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Dividend policy and earnings management: Do agency problem and financing constraints matter?

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Abstract

The present study aims to examine the relationship between dividend policy and earnings management by explicitly considering the role of the agency problem and financing constraints. The sample comprises 3250 non-financial Chinese listed firms from 2009 to 2018. This study uses fixed- and random effect models as econometric techniques. Dividend policy is measured with dividend yield, payout ratio, large and small dividend payment status. Earnings management is measured with discretionary accruals, which are used as a proxy of accrual-based earnings management. The salient findings of the study are as follows: (1) overall, dividend payments restrict managers' involvement in earnings management practices; (2) compared with small dividend-paying firms, larger dividend-paying firms have less involvement in earnings management practices; (3) the agency problem does not affect the nature of the proposed relationship; (4) the dividend payments of non-financially constrained firms dampen managers' opportunistic behavior toward earnings management practices and vice versa.

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1. Introduction

Although there has been considerable relevant research, the role of dividend policy has still not been fully observed in the literature on accounting and finance. Corporate finance is a field that mainly deals with three core issues—financing, investing, and dividend-related decisions—that have been controversial for the last several decades (Amar, Salah, & Jarbou, 2018; Kaźmierska-Jóźwiak, 2015). Although dividend payment decisions play a vital role in corporate success (Salah & Jarbou, 2021) and there has been a wide range of studies in the past decades, no consensus exists on the determinants of payout

policy (Barros, Matos, & Sarmento, 2020; Dewasiri et al., 2019). The aim of paying dividends is to distribute a firm's profits to shareholders (Trinh, Haddad, & Tran, 2022). Research on the determinants of dividend payouts and their stability has revealed that firms' prior tendency to pay cash dividends is a major factor that affects current decisions about dividend payments (Skinner, 2008; Syed, Zainir, & Isa, 2018).

Several theories have been developed to explain why firms pay dividends. For example, the signaling theory claims that firms pay dividends to portray a favorable signal in the shares market. Because of the agency and information asymmetry problems, corporate managers can access information that the stock market cannot. To dampen the agency and information asymmetry problems, managers can send a positive signal in the stock market by paying dividends (Nguyen & Bui, 2019). A dividend policy is usually utilized by managers as a signaling device to demonstrate better financial health to

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Nomenclature

BOD	Board of directors
DPR	Dividend payout ratio
DSE	Dhaka stock exchange
EM	Earnings Management
FCF	Free cash flows
GMM	Generalized method of moment
KZ	Kaplan-Zingales
NPV	Net present value

investors. Furthermore, per the agency theory presented by Jensen (1986), the availability of excess cash flows to managers is a vital source of the agency problem. If cash flows exceed the required cash to finance positive net present value (NPV) projects, managers would be motivated to use their discretions on earnings (Trinh et al., 2022).

This study is motivated by a long line of prior literature about the “information contents of dividend hypothesis” (Miller & Modigliani, 1961). A considerable number of studies have demonstrated that the price of firm stock reacts to the information conveyed by dividend payments (Aharony & Swary, 1980; Ozo & Arun, 2019; Sing, Jain, & Wei, 2018; Zahan & Rana, 2020). However, prior studies do not convey the same conclusion about whether dividend payouts can predict a firm's future earnings (Deng, Li, & Liao, 2017; Nguyen & Bui, 2019). Using data on developed and emerging economies, studies have confirmed that dividend-paying firms have a higher reporting quality than non-dividend-paying firms (Deng et al., 2017; He, Ng, Zaiats, & Zhang, 2017; Skinner & Soltes, 2011; Tong & Miao, 2011; Tran, 2020).

Earnings Management (EM) involves managers' attempt to manipulate the earnings in financial reports by employing multiple accounting tactics (Almutairi, 2021; Haga, Huhtamäki, & Sundvik, 2021). The information firms announce in financial reports is the major source of their financial health, losses, operational risks, and dealings with investors (Trinh et al., 2022). EM can have negative impacts on customers, employees, the economy, shareholders, accounting professionals, and lenders, as demonstrated by Satyam computer services, WorldCom, and Enron's debacle (Hickman, Iyer, & Jادیappa, 2020; Lara, Osma, & Penalva, 2020).

According to Healy and Wahlen (1999), “EM occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.” The literature reveals that EM is less when there are limited benefits for private control (Gopalan & Jayaraman, 2012). Therefore, managers of dividend-paying firms have less private benefits to conceal earnings and consume cash flow, so they are less likely to utilize their discretion to manipulate accounting reports (He et al., 2017). Chemmanur, He, Hu, and Liu (2010) and Hail, Tahoun, and Wang (2014) suggested that non-US firms are usually not

concerned about cutting dividends and thus frequently alter their dividend policies. This evidence demonstrates that the relationship between dividend payments and EM is not persistent and may be insignificant in international settings.

Building on prior literature, we claim that because dividends are ensured by stable cash flows and reduce the level of free cash flows (FCF) for managers, compared with non-dividend-paying firms, dividend-paying firms restrict managers' involvement in EM practices. Moreover, we argue that this relationship would change if managers pay dividends because of other purposes other than conveying true information in the stock market, i.e., the “information content of dividend.” Therefore, the prime aim of this study is to fill this gap by investigating the role of dividend policy in utilizing EM practices, where both financing constraints and the agency problem exist because of information asymmetry. We also investigate the extent to which the agency problem and financing constraints reshape the magnitude of the relationship between dividends and EM practices.

Asymmetric information creates many hurdles in managing firms (Renneboog & Szilagyi, 2020). Theoretical explanations of dividends smoothing reveal that it originates from the severity of asymmetric information (Guttman, Kadan, & Kandel, 2010; Syed et al., 2018) and the agency problem (Lambrecht & Myers, 2012). According to the agency theory presented by Jensen (1986), dividend policy is determined by agency costs arising from the separation of control and ownership. Because of agency costs, managers may not always adopt a dividend policy to maximize shareholders' wealth but may adopt a dividend policy to enhance their private benefits.

Another example presented by Myers and Majluf (1984) is that asymmetric information between insiders and outsiders leads to an increase in financing constraints, which ultimately increase the cost of financing. Dewenter and Warther (1998) suggested that dividend payments act as a signaling device and disciplinary mechanism in reducing agency and information asymmetry problems because, in such scenarios, managers do not have to fear adjusting dividend payments in response of changes in earnings.

The above evidence suggests that financing constraints and the agency problem may play a pivotal role in determining the relationship between dividend policy and firm EM practices. However, surprisingly, a long search of literature could not find even a single study that examines this important relationship. Therefore, this study attempts to address the following research questions: Are dividend features related to managers' behavior toward EM practices? Does this relationship change in the presence of the agency problem and financial constraints?

We use accrual-based EM as a proxy for EM, which is measured with two different models—the models proposed by Haribar and Collins (2002) and McNichols (2002). Dividend policy is measured with four proxies—dividend yield, dividend payout ratio (DPR), large dividend-paying status, and small dividend-paying status. In addition, firms are categorized into firms with the agency problem and firms without agency the problem based on FCF. To examine the role of financial

constraints, firms are categorized into financially constrained and non-financially constrained firms based on the Kaplan-Zingales (KZ) index.

This study finds that dividend payments restrict managers' involvement in EM practices. This study also examines whether large dividend-paying firms ensure the credibility of accounting information more than small dividend-paying firms, finding that the answer is “yes.” Moreover, the study finds that the agency problem does not influence the dividend–EM relationship. Finally, the results reveal that in firms without financing constraints, dividend payments diminish managers' opportunistic behavior toward EM practices and vice versa. The results are robust to alternative measures and specifications.

This study makes many contributions to the accounting and finance literature. First, because of the inconsistent findings of Atieh and Hussain (2012), He et al. (2017), Nguyen and Bui (2019), and Tran (2020), we revisit the relationship between dividend payments and earnings quality. Second, to extend the existing literature, this study employs other proxies of dividend payments to compare the role of large and small dividend-paying statuses on AEM practices in the context of an emerging market, i.e., China. Third, Pathak (2020) argued that dividend payouts and EM practices are related through two major channels—information asymmetry and the agency problem. Thus, unlike prior studies that largely investigated the role of FCF, we fill the gap in the literature by adding two different channels—the agency problem and financing constraints—to the relationship between dividend policy and EM practices. To the best of our knowledge, this paper is a novel study on the relationship between dividend payments and EM practices in the context of both financing constraints and the agency problem. Fourth, this study is different from all previous conventional research because it focuses on a single country instead of comparing countries, which might ignore the individuality of the economies. Finally, the robust findings of different dividend features provide comprehensive useful information to policymakers to improve regulatory reforms and accounting standards, which ultimately discourage or mitigate managers' incentives toward EM practices.

The rest of the article proceeds as follows. Section 2 presents the background or context of the study. Section 3 reviews the theoretical literature. Section 4 discusses the empirical literature and develops the hypothesis. The research design is presented in Section 5, whereas Section 6 reports the results and discussion. Lastly, the final section concludes the study.

2. Background

We study China because of multiple reasons. First, China is the second-largest economy in the world and attained \$14.34 trillion nominal GDP in 2020, and economic experts have forecasted that China will attain the world's largest position in the next decade.¹ Despite this fact, China's legal and financial

structure has not developed accordingly (Khan, He, Akram, & Sarwar, 2017; Lan, Wang, & Zhang, 2013). The development of any economy fairly depends on the efficiency of its capital market channels, i.e., how scarce resources are allocated at productive places (Chan, Fan, & Song, 2021). However, this resource allocation can be endangered by the agency problem between external minority shareholders and external controllers. This problem is much more serious in China, where the legal protection of minority shareholders is limited (Hussain et al., 2020). In China, outsider minority shareholders are completely powerless and are easily exposed to controllers seizing via related-party transactions and tunneling (Allen, Qian, & Qian, 2005). Hence, in China, in the early 1990s, listed firms distributed no or less dividends to avert corporate controllers from diverting firm assets (Glendening, Khurana, & Wang, 2016). This problem is also more pronounced in China because its capital market is underdeveloped, where retail investors dominate and focus on quick returns instead of long-term returns (Chan et al., 2021).

Hu, Weng, and Wang (2021) argued that the role of the Sarbanes Oxley Act (SOX) in accruals quality has not been clearly explored in emerging markets, such as China. In 2008, the “Chinese Security Regulatory Commission” and four different Chinese ministries jointly issued the Chinese SOX (a Chinese version of the Sarbanes Oxley Act). It was expected to be effective from 2009 but due to the lack of described requirements, it was not feasible for Chinese companies to implement the Act. In 2010, Chinese regulatory agencies issued the application guidelines for effective internal control and audit report assessments. It was expected to be effective in 2011 for cross-listed Chinese firms and in 2012 for other firms, but due to unclear clarification, it was released in 2012. Both SOX and Chinese SOX are similar because they focus on improving the quality of financial reports and diminishing the window-dressing behaviors of managers (Hu et al., 2021). However, the effect of the Chinese SOX is not expected to be similar to SOX in the US mainly because of the different institutional environment in China. Furthermore, the Chinese SOX allows firms to use their own criteria to assess a potential deficiency (See item No: 17 of guidelines for the assessment of internal control). The ambiguity in the requirements of the Chinese SOX has made researchers explore the clear implications of the Chinese SOX on managers' behavior toward EM practices as the institutional environment of China is very weak due to the lack of stringent enforcement (J. Chen, Ke, Wu, & Yang, 2018). China is also a country where differentiation between state-owned and non-state-owned enterprises culture exists (Ho, Li, & Gong, 2021). Chang and Wong (2009) documented that this different ownership structure leads to different firm behaviors in decision-making. Ho et al. (2021) argued that non-state-owned enterprises only have a single objective, whereas state-owned enterprises have different objectives related to politics, society, and the economy. Another study stated that the investment efficiency of Chinese state-owned firms is less, and compared with non-state-owned firms, state-owned firms usually tend to over-invest (Chen, Sun, Tang, & Wu, 2011).

¹ <https://www.investopedia.com/insights/worlds-top-economies/>

A study documented that the government of China serves as a sole controller and controls approximately 63.5% ownership of Chinese entities (Li & Zhang, 2010). Ain, Yuan, Javaid, Zhao, and Xiang (2021) stated that the government (the controlling shareholder of the majority of firms) demonstrates sincere favor for distributing dividends to reduce FCF, which ultimately diminishes managers' preferences. Conversely, compared with state-owned firms, private or non-state-owned firms face less political pressure and more financing constraint issues in getting long-term debts (Ain et al., 2021).

First, China's stock market is in the developing phase and the quality of accounting information is much lower than that of developed countries (Hussain et al., 2020). Second, the Chinese stock market has undergone many regulatory reforms; thus, such differences have major implications for dividends and EM practices in China than the rest of the World. Third, dividend payment requires a firm to have real cash flows, so dividends are viewed as "hard evidence" that complements firm earnings (Deng et al., 2017). Fourth, compared with developed economies, such as the UK and the US, the Chinese regulatory system sets very strict terms for firms to repurchase their shares. Therefore, it is only under a few scenarios that managers can repurchase their shares. In such cases, investors merely rely on the amount of cash dividends to assess additional information (Deng et al., 2017). A survey that CLSA collaborated with the "Asian Corporate Governance Association" to conduct on 12 South Asian economies reveals that China ranks 10th out of 12 in terms of corporate governance quality, indicating that among the selected economies, China's governance, engagement, and advocacy initiatives for its investors are among the poorest (CLSA, 2018). All these challenges indicate that compared with developed economies, such as the UK and the US, China is an interesting case study for this topic.

3. Theoretical literature review

The present research is motivated by the long line of literature on the "information contents of dividend hypothesis." A wide range of recent and seminal studies have used the "information contents of dividend hypothesis" to explore the relationship of dividend payments with the level of firms earning quality (Deng et al., 2017; Ham, Kaplan, & Leary, 2020; He et al., 2017; Nguyen & Bui, 2019; Skinner & Soltes, 2011; Tong & Miao, 2011; Trinh et al., 2022). According to the "information contents of dividend hypothesis," dividend payments significantly reveal information about firms' potential earnings (Nguyen & Bui, 2019). This hypothesis posits that investors react to dividend changes because changes in dividend payments lead to commitments to convey information about future earnings potential (Ham et al., 2020). Specifically, an increase in dividend payments is a signal of good news, whereas a decrease in payments is a signal of bad news. Brav, Graham, Harvey, and Michaely (2005) suggested that dividend payments send information to investors. Deng et al. (2017) argued that if dividend payments are made for other purposes other than the purpose of

conveying information, the information contents would be dampened. Such factors also diminish the relationship between dividends and earnings quality.

The excellent institutional settings of Chinese financial markets provide an optimal setting to resolve the issue of distorting firm behavior from information contents (Deng et al., 2017). Since 2001, Chinese authorities have made remarkable efforts to enforce listed firms to pay cash dividends, which is an instrument to protect the rights of minority shareholders. To achieve this objective, Chinese authorities mainly go through the firm dividend payments history to approve applications for the issuance of new shares. This institutional setting helps us to observe how and when the information contents of dividends change.

Furthermore, to examine the role of the agency problem and financing constraints in determining managers' behavior toward EM practices in dividend payments, we use the "agency theory" to assess this relationship. According to this theory, managers' interests are usually different from those of the owners, which makes managers make decisions that are unfavorable to the interests of the owners (Alam, Ramachandran, & Nahomy, 2020). Numerous studies have claimed that an internal governance mechanism is much more effective and efficient than external governance (Alam et al., 2020; Cornett, McNutt, & Tehranian, 2009; Matteo & Francesco, 2018; Sáenz González & García-Meca, 2014). The tight regulations, the complexity of the agency problem, and the information asymmetry problem between insiders and outsiders of a firm decrease the ability of external authorities to supervise management's actions (Mersni & Othman, 2016). Among the internal authorities, the board of directors (BODs) is the main pillar to reduce the agency problem because they are directly elected by shareholders (Abdelsalam, Dimitropoulos, Elnahass, & Leventis, 2016). Therefore, BODs are in an ultimate position to diminish the possibility of managers manipulating earnings. The asymmetric information problem motivates managers to manipulate earnings and reveal a factitious image of the financial health of the firm to capital providers (Khan, Qin, & Zhang, 2021). This notion is related to the agency theory, which proposes that managers act at the expense of owners to enhance their private benefits (Jensen, 1986). Hence, this study expects financially constrained firms to be much more involved in EM practices than non-financially constrained firms.

4. Empirical literature review and hypotheses development

EM is a key indicator of financial reporting quality, whereas earnings quality has discretionary and non-discretionary components (Francis, LaFond, Olsson, & Schipper, 2004). The non-discretionary components are based on the business environment and model, whereas the discretionary components are determined by financial reporting quality. Hence, EM is a suitable proxy to measure a firm's actual value and future operating performance. Nguyen and Bui (2019) contended that lower involvement in EM practices is related to higher financial reporting quality, which leads to more accurate firm intrinsic

value and operating performance. Conversely, higher involvement in EM practices demonstrates that earnings are manipulated by managers to achieve private benefits (Schipper, 1989). Furthermore, Healy and Wahlen (1999) described the three major incentives underlying EM, which are a contractual incentive, capital market incentive, and government regulations and anti-trust incentive. EM may be done through income increasing or decreasing activities. Through their survey, Dichev, Graham, Harvey, and Rajgopal (2013) demonstrated that 40% of EM is related to income decreasing activities, whereas 60% is related to income increasing activities.

In the literature, most of the studies considered the EM phenomena of corporate events, such as acquisition (Karim, Sarkar, & Zhang, 2016; Valiya Purayil & Lukose PJ, 2021), seasoned equity offering (An-An & Wei-Hua, 2020; Wang & Hagigi, 2019), and initial public offering (Gounopoulos & Pham, 2018; Teoh, Welch, & Wong, 1998). Other researchers explored the management incentives for engaging in EM practices (Abdelaziz, Neifar, & Halioui, 2020; Burns & Kedia, 2006). A considerable number of studies have also explored the EM of dividend payouts and policies but had mixed outcomes. Following Brav et al. (2005) revealed that sustainable growth in earnings and earnings stability are the two important factors that play a prominent role in examining dividend policies. However, earnings that are fraudulently managed usually reverse in the future (Dechow, Sloan, & Sweeney, 1996) and thus are not sustainable income. Therefore, managers of firms that fraudulently manage their earnings are not likely to engage in dividend-increasing activities. Chen, Shevlin, and Tong (2007) documented that managers who increase the size of dividends usually have a higher reported information quality and lesser future stock-return volatility. Furthermore, Skinner and Soltes (2011) and Tong and Miao (2011) also had similar findings and suggested that compared with the non-distribution of dividends, dividend distribution increases the credibility of accounting reports. In addition, Atieh and Hussain (2012) documented that managers tend to be motivated to manage their earnings to meet dividend thresholds. They claimed that both firms that pay and do not pay dividends manage their earnings; however, upward manipulation of earnings is significantly greater in dividend-paying firms than non-dividend-paying firms.

Sirait and Siregar (2014) studied a sample of 90 Indonesian manufacturing firms and documented that dividend persistence, increase in dividends, and dividend payments status dampen managers' involvement in fraudulent activities and serve as an indicator of better reporting quality. Deng et al. (2017) examined the influence of dividend payouts on earnings quality in Chinese listed firms. Their findings are consistent with the "information content of dividends hypothesis," arguing that dividend payouts are linked to better earnings information and accruals quality. They also revealed that state ownership also dampens the information conveying role of dividend payments. Based on a sample of 29 countries, He et al. (2017) contended that compared with managers of non-dividend-paying firms, managers of dividend-paying firms have less incentive to manage their earnings, and this relationship is much stronger in

countries where high opacity and weaker investor protection exist. Dividend is the key factor that is used to assess managers' involvement in fraudulent activities. Using the panel data approach, Nguyen and Bui (2019) and Tran (2020) demonstrated that dividend-paying firms restrict managers' manipulation of earnings and vice versa. Conversely, in the absence of explicit restrictive clauses, the implicit agreement between shareholders and a firm about payments of dividends leads to more manipulation of earnings (Mard, 2004). Furthermore, N. Liu and Espahbodi (2014) also documented that compared with non-dividend-paying firms, dividend-paying firms highly engage in EM practices. Similarly, Eskandar and Bolori (2021) concluded that dividend payments encourage managers to manage earnings in Iran. They also found that firm ownership type significantly moderates the relationship between dividends and EM practices. Handoyo and Kusumaningrum (2022) documented that dividend payments suppress managers' involvement in EM practices in the Indonesian banking industry. Moreover, using data from 2008 to 2015, Salah and Jarboui (2022) documented that the response of dividend payments to reporting quality is positive when estimating the coefficients of French listed firms.

Overall, in the literature, most of the findings are consistent with the "information content of dividends hypothesis," but some also found that dividend payments promote EM practices. Therefore, we formulate the following hypothesis:

Hypothesis 1. (H1): In Chinese listed firms, dividend payments are negatively related to EM practices.

Dividend payments are also related to the size of the dividend. Skinner and Soltes (2011) documented that dividend payments enhance a firm's earnings quality, and this relationship is more pronounced in firms that pay higher amounts of dividends. In contrast, Sirait and Siregar (2014) did not find any evidence that large dividend payments reveal a higher reporting quality (less use of EM practices). They argued that dividend payments have a significant relationship with EM practices, but the size of dividends does not have different effects on managers' behavior toward EM practices. In addition, Tong and Miao (2011) also concluded that compared with firms with small dividend-paying and non-dividend-paying firms, large dividend-paying firms have higher earnings quality (less involvement of managers in EM practices). Similarly, Putro and Juliarto (2017) and Pathak (2020) documented that large dividend payments are linked to a lower manipulation of earnings in Indonesia and India, respectively.

Hypothesis 2. (H2): In Chinese listed firms, compared with small dividend-paying firms, large dividend-paying firms limit managers' involvement in EM practices.

Dividends play a vital role in the agency problem between the insiders (managers) and outsiders (shareholders) of a firm because by paying dividends, a firm's earnings are transferred to shareholders (Brockman & Unlu, 2011). This also suppresses managers' capability to utilize firm earnings for their

personal benefits. Furthermore, Jensen (1986) documented that FCF is the main source of the agency problem. Instead, of returning the FCF to shareholders, managers underpay dividends and spend the excess cash flows for their personal benefits at the cost of investors (Trinh et al., 2022). The theory states that in imperfect markets, dividend payments are used as a mechanism to resolve the agency conflicts between the insiders and outside shareholders of a firm (Jensen, 1986). Based on the agency theory, payments of cash dividends is a major source to dampen the agency cost that is associated with earnings, firm size, FCF, debt financings, and large shareholders (Yusof & Ismail, 2016). Furthermore, Easterbrook (1984) and He et al. (2017) posited that dividend payments not only dampen the agency cost associated with FCF but also decrease the suboptimal behavior of managers. The agency theory hypothesizes that dividends can be beneficial in the context of the agency problem in the following two ways. First, dividends may be paid to assure that managers can work in the best interest of outsiders (shareholders) and thus diminish the agency problem (He et al., 2017; Jensen, 1986). Second, the dividend policy may be the result of efficient contracts that the minority shareholders forced the firm to use the available cash to pursue, thereby limiting managers' suboptimal behaviors (Tran, 2020). Therefore, firms pay cash dividends to limit managers' private benefits. However, solving the agency problem does not adequately solve cultural values and opportunistic behaviors (Alam et al., 2020). A wide range of literature has stated that the private benefits of insiders are positively related to EM practices. Particularly, Leuz, Nanda, and Wysocki (2003) stated that manipulation of accounting information is usually due to the incentives of insiders to pursue their private benefits, and they also documented that EM is less likely when the private benefits of insiders are limited. Furthermore, in firms that are subject to a higher agency problem, dividend payments significantly affects the transparency of accounting information (Tran, 2020).

H3. : In Chinese listed firms, the negative relationship between dividend policy and accrual-based EM is more pronounced in firms with a higher agency problem.

Chae, Kim, and Lee (2009) found that firms with less financing constraints tend to increase dividend payments to improve their governance mechanism. A lower involvement of managers in EM practices may increase dividend payments by mitigating financing constraints (Koo, Ramalingegowda, & Yu, 2017). Multiple studies have revealed that compared with non-financially constrained firms, financially constrained firms are more engaged in EM practices (Charitou, Lambertides, & Trigeorgis, 2011; Cheng, Aerts, & Jorissen, 2010). Moreover, Farrell, Unlu, and Yu (2014) concluded that financing constraints are positively related to AEM practices. It has been suggested that when firms face higher financial difficulties, they engage more in EM practices. Furthermore, as firms with financial constraints have a higher level of accruals (Linck, Netter, & Shu, 2013), financing constraint affects the relationship between cash profit sharing and EM (income decreasing

practices (Kong, Qin, Yang, & Zhang, 2021, pp. 1–25). In addition, Mansali, Derouiche, and Jemai (2019) examined the relationship between accruals quality, dividend payments, and financial constraints. They found that excess cash holdings lower accruals quality, and this relationship is more pronounced when a firm is facing financing constraints. Furthermore, higher reporting quality and dividend payments are significantly related to the alleviation of financial constraints (Pathak, 2020). Furthermore, in the Chinese economy, compared with managers of non-financially constrained firms, managers of financially constrained firms usually engage in EM practices (Khan et al., 2021). These instrumental outcomes make us examine whether financing constraints reshape the relationship between dividend payments and accrual-based EM practices, so we propose the next hypothesis of this study as follows:

Hypothesis 4. (H4): In Chinese listed firms, the negative relationship between dividend policy and accrual-based EM is more pronounced in firms that are less constrained financially.

5. Research design

5.1. Data selection

This study adopts the panel data approach and collects the data of all non-financial Chinese listed firms that have A-shares on either the Shenzhen or Shanghai stock exchange. The present study covers 10 years, from 2009 to 2018. Initially, we draw the data of 3735 Chinese listed firms but exclude the data of all financial firms. To remove outliers, we winsorize our variables at the 1% bottom and top levels. We also drop firms that have three consecutive years of missing values. Finally, we have the dataset of 2750 firms, comprising 27,019 firm-year observations, see Table 1.

Following (Hussain et al., 2020), this study uses only non-financial listed firms and excludes all financial listed firms because the risk association, financial characteristics, and accounting practices of financial firms are much different from those of non-financial listed firms.

5.2. Measurements

5.2.1. Dependent variable: accrual-based EM

We employ two different models to measure DAC as a proxy of accrual-based EM using the models proposed by Haribar and Collins (2002) and McNichols (2002). The first DAC measure is based on the model proposed by Haribar and Collins (2002).

Table 1
Sample selection.

Initially selected listed companies (A-Shares)	3735
Less: financial listed companies	479
Less: missing data companies (three consecutive years of missing values)	506
Final sample of non-financial listed firms	2750

Based on the income statement in the study of [Haribar and Collins \(2002\)](#), the regression model is as follows:

$$TA_{it} / A_{it-1} = \beta_0(1 / A_{it-1}) + \beta_1(\Delta REV_{it} / A_{it-1}) + \beta_2(PPE_{it} / A_{it-1}) + \epsilon_{i,t}$$

where TA_{it} represents the sum of accruals measured by operating income minus operating cash flow. A_{it-1} denotes the firm's total assets, and ΔREV_{it} is the change in sales revenue minus the change in accounts receivables. PPE_{it} equals the sum of plant, property, and equipment. $\epsilon_{i,t}$ represents the residual term, which captures the DAC value.

The second DAC proxy is based on [McNichols's \(2002\)](#) model. [McNichols \(2002\)](#) adjusted [Haribar and Collins' \(2002\)](#) model, which controls for current, $t-1$, and $t+1$ cash flows from operations, by taking depreciation accruals into account.

$$TA_{it} / A_{it-1} = \beta_0(1 / A_{it-1}) + \beta_1(\Delta REV_{it} / A_{it-1}) + \beta_2(PPE_{it} / A_{it-1}) + \beta_3(CFO_{it} / A_{it-1}) + \beta_4(CFO_{it-1} / A_{it-1}) + \beta_5(CFO_{it+1} / A_{it-1}) + \epsilon_{i,t}$$

where CFO_{it} , CFO_{it-1} , and CFO_{it+1} represent the value of cash flows from operation for firm i at year t , $t-1$, and year $t+1$, respectively; all other variables are the same as those in the previous model.

The lagged value of total assets (A_{it-1}) is used as a deflator in all variables of the previous two DAC to eliminate heteroscedasticity issues from the estimations.

5.2.2. Independent variable: dividend policy

We employ four different proxies for dividend policy to capture four different features of dividends. The first proxy is dividend yield ([Ozo and Arun \(2019\)](#)), and the second proxy is the DPR. Furthermore, this study employs two distinctive phenomena—large dividend-paying status (Large_Div) and small dividend-paying status (Small_Div). Large_Div is a dummy variable that takes on a value of 1 if the firm pays large dividends and 0 otherwise. Following the criteria in the studies of [Sirait and Siregar \(2014\)](#) and [Tong and Miao \(2011\)](#), the dividend value is classified as large if the value is greater than 0.25 and less than 2. Small_Div takes on a value of 1 if the firm is not classified as a large dividend-paying firm and 0 otherwise ([Sirait & Siregar, 2014](#); [Tong & Miao, 2011](#)).

5.2.3. Measurements: agency problem and financing constraints

To investigate the impact of the agency problem on managers' opportunistic behavior toward accrual-based EM practices in dividend payments, we divide the sample into

two—firms with the agency problem and firms without the agency problem. Then, we calculate the FCF for each firm-year observation. [Jensen \(1986\)](#) explained that success of cash flows over what is required to fund projects with positive NPVs. According to the FCF hypothesis, firms that have higher FCF tend to have higher agency costs due to the conflicts between managers and shareholders. Although the FCF is not a new measure of the agency problem in Chinese firms, a large stream of recent literature has utilized it to measure the agency problem ([Khan et al., 2017](#); [Tran, Hassan, Alam, Pezzo, & Abdul-Majid, 2021](#)). We categorize firms into firms with the agency problem and firms without the agency problem based on the FCF median value of firms in the respective year. Firms whose FCF is greater than the median value are categorized as firms with the agency problem and vice versa. The major advantage of using this approach is that this method considers the degree of the change in the agency problem in each year as the level of the agency problem of firms varies over time. We calculate the FCF as the operating income before depreciation scaled by the total assets in the respective year.

We also investigate the role that financial constraints play in managers' use of EM practices to respond to dividend payouts. Following [Khan et al. \(2017\)](#) and [Z. Liu, Li, Hao, and Liu \(2021\)](#), we use the KZ index to split the sample firms into financially constrained and non-financially constrained firms. [Kaplan and Zingales \(1997\)](#) used five different ratios to assess the degree of financing constraints based on the qualitative and quantitative information of firms. The present study utilizes the estimated coefficients that [Kaplan and Zingales \(1997\)](#) used to construct the KZ index for financing constraints as follows:

$$KZ_{i,t} = -\left(1.002 \frac{CF}{K_{t-1}}\right)_{i,t} + (0.283Q)_{i,t} + \left(3.139 \frac{D}{Total\ Cap}\right)_{i,t} - \left(39.368 \frac{Div}{K_{t-1}}\right)_{i,t} - \left(1.315 \frac{Cash}{K_{t-1}}\right)_{i,t}$$

where CF represents the cash flows, which are calculated by adding amortization and depreciation into the net profit; K represents the capital stock, which equals the sum of plant, property, and equipment; Q is the Tobin Q , which is the ratio of the market value of assets to the book value of assets; D is the sum of short- and long-term debt; $Total\ Cap$ represents the total capitalization, which is computed by adding total debt and shareholders' equity; Div represents the dividend payments, and $Cash$ is equal to the sum of cash and short-term investment.

Initially, this index was used only for firms in the US, but later, it was adopted in different countries, such as China ([Khan et al., 2017](#); [Z.; Liu et al., 2021](#)) and Brazil ([Castro, Kalatzis, & Martins-Filho, 2015](#)), because of its peculiar nature, i.e., as it considers a wide range of internal and external financial factors of a firm. As decisions about dividend policy, cash holdings, and capital structure cash flows vary across firms due to their different economic and financial conditions, the KZ index covers all these aspects. Therefore, we believe that the KZ index is suitable for Chinese firms. We categorize the firms into financially constrained and unconstrained based on the median

value of the KZ index. If a firm's KZ index is greater than the median value, then the firm is put in the financing constraint category and vice versa. Based on this approach, firms can migrate from financially constrained to unconstrained status across the years based on changes in their financial characteristics.

5.3. Empirical models

To assess the impact of dividend policy on EM practices, we employ the following regression models:

$$|DAC_{i,t}| = \beta_0 + \beta_1 DY_{i,t} + \beta_2 SFR_{i,t} + \beta_3 LEV_{i,t} + \beta_4 OPM_{i,t} + \beta_5 CR_{i,t} + \beta_6 Tang_{i,t} + u_{i,t} \quad (1)$$

$$|DAC_{i,t}| = \beta_0 + \beta_1 DPR_{i,t} + \beta_2 SFR_{i,t} + \beta_3 LEV_{i,t} + \beta_4 OPM_{i,t} + \beta_5 CR_{i,t} + \beta_6 Tang_{i,t} + u_{i,t} \quad (2)$$

$$|DAC_{i,t}| = \beta_0 + \beta_1 Large_Div_{i,t} + \beta_2 SFR_{i,t} + \beta_3 LEV_{i,t} + \beta_4 OPM_{i,t} + \beta_5 CR_{i,t} + \beta_6 Tang_{i,t} + u_{i,t} \quad (3)$$

$$|DAC_{i,t}| = \beta_0 + \beta_1 Small_Div_{i,t} + \beta_2 SFR_{i,t} + \beta_3 LEV_{i,t} + \beta_4 OPM_{i,t} + \beta_5 CR_{i,t} + \beta_6 Tang_{i,t} + u_{i,t} \quad (4)$$

The definitions of these variables are provided in Table 2.

Table 2
Variables definitions.

Abbreviations	Description
Dependent Variable	
DAC	The absolute value of the discretionary accruals (DAC) as a proxy of accrual-based EM, which equals the regressions residual estimated using the models of Haribar and Collins (2002) and McNichols (2002).
Independent Variable	
DY	Dividend yield is the ratio of dividend per share to the stock price of a firm.
DPR	DPR is calculated as dividend per share divided by earnings per share.
Large_Div	Large dividend is a dummy variable with a value of 1 if the dividend value is large based on the criteria in the study of Tong and Miao (2011) and otherwise 0.
Small_Div	Small dividend is also a dummy variable with a value of 1 if the dividend value is not classified as large and otherwise 0.
Control Variables	
SFR	Self-financing ratio is calculated as the operating cash flows divided by net fixed assets.
LEV	Firm leverage level is defined as the ratio of total debt to total assets.
OPM	Operating profit margin is defined as operating profit divided by sales volume.
CR	Current ratio is equal to the ratio of current assets to current liabilities.
Tang	Tangibility is defined as the ratio of the net plant, property, and equipment value to the book value of assets.

6. Empirical results and discussion

Table 3 presents the mean and standard deviation of all the five groups of firms. The table indicates that on average, the absolute value of both discretionary accrual measures in each firm group is greater than zero, which reveals managers' involvement in EM practices. Moreover, on average, the DPR for all firms is 27.12%. However, compared with firms without the agency problem (24.91%), firms with the agency problem have a higher DPR (29.34%). Firms with financing constraints have a lower payout ratio (22.98%) than firms without financing constraints (31.17%).

Columns (1) to (4) of Table 4 report the results of the fixed effect regressions where two accrual-based EM proxies are regressed on two dividend policy proxies (DY and DPR) with some control variables to test *H1*. The results reveal that the response of both dividend proxies (dividend yield and DPR) to EM is significant and negative. Therefore, we conclude that dividend-paying firms restrict managers' involvement in EM practices, supporting *H1*. This finding is consistent with prior studies (Deng et al., 2017; He et al., 2017; Nguyen & Bui, 2019; Shahwan & Almubaydeen, 2020). Furthermore, it is consistent with the “information contents of dividend hypothesis,” which proposes that dividend payments dampen managers' control over FCF, which ultimately limits managers' opportunistic involvement in EM practices in China (Deng et al., 2017). Moreover, in China, where the financial and legal system is less developed, dividend payments play a major role in ensuring persistent earnings, which is one of the major factors of a higher reporting quality. However, managers of dividend-paying firms have less private benefits to conceal earnings and consume cash flow and thus could be less likely to manipulate accounting information (He et al., 2017). The results are consistent with the findings of Tran (2020) and Handoyo and Kusumaningrum (2022), who proved that dividend payments suppress managers' involvement in EM practices. These pieces of evidence have revealed that dividend payments diminish the level of FCF, ultimately limiting insiders' benefits; thus, managers are unable to manipulate earnings. Columns (5) to (8) report the results of the two accrual-based EM proxies that are regressed on large dividend status and small dividend status with a set of control variables to test *H2*. In columns (5) and (6), the estimated coefficients reveal that the response of large dividend firms toward managers' role in EM is negative at the 10% significance level. However, columns (7) and (8) reveal that small dividend-paying status is significant ($p < 0.01$) and positively related to both measures of EM. Thus, we conclude that firms that pay large dividends restrict managers' discretions over EM practices, supporting *H2*. These results are consistent with the studies of Tong and Miao (2011) and Skinner and Soltes (2011), who documented that compared with firms that pay small or no dividends, firms that pay large dividends have better earnings quality. Another important reason for these findings is that in firms that pay large dividends, managers have a lower level of FCF, which limits their opportunistic involvement in fraudulent activities. However, in small

Table 3
Descriptive statistics.

Variable	All Firms		Firms with the Agency Problem		Firms Without the Agency Problem		Firms With Financing Constraints		Firms Without Financing Constraints	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
[DAC1]	0.0778	0.2367	0.0769	0.3016	0.0788	0.1394	0.0717	0.2447	0.0832	0.2293
[DAC2]	0.0609	0.1661	0.0629	0.2236	0.0589	0.0708	0.0614	0.1624	0.0604	0.1692
DY	0.0080	0.0117	0.0120	0.0140	0.0038	0.0065	0.0067	0.0111	0.0092	0.0121
DPR	0.2712	0.6096	0.2934	0.3576	0.2491	0.7830	0.2298	0.4696	0.3117	0.7183
Large_Div	0.3989	0.4897	0.4769	0.4995	0.3204	0.4667	0.3366	0.4726	0.4613	0.4985
Small_Div	0.6011	0.4897	0.5231	0.4995	0.6796	0.4667	0.6634	0.4726	0.5387	0.4985
SFR	0.2942	18.5344	0.6499	23.5110	−0.0619	11.5957	0.3098	9.0039	0.2786	24.6163
LEV	0.4584	0.3996	0.4814	0.2018	0.4356	0.5272	0.4764	0.4091	0.4403	0.3890
OPM	0.0697	1.4997	0.1813	1.8757	−0.0421	0.9789	0.0172	0.8121	0.1223	1.9579
CR	2.5865	3.7859	2.0610	3.0125	3.1028	4.3570	2.2543	3.5524	2.9208	3.9793
Tang	0.1685	0.1699	0.1833	0.1812	0.1535	0.1563	0.2351	0.1979	0.1019	0.0985

Table 4
Dividend Policy and EM—basic regressions for all firms
Variable: DAC as a Proxy for EM practices.

Variables	Overall Firms							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	[DAC1]	[DAC2]	[DAC1]	[DAC2]	[DAC1]	[DAC2]	[DAC1]	[DAC2]
DY	−0.5220*** (−3.20)	−0.2778* (−1.86)						
DPR			−0.0043* (−1.68)	−0.0077*** (−3.13)				
Large_Div					−0.0194*** (−4.64)	−0.0173*** (−5.49)		
Small_Div							0.0194*** (4.64)	0.0173*** (5.49)
SFR	−0.0009*** (−11.58)	−0.0003*** (−4.94)	−0.0009*** (−10.61)	−0.0002*** (−3.84)	−0.0009*** (−10.50)	−0.0002*** (−3.90)	−0.0009*** (−10.50)	−0.0002*** (−3.90)
LEV	0.0318*** (5.72)	0.0277*** (6.72)	0.0132* (2.42)	0.00407 (1.02)	0.0135*** (2.74)	0.00735** (2.05)	0.0135*** (2.74)	0.00735** (2.05)
OPM	0.0112*** (8.86)	0.0111*** (12.30)	0.0158*** (11.93)	0.0163*** (17.35)	0.0159*** (15.50)	0.0157*** (21.66)	0.0159*** (15.50)	0.0157*** (21.66)
CR	−0.0004 (−0.77)	−0.0001 (−0.31)	−0.0012 (−1.88)	−0.0007 (−1.41)	−0.0010 (−1.47)	−0.0005 (−1.04)	−0.0009 (−1.47)	−0.0005 (−1.04)
Tang	−0.1030*** (−5.80)	−0.00687 (−0.51)	−0.1060*** (−5.65)	−0.00785 (−0.56)	−0.1110*** (−5.80)	−0.0103 (−0.71)	−0.1110*** (−5.80)	−0.0103 (−0.71)
Constant	0.0836*** (17.33)	0.0493*** (13.47)	0.0927*** (19.23)	0.0624*** (17.20)	0.1000*** (20.03)	0.0665*** (17.69)	0.0808*** (14.95)	0.0492*** (12.13)
N	23,969	20,923	24,068	21,014	25,079	21,921	25,079	21,921
Group id's	3129	3126	3131	3128	3235	3232	3235	3232
Hausman P-Value	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
F- Statistics	46.42 (0.0000)	36.31 (0.0000)	48.45 (0.0000)	54.48 (0.0000)	67.83 (0.0000)	86.04 (0.0000)	67.83 (0.0000)	86.04 (0.0000)
R ²	0.0826	0.0185	0.067	0.0163	0.0957	0.0458	0.0957	0.0458

***P < 1%; **P < 5%; *P < 10%. T-statistics are in parentheses.

dividend-paying firms, managers have excessive cash flows, which motivate them to utilize the FCF for their personal benefits by altering the reported earnings.

In summary, dividend payments restrict managers' involvement in EM practices. Furthermore, compared with small dividend payments, large dividend payments ensure greater credibility of financial reports.

Table 5 reports the result of firms with the agency problem, where two EM measures are regressed on four different

dividend policy features (dividend yield, DPR, large dividend payments, and small dividend payments) with a set of control variables that might affect managers' behaviors toward EM practices. Columns (1) to (4) indicate that both dividend yield and DPR are negatively related to EM measures at different significant levels. These findings reveal that for firms with the agency problem, dividend payments dampen managers' involvement in EM practices for their personal benefits, which ultimately reduces the agency conflicts between managers and

Table 5
Dividend Policy and EM—basic regressions for firms with the agency problem
Dependent Variable: DAC as a Proxy for EM practices.

Variables	Firms With the Agency Problem							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	DAC1	DAC2	DAC1	DAC2	DAC1	DAC2	DAC1	DAC2
DY	−0.8720*** (−3.56)	−0.4320* (−1.89)						
DPR			−0.0187** (−2.17)	−0.0215*** (−2.77)				
Large_Div					−0.0287*** (−3.73)	−0.0212*** (−3.62)		
Small_Div							0.0287*** (3.73)	0.0212*** (3.62)
SFR	−0.0007*** (−6.03)	−0.0003*** (−3.79)	−0.0007*** (−5.89)	−0.0003*** (−3.74)	−0.0007*** (−5.83)	−0.0003*** (−3.74)	−0.0007*** (−5.83)	−0.0003*** (−3.74)
LEV	−0.0253 (−0.73)	−0.0448 (−1.63)	−0.0094 (−0.26)	−0.0394 (−1.43)	−0.0348 (−0.95)	−0.0606** (−2.12)	−0.0348 (−0.95)	−0.0606** (−2.12)
OPM	0.0199*** (7.83)	0.0186*** (10.34)	0.0198*** (7.62)	0.0185*** (10.25)	0.0191*** (9.85)	0.0180*** (13.25)	0.0191*** (9.85)	0.0180*** (13.25)
CR	0.00103 (0.76)	0.0003 (0.27)	0.0009 (0.72)	0.0003 (0.25)	0.0008 (0.59)	0.00003 (0.03)	0.0008 (0.59)	0.00003 (0.03)
Tang	−0.0689* (−1.67)	−0.0359 (−1.11)	−0.0594 (−1.41)	−0.0332 (−1.03)	−0.0773* (−1.78)	−0.0417 (−1.24)	−0.0773* (−1.78)	−0.0417 (−1.24)
Constant	0.1050*** (5.30)	0.0912*** (5.80)	0.0924*** (4.63)	0.0906*** (5.83)	0.1180*** (5.58)	0.1070*** (6.55)	0.0890*** (4.34)	0.0863*** (5.40)
N	12,192	10,439	12,196	10,441	12,765	10,942	12,765	10,942
Group id's	2300	2194	2302	2196	2384	2277	2384	2277
Hausman P-Value	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
F-Statistics	18.97 (0.0000)	21.49 (0.0000)	16.86 (0.0000)	21.92 (0.0000)	25.19 (0.0000)	35.11 (0.0000)	25.19 (0.0000)	35.11 (0.0000)
R ²	0.0659	0.0627	0.1464	0.1449	0.1337	0.1329	0.1337	0.1329

***P < 1%; **P < 5%; *P < 10%. T-statistics are in parentheses.

owners. These findings are consistent with the notion that dividend payments serve as the mechanism for diminishing the agency conflicts between managers and owners (He et al., 2017). Easterbrook (1984) contended that dividends dampen the agency problem by helping the capital market to monitor managers' behaviors, which makes it difficult for managers to utilize their discretions over earnings. In contrast, columns (5) to (8) reveal that in firms with the agency problem, large dividend payments are negatively related to EM practices, and small dividend payments are positively related to EM practices at the 10% significance in all models. These findings demonstrate that for firms with the agency problem, large dividend payments reduce managers' participation in EM by minimizing the FCF.

Table 6 presents the findings for firms without the agency problem. In the first and second columns, the results indicate that dividend yield is negatively related to both EM measures at the 5% and 10% significance levels, respectively. However, one of the two DPRs is negatively and significantly related to EM practices at the 5% significance level. Furthermore, columns 5–8 reveal that for firms without the agency problem, large and small dividend payments are negatively and positively related to EM practices at different significance levels. Therefore, based on Tables 5 and 6, we conclude that the response of all dividend features to managers' behavior toward EM practices are similar in both groups of firms, i.e., firms with

the agency problem and firms without the agency problem. The results are similar to the argument that agency costs do not adequately solve the cultural values and opportunistic behaviors of managers (Alam et al., 2020).

In summary, the findings reported in both Tables 5 and 6 indicate that the agency problem does not significantly affect the dividend policy–EM relationship.

Table 7 presents the results about firms with financing constraints. Columns 1–4 reveal that both dividend yield and dividend payout have an insignificant relationship with accrual-based EM in firms with financial constraints. Furthermore, columns 5 to 8 report the estimations where large and small dividend payment statuses are regressed on two different DAC measures. The results indicate that large dividend payments are negatively related to EM practices, leading to a higher reporting quality. However, small dividend payments are significantly and positively related to EM practices, indicating that in small dividend-paying firms, managers have FCF, which serves as an incentive for them to manipulate earnings.

Table 8 reports the results of firms without financing constraints. Columns 1 to 4 indicate that the estimated coefficients of both dividend yield and DPR of firms without financial constraints are negative and significant. However, columns 5 and 6 (−0.0241 and −0.0188, respectively) reveal that large dividend payments are negatively related to EM practices at the 10% significance level. Conversely, small dividend payments

Table 6
Dividend Policy and EM—basic regressions for firms without the agency problem
Dependent Variable: DAC as a Proxy for EM practices.

Variables	Firms Without the Agency Problem							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	DAC1	DAC2	DAC1	DAC2	DAC1	DAC2	DAC1	DAC2
DY	−0.5470** (−2.24)	−0.7230*** (−5.79)						
DPR			−0.0012 (−0.52)	−0.0028** (−2.83)				
Large_Div					−0.0082** (−2.28)	−0.0119*** (−7.48)		
Small_Div							0.0082** (2.28)	0.0119*** (7.48)
SFR	−0.0012*** (−12.04)	−0.00019*** (−3.49)	−0.0011*** (−10.03)	−0.00005 (−0.96)	−0.0011*** (−10.17)	−0.00004 (−0.79)	−0.0011*** (−10.17)	−0.00004 (−0.79)
LEV	0.0277*** (8.53)	0.0289*** (18.85)	0.0316*** (9.05)	0.0311*** (20.67)	0.0306*** (10.28)	0.0300*** (23.11)	0.0306*** (10.28)	0.0300*** (23.11)
OPM	−0.0193*** (−12.99)	−0.0256*** (−33.61)	−0.0180*** (−10.77)	−0.0242*** (−31.10)	−0.0167*** (−11.28)	−0.0219*** (−32.11)	−0.0167*** (−11.28)	−0.0219*** (−32.11)
CR	−0.0010** (−2.33)	−0.00001 (−0.02)	−0.0022*** (−4.46)	−0.0002 (−0.95)	−0.0021*** (−4.34)	−0.0001 (−0.55)	−0.0021*** (−4.34)	−0.0001 (−0.55)
Tang	−0.0747*** (−5.51)	0.0648*** (9.81)	−0.0790*** (−5.11)	0.0639*** (9.31)	−0.0770*** (−5.17)	0.0680*** (10.11)	−0.0770*** (−5.17)	0.0680*** (10.11)
Constant	0.0803*** (24.68)	0.0357*** (22.47)	0.0825*** (22.94)	0.0346*** (21.57)	0.0848*** (24.09)	0.0378*** (23.69)	0.0766*** (17.95)	0.0259*** (13.54)
N	11,747	10,459	11,842	10,548	12,284	10,954	12,284	10,954
Group id's	2339	2331	2351	2310	2417	2376	2417	2376
Hausman P-Value	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
F-Statistics	79.92 (0.0000)	307.57 (0.0000)	64.71 (0.0000)	284.33 (0.0000)	73.44 (0.0000)	326.91 (0.0000)	73.44 (0.0000)	326.91 (0.0000)
R ²	0.161	0.2873	0.0949	0.2554	0.1076	0.2868	0.1076	0.2868

***P < 1%; **P < 5%; *P < 10%. T-statistics are in parentheses.

are positively related to EM practices at the 10% significance level. In summary, the results of Tables 7 and 8 confirm that compared with those of firms with financing constraints, the dividend payments of firms without financing constraints lead to a lower involvement of managers in EM practices. These findings also support *H4*. These results support the notion that in firms without financing constraints, having a lower level of cash holding by paying dividends leads to a better reporting quality (Mansali et al., 2019). The results are consistent with the arguments of Farrell et al. (2014), who documented that financial constraints are positively related to AEM practices, which implies that higher financial difficulties lead to more involvement in EM practices. The results also support the concept that higher reporting authenticity and dividend payments are significantly related to the alleviation of financing constraints (Pathak, 2020). The results also support the notion that firms that are financially constrained have a higher level of accruals (Linck et al., 2013). Thus, financing constraints significantly affect the relationship between cash profit sharing and EM practices (Kong et al., 2021, pp. 1–25). Additionally, the results are also similar to the findings of a recent study which revealed that in China, compared with managers of non-financially constrained firms, managers of financially constrained firms are usually involved in EM practices (Khan et al., 2021).

6.1. Robustness test

In Tables 3–8, to enhance the validity of the results or to improve the robustness, we use four different features of our key independent variable, i.e., dividend policy (dividend payout, dividend yield, large dividend-paying status, and small dividend-paying status), and two different proxies for DAC to measure our key dependent variable (accrual-based EM). The estimations provide similar results in both proxies of AEM practices. Furthermore, to econometrically enhance the robustness of the results and address the issue of potential endogeneity, we also run the panel data “generalized method of moment (GMM)” approach. The coefficients and significance levels of the estimated results of the GMM are also consistent with those of the fixed or random effect approach. In this study, the results of the GMM approach are not reported to conserve space.

7. Summary and conclusion

This study analyzes whether the impact of dividend policy on EM practices vary when firms face the agency problem and financing constraints. This study is somehow unique because Pathak (2020) contended that dividend payouts and EM practices are mainly related through two

Table 7

Dividend Policy and EM—basic regressions for firms with financing constraints
Dependent Variable: DAC as a Proxy for EM practices.

Variables	Firms With Financing Constraints							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	[DAC1]	[DAC2]	[DAC1]	[DAC2]	[DAC1]	[DAC2]	[DAC1]	[DAC2]
DY	−0.0092 (−0.08)	−0.0851 (−0.63)						
DPR			−0.0030 (−0.83)	−0.0026 (−0.85)				
Large_Div					−0.0092* (−1.69)	−0.0101** (−2.35)		
Small_Div							0.0092* (1.69)	0.0101** (2.35)
SFR	0.00003 (0.34)	0.00004 (0.83)	−0.0001 (−0.77)	0.00001 (0.13)	−0.0002 (−1.21)	−0.00007 (−0.38)	−0.0002 (−1.21)	−0.00007 (−0.38)
LEV	0.0072** (2.02)	0.0101*** (2.91)	0.0222*** (3.86)	0.0205*** (4.55)	0.0252*** (4.19)	0.0244*** (5.26)	0.0252*** (4.19)	0.0244*** (5.26)
OPM	−0.0210*** (−13.90)	−0.0246*** (−15.61)	−0.0187*** (−7.18)	−0.0234*** (−10.80)	−0.0158*** (−5.97)	−0.0194*** (−9.07)	−0.0158*** (−5.97)	−0.0194*** (−9.07)
CR	−0.0021*** (−3.35)	0.0002 (0.31)	−0.0007 (−0.67)	0.0011 (1.28)	−0.00009 (−0.08)	0.0015 (1.50)	−0.00009 (−0.08)	0.0015 (1.50)
Tang	−0.0530*** (−4.95)	0.0436*** (4.16)	−0.0524*** (−2.85)	0.0469*** (3.25)	−0.0536** (−2.51)	0.0452*** (2.69)	−0.0536** (−2.51)	0.0452*** (2.69)
Constant	0.0837*** (22.04)	0.0438*** (11.68)	0.0747*** (11.79)	0.0368*** (7.30)	0.0761*** (10.40)	0.0384*** (6.61)	0.0669*** (8.29)	0.0284*** (4.43)
N	11,126	9542	11,163	9578	11,820	10,166	11,820	10,166
Group id's	2257	2145	2258	2126	2350	2217	2350	2217
Hausman P-value	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
F-Statistics	42.47 (0.0000)	47.36 (0.0000)	14.76 (0.0000)	26.66 (0.0000)	12.18 (0.0000)	22.00 (0.0000)	12.18 (0.0000)	22.00 (0.0000)
R ²	0.028	0.0369	0.0221	0.024	0.0309	0.0251	0.0309	0.0251

***P < 1%; **P < 5%; *P < 10%. T-statistics are in parenthesis

channels—information asymmetry and the agency problem. However, to the best of the authors' knowledge, no single study has explicitly considered the empirical role of both channels in the relationship between dividend payments and EM practices. Hence, this study sheds light on the literature by considering the role of dividends payments to determine managers' behavior toward EM practices under both scenarios, i.e., when firms face financing constraints and the agency problem. Furthermore, this research is also interesting as it is about the Chinese economy, where the stock market is at a developing stage, and the quality of accounting reports is much lower than that of developed countries (Hussain et al., 2020). By using a sample of Chinese non-financial listed firms, this study reveals very interesting findings. First, in the context of the whole sample, consistent with the “information contents of dividend hypothesis,” the findings indicate that dividend payments diminish managers' opportunistic behavior toward EM practices. This indicates that dividend payments reduce a firm's cash flows, which restricts managers' EM practices. We also analyze whether larger dividend payments dampen managers' involvement in EM practices. The results reveal that the answer is “yes.” Small dividend-paying firms have excess cash flows, which ultimately incentivize managers to use their discretions over the cash flows. Moreover, the results reveal that the agency problem does not have a different effect on the dividends–EM relationship. This

result is consistent with the argument of Alam et al. (2020), who stated that the agency problem does not provide an adequate solution for managers' opportunistic behaviors. In contrast, this study provides ample evidence that in firms without financing constraints, dividend payments restrict managers from utilizing their discretions over EM and vice versa. The results are similar to the findings of Kong et al. (2021, pp. 1–25), who claimed that financing constraints impact the relationship between cash profit sharing and EM practices. Furthermore, Khan et al. (2021) demonstrated that managers of financially constrained firms are usually more involved in EM practices than those of non-financially constrained firms.

The results of this study have multiple implications for managers, investors, and practitioners. The findings suggest that DPR, dividend yield, and the size of dividends affect managers' involvement in EM practices. This indicates that dividend-paying firms belong to a homogenous group that restricts managers' involvement in EM practices; thus, investors can refer to firm dividend policy as a mechanism for assessing the authenticity of firms' financial reports. Furthermore, when facing financing constraints, small dividend payments encourage managers' behavior toward EM practices. Hence, when assessing firms reporting quality, investors should consider the financial health of the firm (to examine whether the firm is in a financially constrained or unconstrained

Table 8
Dividend Policy and EM—basic regressions for firms without financing constraints
Dependent Variable: DAC as a Proxy for EM practices.

Variables	Firms Without Financing Constraints							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	DAC1	DAC2	DAC1	DAC2	DAC1	DAC2	DAC1	DAC2
DY	−0.7070*** (−3.25)	−0.673*** (−3.10)						
DPR			−0.0034 (−1.07)	−0.0089** (−2.50)				
LargeDiv					−0.0241*** (−4.14)	−0.0188*** (−4.26)		
SmallDiv							0.0241*** (4.14)	0.0188*** (4.26)
SFR	−0.0005*** (−5.90)	−0.00009 (−1.38)	−0.0005*** (−4.93)	−0.00002 (−0.33)	−0.0005*** (−4.94)	−0.00002 (−0.28)	−0.0005*** (−4.94)	−0.00002 (−0.28)
LEV	0.0388*** (4.53)	0.0232*** (3.67)	−0.0154* (−1.77)	−0.0344*** (−5.53)	−0.00518 (−0.68)	−0.0227*** (−4.12)	−0.00518 (−0.68)	−0.0227*** (−4.12)
OPM	0.0168*** (12.62)	0.0166*** (17.03)	0.0221*** (14.83)	0.0224*** (21.16)	0.0199*** (18.69)	0.0196*** (25.94)	0.0199*** (18.69)	0.0196*** (25.94)
CR	0.00001 (0.03)	−0.00006 (−0.11)	−0.0012 (−1.52)	−0.0009 (−1.45)	−0.0009 (−1.12)	−0.0006 (−1.06)	−0.0009 (−1.12)	−0.0006 (−1.06)
Tang	−0.1270*** (−3.73)	−0.0611** (−2.32)	−0.1250*** (−3.29)	−0.0592** (−2.07)	−0.132*** (−3.57)	−0.0644** (−2.32)	−0.132*** (−3.57)	−0.0644** (−2.32)
Constant	0.0817*** (13.02)	0.0551*** (11.40)	0.105*** (16.31)	0.0840*** (17.34)	0.111*** (17.00)	0.0853*** (17.45)	0.0867*** (12.64)	0.0665*** (12.95)
N	12,843	11,381	12,905	11,436	13,259	11,755	13,259	11,755
Group id's	2615	2577	2618	2580	2685	2645	2685	2645
Hausman P-value	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
F-Statistics	38.98 (0.0000)	51.47 (0.0000)	44.39 (0.0000)	85.24 (0.0000)	68.10 (0.0000)	121.67 (0.0000)	68.10 (0.0000)	121.67 (0.0000)
R2	0.0419	0.0339	0.0253	0.0546	0.0415	0.0742	0.0415	0.0742

***P < 1%; **P < 5%; *P < 10%. T-statistics are in parentheses.

situation) along with dividend size. Therefore, we believe that this study will improve the understanding of investors in making the right decisions.

This research is not free from limitations. First, not directly capturing managers' opportunistic behavior toward EM is a major drawback of the current study. This study only measures managers' opportunistic behavior by employing different proxies of accrual-based EM. Second, this study only considers non-financial Chinese listed firms; hence, future research may expand the scope of the research by comparing financial and non-financial firms or other emerging markets. Lastly, other techniques of EM (e.g., real EM) and other measures of earnings quality (e.g., timeliness and earnings response) are also ignored by this study. Therefore, future researchers may extend this research by overcoming these deficiencies.

Declaration of competing interest

Authors declares that there is no conflict of interest.

Appendix A. Supplementary data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.bir.2022.05.003>.

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