decline and the expropriation risk of minority shareholders or agency cost would rise, and thus investors would increase the demand for accounting conservatism in firms with multiple or political objectives.

Thirdly, the effectiveness of management monitoring is negatively associated with agency costs, because effective management monitoring results from adequate corporate governance (Garcia Lara et al., 2009), and thus is negatively related to the demand for conservatism. Fourthly, the tenure of managers is negatively associated with the equity market demand for conservatism. Because timely loss recognition decreases the ex-ante likelihood that managers undertake projects with negative net present values but passes on the projects' earnings consequences to a subsequent generation of managers. And timely loss recognition also increases the incentive of the current generation of managers to incur the personal cost of abandoning investments and strategies that have ex post negative net present values (Ball, 2001). The second column in Panel A of Table 1 summarizes the relations between these four firm characteristics and the equity market demand for accounting conservatism.

<Insert Table 1 here>

2.3 State- and family-controlled firms and equity market demand for accounting conservatism

In this section we compare these four key characteristics of state-controlled firms with family-controlled firms[4] in order to develop predictions based on equity market demand for accounting conservatism. Family-controlled firms possess common core elements, such as pursuing the vision of the business, controlling ownership, family involvement in management, and potential of family succession (e.g., Anderson & Reeb, 2003; Setia-Atmaja, Tanewski & Skully, 2009; Zellweger et al., 2012).[5] In family-controlled firms, economic interests between managers and the controlling family are aligned/coupled because of high managerial ownership[6], lack of diversification and kinship bonding effect of a family and for listed family firms in well regulated and transparent markets reduces agency costs (Anderson & Reeb, 2003; Chen et al., 2008). Managers in state-controlled firms are generally appointed by government officials[7], and thus the interest between controlling shareholders and managers in state-controlled firms is less aligned than in family-controlled firms. One role of conservatism is to bond managers with other contracting parties (Basu, 1997; Ball, 2001), which can remedy the weakness, so investors can

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[4] There are some features of family-controlled firms that are related to accounting conservatism, such as family firms can be resource consuming (Schulze, Lubatkin, Dino & Buchholtz, 2001); family firms are more hesitant to invest in risky projects so can miss positive net present value opportunities (Barth, Gulbrandsen & Schønea, 2005); non-family firms are more innovative than family firms (Gomez-Mejia, Larraza-Kintana & Makri, 2003). We do not include these in our discussion because these features are also likely shared by state-controlled firms and thus will not change our argument.

[5] Our screening criteria for family-controlled firms are similar to those used in the literature (Anderson & Reeb, 2003; Setia-Atmaja et al., 2009). Specifically, in this study a firm is categorized as a family-controlled firm either if the firm satisfies the following three criteria at the same time that 1) the founding family is the largest controlling shareholder of the firms, holding (or through trust holding) a minimum of 5 percent of the ultimate control rights; 2) a member of the founding family takes the highest management position of the firm such as chairman of the board of directors or chief executive officer; and 3) at least another member of the founding family serves on the top management of the firm; or if the firm satisfies the criterion that a family, as controlling shareholder, holds more than 15 percent of the ultimate control rights of the firm so that the family maintains effective control to make important decisions, to determine the vision of the business and to pass the firm on to the next generation.

[6] Lafond and Roychowdhury (2008) suggest that managerial ownership has alignment effect and reduces the demand for accounting conservatism. Also, Shuto and Takada (2010) find that within the low and high levels of managerial ownership, managerial ownership has alignment effect and reduces the demand for accounting conservatism; but for the intermediate levels of managerial ownership, managerial ownership has entrenchment effect and increases the demand for accounting conservatism. In our family-controlled firms, managers are from the controlling family (see the screening criteria) and hold high stakes of shares. Therefore, the alignment effect leads to less demand for conservatism.

[7] In some state-controlled firms, managers do hold a certain amount of shares. However, managerial ownership stakes are relatively small and state-controlled firms are viewed to resemble firms with dispersed ownership (Gugler, 2003).

demand higher levels of accounting conservatism in state-controlled firms than in family-controlled firms.

Managers in state-controlled firms can have to carry out instructions from the government officials, which might aim at maximizing the wealth of the society, serving their political task, or maximizing official's personal interests (Zif, 1981; Shleifer, 1998). In short, state-controlled firms serve more objectives than family-controlled firms.[8] The career future of managers in state-controlled firms is determined to a large extent by the impression of their performance on government officials rather than by shareholders and labor market.[9] Conservatism in financial reporting might play a role of disciplining managers to reduce the asymmetry between information sources to ensure a better management practice (Ball, 2001; Ball & Shivakumar, 2005; Francis & Martin, 2010). Therefore, the demand for accounting conservatism is higher in state-controlled firms than in family-controlled firms.

The effectiveness of management monitoring is also different in state-controlled and family-controlled firms. Controlling shareholders in family-controlled firms have incentive, capacity and power to effectively control and monitor managers' activities (Fama and Jensen, 1983). In contrast, the controlling shareholder in state-controlled firms is the government (treasury) and the government's power or desire is delegated to government officials who have less incentive to monitor managers, and as a result government could not in essential play the

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[8] Here we do not mean family-controlled firms serve the sole objective of maximizing firm value. For example, family firms, especially those with a pyramidal structure, are likely subject to multiple objectives beyond firm profit maximization including guanxi, group survival and family control. However, in addition to the objectives mentioned above, state-controlled firms might serve other political objectives such as social welfare or other political purposes (Shleifer, 1998; Chen, Sun, Tang & Wu, 2011). In addition, state-controlled firms have to serve different government departments or various levels of government (Ding, Zhang & Zhang, 2008).
[9] Managers in state-controlled firms might hide negative inside information to give a good impression to government officials, sometimes promotion is still possible even when the firm or managers face lawsuits by minority shareholders.

role as a controlling shareholder in an effective sense (Boycko, Shleifer & Vishny, 1993). Hence, the less effective monitoring of management in state-controlled firms imply higher agency costs, and lead to higher demand for accounting conservatism to play a role in monitoring managers.

Mangers, CEOs in particular, in state-controlled firms have shorter tenure in general, because they are appointed by government officials, and their tenure is affected by various levels of the government and even the changes of individual officials. On the contrary, family-controlled firms are concerned about subsequent family generations and take the longer term view in strategic decisions. Hence CEO tenure in family-controlled firms is typically longer. Therefore, family-controlled firms have less equity demand for conservatism than state controlled firms because of longer tenure of their managers. The second column in Panel B of Table 1 summarizes the demand for conservatism in state-controlled firms in comparison to family-controlled. Based on the equity demand for conservatism due to the differences in alignment of interests, firm objectives, effectiveness of management monitoring and management tenure between state-controlled and family-controlled firms, more conservatism would be expected for state-controlled firms than family-controlled firms.

2.4 Firm characteristics and managerial motivations to implement accounting conservatism

The five key characteristics that are closely related to the manager motivation to implement conservatism are alignment of interests between shareholders and managers, allocation of residual decision rights, business vision held by managers, effectiveness of management monitoring and management tenure. Firstly, the alignment of interests measures how the economic interests of a firm are related to the economic interests of managers. In firms with high alignment of interests, and high quality financial reporting in particular, that can

benefit firm shareholder interests, would also increase managers' economic interests. Therefore in these firms managers would be more willing to implement accounting conservatism if firm owners decide to adopt conservatism, i.e. high alignment of interests would be positively associated with managerial motivations to implement conservatism.

Secondly, in financial reporting practice, the implementation of conservatism in particular, depends substantially upon creative/innovative activities of managers, because accounting standards do not address the details of practice, lag innovations, and need judgment in implementation (Ball et al., 2003). Managers holding the residual control rights have more incentives to conduct creative/innovative activities (Hart et al., 1997). Therefore, residual control rights would encourage them to actively implement conservatism when a firm decides to adopt conservatism, i.e. residual rights held by managers positively motivate managers to implement conservatism.

Thirdly, the firm business vision is usually established by firm owners. If managers always put firm business vision on a high priority in their agenda, this would suggest high alignment of objectives. In this case, managers would have more motivation to implement accounting conservatism when firm owners require them to do so, i.e. managers' positive attitude toward firms' business vision is positively related to the managerial motivation to implement conservatism.

Fourthly, Ball (2001) points out that the bonding effect of accounting conservatism, i.e. bonding the interests of managers and other contracting parties, is credible only if there are costs to managers of not complying with accepted accounting standards or only if there is an effective system of detection and enforcement. When firm owners can govern managers effectively,

managers' positive (negative) attitude or activity in implementing accounting conservatism would be encouraged (discouraged) in time. Hence, controlling shareholders' effective monitoring of management will result in successful implementation of controlling shareholders' decision, and thus effectiveness of management monitoring would be positively related to managers' motivation or practice to implement accounting conservatism if controlling shareholders decide to adopt conservatism. Fifthly, compared to managers with short tenure, managers with long tenure would take the longer term view in strategic decisions, and this can have a positive impact on timely recognition of losses for future improvement, which is consistent with conservative accounting. The third column in Panel A of Table 1 summarizes the relations between the five firm characteristics and managerial motivation to implement accounting conservatism.

2.5 State- and family-controlled firms and managerial motivation to implement accounting conservatism

We compare the five key characteristics relevant to managerial motivation to implement conservatism in state-controlled and family-controlled firms. In the discussion on the equity market demand for conservatism, we note that the interests between shareholders and managers are less aligned in state-controlled firms and managers in state-controlled firms are less effectively monitored. Therefore, managers have less motivation to implement conservatism in state-controlled firms than in family-controlled firms.

Managers in family-controlled firms hold residual control rights to make decisions in situations where contracts do not specify what has to be done and they also have the right to benefit from their innovative activities because of the coupling of ownership and management

and the bonding effect from the kinship between controlling shareholders and managers. In contrast, managers in state-controlled firms do not have the residual control right, which is viewed as the fundamental difference between private and public ownership (Hart et al., 1997). Therefore, managers in state-controlled firms lack the motivation to implement conservatism.

Managers in family-controlled firms are endowed with the responsibility to pursue the business vision established by the family and to pass the firm with the vision to the next generation. To serve this purpose as one of the top priorities, controlling shareholders/managers in family-controlled firms often try their best to build a good reputation of the firm and keep long-term relationship with business partners and investors even at the expenses, sometimes, of their own interests and short-term interests (Chen et al., 2008; Anderson & Reeb, 2003; Zellweger et al., 2012). On the contrary, managers in state-controlled firms are appointed by government officials and have to serve the political or social goals as assigned by the officials, and in the meanwhile, they look after their own economic interests while they are running the business. Hence, managers in state-controlled firms would have more consideration on political objectives or their own interests rather than firm's business vision and be reluctant to actively implement conservatism.

Finally, consistent with the argument about the relation between management tenure and equity market demand for conservatism in family-controlled compared to state-controlled firms, the longer management tenure in family-controlled firms indicates that managers would take a long term view on strategies and timely loss recognition, and have a strong motivation to implement conservatism. The third column in Panel B of Table 1 summarizes managerial motivation to implement conservatism in state-controlled firms versus family-controlled firms.

Based on the differences of managerial motivation to implement conservatism in alignment of interests, allocation of residual control rights, business vision held by managers, effectiveness of management monitoring and management tenure between state-controlled and family-controlled firms, more conservatism would be predicted for family-controlled firms than state controlled firms.

Table 1 shows the various predictions for the equity market demand and managerial motivations for accounting conservatism and how these predictions would be applied when we consider the characteristics of state- versus family-controlled firms. Clearly this analysis provides differing predictions. The equity market demand view predicts that state-controlled firms are more conservative than family-controlled firms and the managerial motivation view predicts that state-controlled firms are less conservative than family-controlled firms. Therefore, the research question in this paper is to specifically test which of these different predictions are consistent with the empirical evidence based on our sample of state-controlled and family-controlled firms listed in Hong Kong.[10]

3. Research Design

3.1 Measure of accounting conservatism

We adopt the timeliness of earnings to news (Basu, 1997) as the measure of accounting conservatism. This examines the extent of timeliness to which accounting income responds to good news (proxied by positive stock returns) versus bad news (proxied by negative stock

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[10] For example, due to numerous investor protection rules and regulations, investors in Hong Kong can be more alert to the potential agency problems in state-controlled firms, thus can demand more accounting conservatism in state-controlled firms in comparison to family-controlled firms. On the other hand, the low incentive to implement accounting conservatism by managers in state-controlled firms in comparison to family-controlled firms can reduce the extent of accounting conservatism.

returns). The piecewise linear regression is specified in Equation (1). The asymmetric

recognition of bad news relative to good news is captured by a positive β_3, the coefficient on

DR*R.

$$NI = \beta_0 + \beta_1 DR + \beta_2 R + \beta_3 DR * R + \varepsilon \tag{1}$$

where subscripts firm *i* and year *t* are omitted for simplicity. *NI* is the net income before

extraordinary items for firm i and year *t* deflated by the beginning-of-year market value, *R* is the

stock return for firm *i* over the fiscal year *t*, and *DR* is a dummy variable that equals 1 if *R* is less

than zero, and 0 otherwise.

Equation (2) is the basic timeliness of earnings to news model, augmented from Equation

(1), with no controls for the effects of other firm level variables. In Equation (2), *FAM* is a

dummy variable that equals 1 if firm *i* is family-controlled and 0 otherwise (state-controlled). A

positive β_7, the coefficient on *FAM*DR*R*, indicates that family-controlled firms exhibit higher

conservatism than state-controlled firms; that is, family-controlled firms have higher incremental

timeliness of earnings to bad news than to good news.

$$\begin{aligned} NI &= \beta_0 + \beta_1 DR + \beta_2 R + \beta_3 DR * R + \beta_4 FAM + \beta_5 FAM * DR \\ &+ \beta_6 FAM * R + \beta_7 FAM * DR * R + \varepsilon \end{aligned} \tag{2}$$

Equation (3) below is an extended timeliness of earnings to news model in which we control for

some important firm level variables: *TAX*, *SIZE*, *LEV* and *MB* that can be related to conservatism.

Taxation is an important factor related to conservatism (Watts, 2003) and the tax incentives may

differ in state-controlled and family-controlled firms. As state-controlled firms have the ultimate owner in the government they tend to be less tax sensitive or even opt for higher tax to serve the government's social or political goals (Chen, Chen, Lobo & Wang, 2010). In contrast, family-controlled firms focus more on maximizing family owner's value and thus reducing tax payments, for example by recognizing unrealized losses more quickly.

LaFond and Watts (2008) suggest three hypotheses on the relation between firm size and accounting conservatism. The political cost hypothesis predicts that larger firms will report more conservative earnings; and the income aggregation and information asymmetries hypotheses predict that larger firms will report less conservative earnings. To alleviate the potential effects from firm size we include firm size as a control variable.

The literature documents that accounting conservatism can mitigate conflict between shareholders and debt holders or can reduce agency costs between shareholders and debt holders. Further, firms with high leverage tend to have greater conflict between shareholders and debt holders and thus the debt holders are likely to demand more conservative accounting (Li, 2013; Haw, Lee & Lee, forthcoming). Therefore, we also use leverage to control for the potential effect of debt on accounting conservatism.

Firm market value reflects investor judgment on firm performance and is associated with past and future timeliness of loss recognition (e.g. LaFond & Roychowdhury, 2008). Hence, we

use the market-to-book ratio to control for the effect of the composition of equity value on

accounting conservatism. The expanded model including control variables is specified as follows:

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\begin{aligned}
NI \; = \; & \beta_0 + \beta_1 DR \; + \beta_2 R \; + \beta_3 DR * R + \beta_4 FAM \; + \beta_5 FAM * DR + \beta_6 FAM * R \\
& + \beta_7 FAM * DR * R + \beta_8 TAX \; + \beta_9 TAX * DR + \beta_{10} TAX * R + \beta_{11} TAX * DR * R \\
& + \beta_{12} SIZE \; + \beta_{13} SIZE * DR + \beta_{14} SIZE * R + \beta_{15} SIZE * DR * R + \beta_{16} LEV \\
& + \beta_{17} LEV * DR + \beta_{18} LEV * R + \beta_{19} LEV * DR * R + \beta_{20} MB + \beta_{21} MB * DR \\
& + \beta_{22} MB * R + \beta_{23} MB * DR * R + \varepsilon
\end{aligned}
\tag{3}
$$

where firm i and year t subscripts are omitted. *TAX* is the tax rate calculated as total tax expense

divided by pretax financial income at the end of the fiscal year t. The tax rate is set to zero for

firms with tax refunds and 100 percent for firms with positive tax expense and negative (or zero)

pretax financial income, so TAX is a continuous variable within the boundaries of 0 and 1. *SIZE*

is the natural logarithm of total assets at the end of the fiscal year t. *LEV* is debt divided by total

assets at the end of the fiscal year t. *MB* is calculated as the market value of equity divided by the

book value of equity at the end of the fiscal year t.[11]

3.2 Sample and data

We sample only HKSE firms with the classification of "General Industry" and exclude

financial, utility and transportation firms. We further obtain the industry sector code to control

for the possible industry fixed effect. We manually collect the ultimate ownership data to

identify both the state-controlled and family-controlled firms. Similar to the research method in

La Porta, Lopez-de-Silanes and Shleifer (1999), we follow the chain of ownership to identify a

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[11] As we are employing panel data analysis through all regressions in this study, we report *t*-statistics based on cluster-robust errors (Petersen, 2009; Gow, Ormazabal & Taylor, 2010).

firm's ultimate controlling shareholder (controlling shareholder hereafter), specifically the largest shareholder in the control chain with the absolute majority of voting rights and at least 5percent of the ultimate control rights. We also manually collect firm's main business address and place of registration. The financial and accounting data are obtained from Datastream.

4. Results

4.1 Descriptive statistics

Table 2 presents the descriptive statistics of the main variables and control variables in the timeliness of earnings to news model for state-controlled and family-controlled firms respectively, which is based on the firm-year observations for the fiscal years from 1997 to 2007.[12] There is insignificant difference in the mean of the net income (*NI*) between state-controlled and family-controlled firms but the median (0.083) of *NI* in family-controlled firms is marginally higher than the median (0.074) of *NI* in state-controlled firms. The mean (0.356) and median (0.157) of returns (*R*) in state-controlled firms are higher than the mean (0.258) and median (0.064) of *R* in family-controlled firms and the difference is statistically significant. The results show that state-controlled firms are in general more profitable and have better performance in the stock market, which is consistent with the finding that the benefits of political and personal ties with government and government officials outweigh the efficiency costs of state shareholdings (Calomiris, Fisman & Wang, 2010). For control variables, the test of mean

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[12] Starting from 2008, the State Administration of Taxation levies a 10% withholding tax on dividends paid to non-resident enterprises by Chinese firms, and Chinese firms cross-listed in Hong Kong started collecting the dividend tax accordingly. Our sample ends in 2007 to avoid the possible effects of the change in taxation on accounting conservatism.

indicates that the firm size of state-controlled firms is significantly larger than that of family-controlled firms, but there is no significant difference in the mean value between state-controlled and family-controlled firms in terms of taxation, market-to-book ratio and leverage, indicating that in general neither state-controlled firms nor family-controlled firms rely substantially more on debt market for finance.

<Insert Table 2 here>

4.2 Multivariate regression results

Table 3 presents the analysis results based on the timeliness of earnings to news measure as specified in Equation (2) and Equation (3). The column named Model 1 presents the result of the basic model and shows that the coefficient on *FAM*DR*R* is 0.519 ($p<0.01$), which implies that with strong significance, the earnings of the family-controlled firms reflect unexpected losses in a more timely manner than that of state-controlled firms (i.e., family-controlled firms are more conservative).

The column named Model 2 in Table 3 presents the results of the extended control model (Equation (3)). The coefficient on *FAM*DR*R* is 0.354 ($p<0.01$), so family-controlled firms again appear to reflect unexpected losses in a significantly timelier manner than state-controlled firms. Taken together, with the measure of timeliness of earnings to news, family-controlled firms exhibit, with strong statistical significance, more accounting conservatism than state-controlled firms, and the results are robust to the effects of four control variables. From the

perspective of equity market demand and the endogenous component related to firms' reporting

incentives, state-controlled firms would be more conservative than family-controlled firms,

which is opposite to the results. However, the prediction from the view of managerial

motivations determined by ownership structure characteristics is consistent with the results,

which implies that in addition to the equity market demand, the managerial incentive arising

from the heterogeneity of ownership structure is also an important determinant of conservatism.

While including four control variables reduce the value of the coefficient (from 0.519 to 0.354),

the statistical significance level ($p<0.01$) remains the same. Our findings provide strong support

for the argument that managerial incentives that influenced by the ultimate ownership structure

can also have impact on the implementation of accounting conservatism.

<Insert Table 3 here>

4.3 Robustness checks

4.3.1 Accrual-based loss recognition

We further test our results using the accrual-based measure (Ball & Shivakumar, 2005).

As specified in Equation (4) below, the accounting conservatism is identified by the significantly

positive coefficient on *DCFO*CFO*.

$$ACC = \beta_0 + \beta_1 DCFO + \beta_2 CFO + \beta_3 DCFO * CFO + \varepsilon \qquad (4)$$

where subscripts firm *i* and year *t* are omitted. *ACC* is net income before extraordinary items

minus operating cash flows for firm *i* in fiscal year *t* deflated by beginning-of-year total assets.

CFO is operating cash flows for firm *i* in fiscal year *t* deflated by beginning-of-year total assets.

DCFO is a dummy variable that equals 1 if *CFO* is less than zero, and 0 otherwise.

Equation (5) is the basic accrual-based loss recognition model developed from Equation (4) to test our results. If family-controlled firms exhibit greater accounting conservatism, then accruals can in a more timely manner reflect negative cash flows or losses for family-controlled firms than for state-controlled firms, and thus we expect that β_7, the coefficient on *FAM*DCFO*CFO*, is positive.

$$
\begin{aligned}
ACC = {} & \beta_0 + \beta_1 DCFO + \beta_2 CFO + \beta_3 DCFO*CFO + \beta_4 FAM + \beta_5 FAM*DCFO \\
& + \beta_6 FAM*CFO + \beta_7 FAM*DCFO*CFO + \varepsilon
\end{aligned} \tag{5}
$$

Equation (6) below is an extended accrual-based loss recognition model with control factors.

$$
\begin{aligned}
ACC = {} & \beta_0 + \beta_1 DCFO + \beta_2 CFO + \beta_3 DCFO*CFO + \beta_4 FAM + \beta_5 FAM*DCFO \\
& + \beta_6 FAM*CFO + \beta_7 FAM*DCFO*CFO + \beta_8 TAX + \beta_9 TAX*DCFO \\
& + \beta_{10} TAX*CFO + \beta_{11} TAX*DCFO*CFO + \beta_{12} SIZE + \beta_{13} SIZE*DCFO + \beta_{14} SIZE*CFO \\
& + \beta_{15} SIZE*DCFO*CFO + \beta_{16} LEV + \beta_{17} LEV*DCFO + \beta_{18} LEV*CFO + \beta_{19} LEV*DCFO*CFO \\
& + \beta_{20} MB + \beta_{21} MB*DCFO + \beta_{22} MB*CFO + \beta_{23} MB*DCFO*CFO + \varepsilon
\end{aligned} \tag{6}
$$

where firm *i* and year *t* subscripts are omitted and all variables are as previously defined.

<Insert Table 4 here>

Table 4 presents the results using the accrual-based measure (Ball & Shivakumar, 2005). The column named Model 1 in Table 4 presents the results from the basic model of equation (5) and shows that the coefficient on *FAM*DCFO*CFO* is 0.598 ($p<0.1$), which suggests that

family-controlled firms accrue significantly more unrealized losses in the cash-loss year than state-controlled firms. The column named Model 2 presents the results of the extended model including *TAX*, *SIZE*, *LEV* and *MB* as control variables, as specified in equation (6). Model 2 shows that the coefficient on *FAM*DCFO*CFO* is 0.882 (*p*<0.05), indicating that family-controlled firms still appear to accrue significantly more unrealized losses in the cash-loss year than state-controlled firms. In general, with the measure of accrual-based loss recognition, family-controlled firms exhibit significantly more accounting conservatism than state-controlled firms, and the results are robust to the effects of the control factors.

Ball and Shivakumar (2005) further suggest an alternative specification of accrual-based measure. For the alternative accrual-based measure, we replace *CFO* and *DCFO* in equation (5) and equation (6) with *ΔCFO* (change in cash from operations between period *t*-1 and *t*, standardized by total assets at end of period *t*-1) and *DΔCFO* (a dummy variable that takes the value of 1 if change in cash flow is negative, and 0 otherwise) respectively. In Table 5, the column named Model 1 presents the result of the basic model with alternative specification and shows that the coefficient on *ΔCFO* is -0.401 (p<0.01), consistent with previous literature (Ball & Shivakumar 2005); and that the coefficient on *FAM* DΔCFO *ΔCFO* is 0.919 (p<0.01), which implies that with strong significance, family-controlled firms accrue more negative changes in cash flows than state-controlled firms. The column named Model 2 presents the results of the alternative specification of accrual-based regression including *TAX*, *SIZE*, *LEV* and *MB* as control variables. It shows in Model 2 that the coefficient on *FAM* DΔCFO *ΔCFO* is

0.881 (p<0.01), indicating that family-controlled firms still appear strongly significantly to accrue more negative changes in cash flows than state-controlled firms. Taken together, with the measure of alternative specification accrual-based model, family-controlled firms exhibit with strong significance more accounting conservative than state-controlled firms, and the results are robust to adding control variables. Again, our empirical findings are consistent with the managerial motivation view on implementation of accounting conservatism.

<Insert Table 5 here>

We also conduct analysis using the persistence of earnings changes measure (Basu, 1997). The regression model is specified as follows:

$$\Delta NI_t = \beta_0 + \beta_1 D\Delta NI_{t-1} + \beta_2 \Delta NI_{t-1} + \beta_3 D\Delta NI_{t-1} * \Delta NI_{t-1} + \varepsilon \qquad (7)$$

where firm i subscripts are omitted. ΔNI_t (ΔNI_{t-1}) is the change in net income before extraordinary items for firm i in fiscal year t (t-1) scaled by beginning-of-year total assets; and $D\Delta NI_{t-1}$ is a dummy variable that equals 1 if ΔNI_{t-1} is less than 0, and 0 otherwise. Non-negative slopes reflect persistence in income changes and negative slopes indicate transitory components of accounting income. β_2 measures the persistence of positive income changes and β_3 measures the incremental persistence of negative income changes. $\beta_3 < 0$ implies more transitory incorporation of economic losses in accounting income. The un-tabulated result shows that family-controlled firms exhibit more conservative (more negative coefficient) than state-controlled firms, but the difference is not statistically significant. Ball et al. (2003) point out that the method of the persistence of earnings changes itself is only a necessary condition of timely

loss recognition. The transitory income decreases in state-controlled firms may arise from income manipulation by managers because of weak monitoring of management. Given the consistent results using the other three measures, we find in general that family-controlled firms are more accounting conservative than state-controlled firms, supporting the prediction based on managerial motivation to implement conservatism. The different ownership structures in state-controlled and family-controlled firms would affect their managers' incentives in implementing the accounting conservatism.

4.3.2 Control for accounting standards and industry fixed effect

To consider the influence of differences in accounting standard and qualification of auditors (Firth, Mo & Wong, 2012) on the main results, we include in a sub sample only those firms whose financial statements are prepared in accordance with Hong Kong Financial Reporting Standards issued by the Hong Kong Institute of Certified Public Accountants and the disclosure requirements of Hong Kong Companies Ordinance, and audited by qualified independent auditors (the big four accounting firms). Model 1 in Table 6 presents the results. Secondly, in our base sample, we only include "General Industry" firms, but different industrial sectors can have an impact on the result. We further include industrial sector dummies to control for the possible industry fixed effect in Model 2 of Table 6. The results in Table 6 for Models 1

and 2 are qualitatively similar to those in Table 3, and our base line result is robust to these additional factors.[13]

<Insert Table 6 here>

5. Discussion and Conclusion

Previous empirical studies on equity market demand as a determinant of conditional conservatism are mainly based on the assumption that managers are responding to equity market demand in financial reporting. In this study, we examine how managerial incentive/motivation can differ from equity market demand and therefore affect the implementation of accounting conservatism in two very different organizational structures, namely state-controlled firm versus family-controlled firms. We first identify some key firm characteristics relevant to accounting conservatism and discuss how each of the key firm characteristics can be related to the equity market demand or managerial motivation for conditional accounting conservatism. We then compare the differences in the key firm level characteristics between state-controlled and family-controlled firms which results in different predictions. The equity market demand view predicts that state-controlled firms are more conservative than family-controlled firms and the managerial motivation view predicts that state-controlled firms are less conservative than family-controlled firms. The empirical results support the prediction based on the managerial motivation to implement accounting conservatism, indicating that the accounting conservatism is actually

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[13] Some firms may be incorporated or have main operations in the Mainland China, which may affect the result. To address this concern, we conduct robustness checks on subsamples that exclude those firms with main business operation or head offices in the Mainland China and those firms incorporated in the Mainland China. The un-tabulated results for sub samples are qualitatively similar to the results in Table 3.

implemented by managers and determined endogenously by the incentives that managers encounter (Ball, 2001).

The main implication of this study is that the extent of conservatism is jointly determined by legal systems, accounting standards (Ball et al., 2000), equity/debt market demands for conservatism (Ball et al., 2003; Ball & Shivakumar, 2005; Peek et al., 2010) and managerial motivation based on different organizational structures to implement conservatism. The discussion on managerial motivation to implement conservatism determined by firm level characteristics as documented in this study complements the view on preparers' incentives determined by equity market demand (demand-driven view) (Ball et al., 2003; Ball & Shivakumar, 2005; Lafond & Roychowdhury, 2008) in understanding the practice of conservatism. The demand-driven view on preparers' incentives predicts that state-controlled firms exhibit more accounting conservatism than family-controlled firms, but our empirical results show the opposite. Therefore, it seems necessary to consider the possible reactions of managers in different organizational structures in the implementation of accounting conservatism. We suggest that when the first two factors (legal systems and accounting standards) are kept constant, whether the extent of conservatism is determined by equity market demand or by managerial motivation depends on which side takes the dominant position. For example, when we examine the extent of conservatism in state-controlled firms, the low alignment of interest between controlling shareholders and managers in state-controlled firms leads to high demand for conservatism from the demand view but low motivation for managers to implement

conservatism from the motivation view even if the government as the owner of state-controlled firms decides to adopt more conservative accounting. In this case, there exists conflicts between demand and motivation, and the low motivation to implement conservatism caused by low alignment effect and other characteristics can lead to reluctance or resistance in the implementation of conservatism and may even dominate the equity market demand for conservatism and determine the extent of accounting conservatism.

Our findings also provide implications for investors and regulators. When interpreting the information from financial reports, users should take into account the difference in firm characteristics. For example, the same accounting figure reported by a family-controlled firm and by a state-controlled firm might contain very different information. When these expectations from investors build up to a certain level, the equity market demand for conservatism may dominate and affect the managerial motivation in implementing conservatism. Managers, particularly those from state-controlled firms should also be aware of this.

Finally, we note some limitations of this study. First, this study does not consider all determinants of accounting conservatism. For example, in addition to equity market demand for conservatism, creditors can also demand conservatism. Chen et al. (2010) examine conservatism of bank loan borrowers in the Mainland China and find that state-owned firms/borrowers are less conservative. They attribute the result to the less demand from lenders for conservatism because state-owned firms are backed by the government and have lower default risk. Secondly, we link some firm level characteristics with managerial motivation and implicitly assume that these firm

characteristics are the fundamental factors underlying managerial motivation to implement conservatism. Perhaps future studies can explore some direct tests on managerial motivation and managerial ownership. Third, state-controlled and family-controlled firms are also common in other countries such as in Europe. It would enhance our understanding if further studies could be extended to state-controlled and family-controlled firms in other countries.

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Table 1

Association of key firm characteristics with equity market demand for conservatism and managerial motivation to implement conservatism and state versus family controlled firms

Panel A: Key firm characteristics and association with demand and motivation for accounting conservatism		
Key firm characteristics	Association with equity market demand for conservatism	Association with managerial motivations to implement conservatism
Alignment of interests	Negative	Positive
Multiple objectives	Positive	-
Holding residual rights	-	Positive
Business vision held by managers	-	Positive
Effective monitoring of management	Negative	Positive
Management tenure	Negative	Positive
Panel B: Key firm characteristics and association with demand and motivation for accounting conservatism in state-controlled firms versus family-controlled firms		
Characteristics of state-controlled firms versus family-controlled firms	Association with equity market demand for conservatism	Association with managerial motivations to implement conservatism
Weak alignment of interests	High	Low
Multiple objectives (social, political)	High	-
Managers not holding residual rights	-	Low
Managers not actively pursuing business vision	-	Low
Less effective monitoring of management	High	Low
Shorter term management tenure	High	Low

Table 2
Descriptive Statistics

variable	State		Family		Test of Mean	Test of Median
	Mean (Std.)	Median	Mean (Std.)	Median	t	z
NI	0.057 (0.249)	0.074	0.046 (0.335)	0.083	-0.769	-1.640*
R	0.356 (0.805)	0.157	0.258 (0.884)	0.064	-2.156**	-3.595***
TAX	0.215 (0.255)	0.141	0.210 (0.343)	0.100	-0.338	-5.051***
SIZE	15.875 (1.513)	15.923	14.909 (1.578)	14.881	-11.551***	-11.353***
LEV	0.199 (0.140)	0.189	0.202 (0.209)	0.169	0.233	-1.485
MB	1.936 (2.784)	1.166	2.148 (8.765)	1.279	0.725	-0.721
Observations	483		1108			
No. of firms	68		163			

Table 2 presents the descriptive statistics of the main variables and control variables in the timeliness of earnings to news model for the state-controlled and family-controlled firms respectively. The sample period is from 1997 to 2007. *NI* is the net income before extraordinary items for firm *i* and year *t* deflated by the beginning-of-year market value. *R* is the stock return for firm *i* over the fiscal year *t*. *TAX* is the effective tax rate calculated as total tax expense divided by pretax financial income at the end of the fiscal year *t*. *SIZE* is the natural log of total assets at the end of the fiscal year *t*. *LEV* is debt divided by total assets at the end of the fiscal year *t*. *MB* is calculated as the market value of equity divided by the book value of equity at the end of the fiscal year *t*.***, ** and * indicate significance at the 1%, 5% and 10% levels respectively.

Table 3

Regression of Earnings on Return (Timeliness of Earnings to News)

Independent Variable	Dependent Variable: NI			
	Model 1		Model 2	
	Coeff.	t-value	Coeff.	t-value
INTERCEPT	0.025	0.96	-0.312*	-1.94
DR	0.020	0.57	0.343	1.32
R	0.079***	3.83	0.131	0.67
DR*R	0.035	0.50	0.691	1.04
FAM	0.081**	2.44	0.092***	3.07
FAM*DR	0.045	0.91	-0.003	-0.07
FAM*R	-0.108***	-2.96	-0.077**	-2.39
FAM*DR*R	0.519***	4.58	0.354***	3.83
TAX			-0.202	-1.55
TAX*DR			-0.151	-0.95
TAX*R			-0.235**	-2.29
TAX*DR*R			0.222	0.97
SIZE			0.028***	3.13
SIZE*DR			-0.020	-1.32
SIZE*R			0.000	-0.01
SIZE*DR*R			-0.058	-1.41
LEV			-0.363**	-2.33
LEV*DR			0.114	0.67
LEV*R			-0.044	-0.48
LEV*DR*R			0.483	1.56
MB			-0.008***	-2.60
MB*DR			0.007*	1.74
MB*R			0.005***	2.62
MB*DR*R			-0.015**	-2.25
Adj. R^2	7.6		32.8	
N	1591		1591	

Table 3 presents estimates of accounting conservatism in state-controlled versus in family-controlled firms using the following regression models:

Model 1:

$$NI = \beta_0 + \beta_1 DR + \beta_2 R + \beta_3 DR^*R + \beta_4 FAM$$
$$+ \beta_5 FAM^*DR + \beta_6 FAM^*R + \beta_7 FAM^*DR^*R + \varepsilon,$$

Model 2:

$$NI = \beta_0 + \beta_1 DR + \beta_2 R + \beta_3 DR * R + \beta_4 FAM + \beta_5 FAM * DR + \beta_6 FAM * R$$
$$+ \beta_7 FAM * DR * R + \beta_8 TAX + \beta_9 TAX * DR + \beta_{10} TAX * R + \beta_{11} TAX * DR * R$$
$$+ \beta_{12} SIZE + \beta_{13} SIZE * DR + \beta_{14} SIZE * R + \beta_{15} SIZE * DR * R + \beta_{16} LEV$$
$$+ \beta_{17} LEV * DR + \beta_{18} LEV * R + \beta_{19} LEV * DR * R + \beta_{20} MB + \beta_{21} MB * DR$$
$$+ \beta_{22} MB * R + \beta_{23} MB * DR * R + \varepsilon,$$

The sample period is from 1997 to 2007. The t-statistics are based on cluster-robust standard errors adjusting for cross-sectional and time-series dependence in panel data analysis. *NI* is the net income before extraordinary items for firm *i* and year *t* deflated by the beginning-of-year market value. *R* is the

stock return for firm *i* over the fiscal year *t*. *DR* is a dummy variable that equals 1 if *R* is less than zero, and 0 otherwise. *FAM* is a dummy variable that equals 1 if firm *i* is ultimately family-controlled, and 0 otherwise (state-controlled). *TAX* is the effective tax rate calculated as total tax expense divided by pretax financial income at the end of the fiscal year *t*. *SIZE* is the natural log of total assets at the end of the fiscal year *t*. *LEV* is debt divided by total assets at the end of the fiscal year *t*. *MB* is calculated as the market value of equity divided by the book value of equity at the end of the fiscal year *t*. ***, ** and * indicate significance at the 1%, 5% and 10% levels respectively.

Table 4

Regression of Accruals on Cash from Operations (Accrual-based loss recognition)

Independent Variable	Dependent Variable: Accrual			
	Model 1		Model 2	
	Coeff.	t-value	Coeff.	t-value
INTERCEPT	-0.013**	-2.26	-0.200***	-3.67
DCFO	-0.044	-1.64	-0.374***	-2.61
CFO	-0.285***	-6.51	0.383	1.14
DCFO*CFO	0.027	0.08	-2.401	-1.29
FAM	0.016*	1.72	0.029***	3.19
FAM*DCFO	-0.006	-0.17	-0.036	-0.98
FAM* CFO	-0.013	-0.21	-0.120	-1.47
FAM*DCFO*CFO	0.598*	1.70	0.882**	1.98
TAX			-0.092***	-3.28
TAX*DCFO			0.018	0.43
TAX*CFO			-0.652**	-2.26
TAX*DCFO*CFO			0.559	1.33
SIZE			0.014***	3.95
SIZE*DCFO			0.029***	2.93
SIZE*CFO			-0.038*	-1.81
SIZE*DCFO*CFO			0.151	1.13
LEV			-0.103***	-3.51
LEV*DCFO			-0.062	-0.71
LEV*CFO			-0.040	-0.24
LEV*DCFO*CFO			-0.245	-0.54
MB			-0.001	-0.99
MB*DCFO			0.001	0.57
MB*CFO			0.011*	1.71
MB*DCFO*CFO			-0.010	-0.96
Adj. R^2	8.3		26.5	
N	1607		1607	

Table 4 presents estimates of accounting conservatism in state-controlled versus family-controlled firms using the following regression models:

Model 1:

$$ACC = \beta_0 + \beta_1 DCFO + \beta_2 CFO + \beta_3 DCFO * CFO + \beta_4 FAM + \beta_5 FAM * DCFO$$
$$+ \beta_6 FAM * CFO + \beta_7 FAM * DCFO * CFO + \varepsilon,$$

Model 2:

$$ACC = \beta_0 + \beta_1 DCFO + \beta_2 CFO + \beta_3 DCFO * CFO + \beta_4 FAM + \beta_5 FAM * DCFO$$
$$+ \beta_6 FAM * CFO + \beta_7 FAM * DCFO * CFO + \beta_8 TAX + \beta_9 TAX * DCFO$$
$$+ \beta_{10} TAX * CFO + \beta_{11} TAX * DCFO * CFO + \beta_{12} SIZE + \beta_{13} SIZE * DCFO + \beta_{14} SIZE * CFO$$
$$+ \beta_{15} SIZE * DCFO * CFO + \beta_{16} LEV + \beta_{17} LEV * DCFO + \beta_{18} LEV * CFO + \beta_{19} LEV * DCFO * CFO$$
$$+ \beta_{20} MB + \beta_{21} MB * DCFO + \beta_{22} MB * CFO + \beta_{23} MB * DCFO * CFO + \varepsilon$$

The sample period is from 1997 to 2007. The t-statistics are based on cluster-robust standard errors adjusting for cross-sectional and time-series dependence in panel data analysis. ACC is net income before extraordinary items minus operating cash flows for firm i in fiscal year t deflated by beginning-of-year total assets. CFO is operating cash flows for firm i in fiscal year t deflated by beginning-of-year

total assets. *DCFO* is a dummy variable that equals 1 if *CFO* is less than zero, and 0 otherwise. *FAM* is a dummy variable that equals 1 if firm *i* is ultimately family-controlled, and 0 otherwise (state-controlled). *TAX* is the effective tax rate calculated as total tax expense divided by pretax financial income at the end of the fiscal year *t*. *SIZE* is the natural log of total assets at the end of the fiscal year *t*. *LEV* is debt divided by total assets at the end of the fiscal year *t*. *MB* is calculated as the market value of equity divided by the book value of equity at the end of the fiscal year *t*. ***, ** and * indicate significance at the 1%, 5% and 10% levels respectively.

Table 5

Regression of Accruals on Change in Cash from Operations (Alternative Accrual-based Loss Recognition)

	Dependent Variable: Accrual			
	Model 1		Model 2	
Independent Variable	Coeff.	t-value	Coeff.	t-value
INTERCEPT	-0.031***	-6.65	-0.184**	-2.6
D△CFO	-0.016*	-1.76	-0.044	-0.34
△CFO	-0.401***	-9.60	0.161	0.15
D△CFO△CFO*	0.119	0.87	2.382	1.23
FAM	-0.004	-0.50	0.003	0.27
*FAM*D△CFO*	0.056***	4.32	0.060***	4.53
FAM△ CFO*	0.144	1.17	0.121	0.51
*FAM*D△CFO*△CFO*	0.919***	3.25	0.881***	2.68
TAX			-0.106***	-3.30
*TAX*D△CFO*			0.040	0.98
TAX△CFO*			0.057	0.13
*TAX*D△CFO*△CFO*			-0.539	-0.92
SIZE			0.011**	2.46
*SIZE*D△CFO*			0.003	0.39
SIZE△CFO*			-0.016	-0.26
*SIZE*D△CFO*△CFO*			-0.182	-1.48
LEV			-0.020	-0.64
*LEV*D△CFO*			-0.122**	-2.39
LEV△CFO*			-0.935***	-2.62
*LEV*D△CFO*△CFO*			0.591	1.20
MB			0.000	0.61
*MB*D△CFO*			-0.002	-1.54
MB△CFO*			-0.024*	-1.82
*MB*D△CFO*△CFO*			0.015	0.62
Adj. R^2	7.4		21.4	
N	1606		1606	

Table 5 presents estimates of accounting conservatism in state-controlled versus family-controlled firms using the following regression models:

Model 1:

$$ACC = \beta_0 + \beta_1 D\Delta CFO + \beta_2 \Delta CFO + \beta_3 D\Delta CFO * \Delta CFO + \beta_4 FAM + \beta_5 FAM * D\Delta CFO$$
$$+ \beta_6 FAM * \Delta CFO + \beta_7 FAM * D\Delta CFO * \Delta CFO + \varepsilon,$$

Model 2:

$$ACC = \beta_0 + \beta_1 D\Delta CFO + \beta_2 \Delta CFO + \beta_3 D\Delta CFO * \Delta CFO + \beta_4 FAM + \beta_5 FAM * D\Delta CFO$$
$$+ \beta_6 FAM * \Delta CFO + \beta_7 FAM * D\Delta CFO * \Delta CFO + \beta_8 TAX + \beta_9 TAX * D\Delta CFO$$
$$+ \beta_{10} TAX * \Delta CFO + \beta_{11} TAX * D\Delta CFO * \Delta CFO + \beta_{12} SIZE + \beta_{13} SIZE * D\Delta CFO + \beta_{14} SIZE * \Delta CFO$$
$$+ \beta_{15} SIZE * D\Delta CFO * \Delta CFO + \beta_{16} LEV + \beta_{17} LEV * D\Delta CFO + \beta_{18} LEV * \Delta CFO + \beta_{19} LEV * D\Delta CFO * \Delta CFO$$
$$+ \beta_{20} MB + \beta_{21} MB * D\Delta CFO + \beta_{22} MB * \Delta CFO + \beta_{23} MB * D\Delta CFO * \Delta CFO + \varepsilon$$

The sample period is from 1997 to 2007. The t-statistics are based on cluster-robust standard errors adjusting for cross-sectional and time-series dependence in panel data analysis. *ACC* is net income

before extraordinary items minus operating cash flows for firm i in fiscal year t deflated by beginning-of-year total assets. ΔCFO is change in cash from operations between period t-1 and t standardized by total assets at end of period t-1. $D\Delta CFO$ is a dummy variable that takes the value 1 if change in cash flow is negative, and 0 otherwise. FAM is a dummy variable that equals 1 if firm i is ultimately family-controlled, and 0 otherwise (state-controlled). TAX is the effective tax rate calculated as total tax expense divided by pretax financial income at the end of the fiscal year t. $SIZE$ is the natural log of total assets at the end of the fiscal year t. LEV is debt divided by total assets at the end of the fiscal year t. MB is calculated as the market value of equity divided by the book value of equity at the end of the fiscal year t. ***, ** and * indicate significance at the 1%, 5% and 10% levels respectively.

Table 6

Control for accounting standards and industry sector (Timeliness of Earnings to News)

Independent Variable	Dependent Variable: NI			
	Model 1		Model 2	
	Coeff.	t-value	Coeff.	t-value
INTERCEPT	-0.082	-0.80	-0.074	-0.75
DR	0.127	0.55	0.134	0.57
R	0.111	0.61	0.120	0.67
DR*R	0.542	0.81	0.587	0.89
FAM	0.084***	2.84	0.084***	2.82
FAM *DR	0.003	0.07	0.006	0.15
FAM *R	-0.058*	-1.75	-0.059*	-1.78
FAM *DR*R	0.374***	3.79	0.375***	3.86
TAX	-0.204	-1.46	-0.192	-1.40
TAX*DR	-0.138	-0.82	-0.139	-0.85
TAX*R	-0.235**	-2.25	-0.243**	-2.38
TAX*DR*R	0.265	1.14	0.284	1.27
SIZE	0.019***	3.26	0.018***	3.27
SIZE*DR	-0.007	-0.50	-0.008	-0.56
SIZE*R	0.000	0.02	-0.001	-0.06
SIZE*DR*R	-0.044	-1.04	-0.047	-1.14
LEV	-0.380**	-2.36	-0.425***	-2.68
LEV*DR	0.126	0.71	0.145	0.82
LEV*R	-0.047	-0.50	-0.024	-0.27
LEV*DR*R	0.381	1.16	0.339	1.03
MB	-0.015***	-3.96	-0.014***	-3.65
MB*DR	0.011***	2.75	0.011**	2.45
MB*R	0.008***	4.30	0.008***	4.14
MB*DR*R	-0.022***	-3.35	-0.023***	-3.63
Industry Sector Dummies	No		Yes	
Adj. R^2	35.0		36.7	
N	1432		1432	

Table 6 presents estimates of accounting conservatism in state-controlled versus family-controlled firms controlling for accounting standards (using a sub-sample) and industry sectors using the timeliness of earnings to news measure (Basu, 1997). The sample period is from 1997 to 2007. The t-statistics are based on cluster-robust standard errors adjusting for cross-sectional and time-series dependence in panel data analysis. All variables are as defined in Table 3. ***, ** and * indicate significance at the 1%, 5% and 10% levels respectively.