CHIEF EXECUTIVE OFFICER DUALITY AND THE RELATIONSHIP BETWEEN FIRM PERFORMANCE AND DIVIDEND PAYOUTS

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Abstract

Using a panel of data on manufacturing firms listed on the Chinese stock exchange over the period 2017 to 2022, this research paper empirically investigates the relationship between firm performance and dividend payouts. Unique features of Chinese financial markets allow us to contribute to the literature on how corporate governance, in particular concentrated managerial power and state ownership, affects agency costs and therefore the relationship between firm performance and dividend payouts (Burdeos, 2021; Debnath et al., 2022; Vicente, 2020). The main findings of this study are as follows. Firms follow the pecking order theory when funding their capital needs: firms wait for dividends, preferring to take advantage of profitable investment opportunities when firm performance is good. This negative relationship between firm performance and dividend payout is even stronger at firms with highly concentrated managerial power as indicated by chief executive officer (CEO) duality. However, state-owned enterprises, which face a double principal–agent problem that cannot be fully addressed by CEO duality, demonstrate a weaker negative relationship between firm performance and dividend payouts. We find evidence that the negative relationship between firm performance and dividend payouts strengthened during the COVID-19 pandemic: firms were even more likely during to prefer internal financing during the pandemic years.

Keywords: Capital Structure, Dividend Payout, Pecking Order Theory, Management Power, State-Owned Enterprises

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1. INTRODUCTION

The optimal capital structure and dividend payout are crucial factors that directly impact a firm's cost of capital. Research on the difference between the cost of debt and the potential unobservable opportunity cost of equity probably began with Modigliani and Miller's (1958) seminal study on capital structure and cost of capital. One significant contribution to the field was Myers (1984) introduction of the pecking order theory, which postulates that managers have a hierarchy when considering sources of financing and first avail themselves of capital resources with the least information asymmetry.

When additional funds are needed to finance new investment, firms have a choice between internal or external financing. Internal financing, retained earnings, has no informational

asymmetries, so according to Myers' (1984) pecking order theory, firms will turn first to internal financing. Internal financing may be particularly attractive to firms operating in emerging markets, where accessing external capital can be challenging due to institutional barriers. For fast-growing firms, internal financing may be sufficient to cover the firm's capital needs (Guariglia et al., 2011). Conglomerates may have an internal financial market that lowers financial costs (Shin & Park, 1999), and highly concentrated management power and share ownership may influence the reliance on internal financing (Goergen & Renneboog, 2001). In China, the institutional setting for this study, firms must first obtain permission from regulatory authorities to issue bonds or stocks to the public, so internal financing may be even more strongly preferred that it would be in less regulated financial markets.

When internal financing is not sufficient to cover financing needs, firms must turn to external financing. The pecking order theory posits that among external financing options, firms will prioritize debt financing over equity financing since information asymmetries are lower for debt financing than for equity financing. Thus, early empirical tests of the pecking order theory focused on how closely debt financing tracks the financing deficit (Shyam-Sunder & Myers, 1999; Frank & Goyal, 2008).

However, deciding on the appropriate leverage for a firm's capital structure is a challenge. If the leverage is too small, the firm may lose opportunities to grow and perform poorly compared to competitors that have growth opportunities (García-Feijóo & Jorgensen, 2010; Cao, 2015). Conversely, if the leverage is too high, any negative business risk would be amplified, increasing the firm's systematic risk (Gahlon, 1981). The level of operating leverage can significantly impact a firm's financial market performance (Aharon et al., 2023). When making decisions about leverage levels, it is essential to consider investment and production flexibility (Sarkar, 2018). A large default risk is also reflected in the capital cost and can decrease the firm's net profit for shareholders. Moreover, a firm's operating leverage is related to the principal–agent issue. If the managers hold shares and the agency conflict is unobservable, they may choose low leverage to protect their interests (Chen, 2015). Leverage is a double-edged sword. On the one hand, debt can regulate managers and reduce agency costs; on the other hand, it can enlarge losses when agency conflicts dominate (Ugur et al., 2022). Balancing the capital structure dynamically requires a scientific and sometimes artistic approach when forecasting a firm's revenue and considering the optimal operating leverage. Thus, the pecking order theory is often contrasted with the trade-off theory which posits that the optimal capital structure is a trade-off between interest tax shield and the cost of financial distress (Haddad & Lotfaliei, 2019).

Existing research demonstrates that decisions about capital structure may depend upon firm characteristics. When internal control is weak, firms are more likely to rely on external financing (Shi & Wang, 2012). External finance involves issuing debt financing instruments such as bonds or borrowing from banks, with strict debt covenants that limit excessive debt-taking and financial risk behaviors.

These strict debt covenants may alleviate agency problems (Iancu et al., 2017; Li, Li, et al., 2020). Before firms receive external finance, managers may manipulate earnings and performance (Zhang, Uchida, et al., 2020) and increase related party transactions (Bhandari et al., 2022). Current monetary policies (Xiao et al., 2022), political risks (Gyimah et al., 2022), and investment environment risks (Cubeddu et al., 2023) must be well-studied to consider a firm's financial strategies when using external finance. Firms with higher efficiency and productivity have easier access to external finance (Chen & Matousek, 2020).

Aside from firm characteristics, managerial characteristics may influence firm capital structure. Managers' decision-making is influenced by personal biases, including cognitive and emotional biases (Hundal & Eskola, 2020), which can negatively impact capital structure decisions when managers possess a large amount of power. Overconfident managers tend to make aggressive capital structure decisions, which may influence investors' decision to invest in the firm (Banerjee et al., 2018; Lu et al., 2023). However, a diversified board and less concentrated management can help mitigate the effect of manager overconfidence (Gurdgiev & Ni, 2023). In some cases, managers may choose dividend smoothing to moderate conflicts between shareholders and debt holders (Aoki, 2023).

The existing empirical literature on the pecking order theory tends to focus on the choice firms face in their external financing (Adair & Adaskou, 2015; Allini et al., 2018; Chen et al., 2013; Frank & Goyal, 2008; Shyam-Sunder & Myers, 1999). These tests of the pecking order theory treat the financing deficit, which includes investment and dividends, as exogenous. Yet, as much financial theory recognizes, dividend payouts are probably not exogenous. In fact, prioritizing internal financing through retained earnings, as the pecking order theory proposes, may require firms to cut dividends to raise internal finance. This study aims to contribute to the empirical literature on the implications of the pecking order theory for internal financing. The dividend policy of a firm can impact its capital structure and overall value, as noted by Neugebauer et al. (2023). Regular, significant cash dividends decrease equity size and increase operating leverage, while larger and more regular dividends indicate lower levels of information asymmetry (Jabbouri & El Attar, 2017). However, managers must consider the tax implications of cash dividends (Hillmann, 2023; Lee, 2022). Meanwhile, a stock dividend can decrease operating leverage by increasing additional paid-in capital. Excessive dividends, especially during prosperous periods, can hurt future earnings (Grassetti et al., 2023) and concentrate management power.

This study empirically examines the following research questions:

RQ1: How does firm performance affect dividend payouts in financial markets in China?

RQ2: Is the relationship between firm performance and dividend payouts consistent with the pecking order theory for listed firms in China?

We explore these questions empirically with a panel of data on 1,264 manufacturing firms listed on the Chinese stock exchange over the period 2017 to 2022, yielding a final data set of 7,584 firm-year observations.

The Chinese market is an exceptional candidate for research into these issues due to the wide range of firms operating within it. Family-dominated, state-owned, and regular exchange-listed firms have distinct interests and incentives, making them particularly interesting to study. Furthermore, the level of agency problems (Xia et al., 2021; Li et al., 2017), dividend policies (Kong et al., 2023), and investment efficiencies differ greatly among these firms. The constraints of publicly listing the equity of these firms also make access to equity capital more challenging, which in turn affects their capital structure (Gombola et al., 2019). In developed economies, board independence is valued, encouraged, and in many cases, required. Certainly, conventional wisdom in most developed financial markets holds that the role of the manager or CEO should be separate from that of board chair (Lagasio, 2021; Sahoo et al., 2022). In China, as in many other developing economies, duality in the role of CEO and board chair is much more common. Additionally, the state-owned economy in China is unique compared to other large economies around the world. Chinese state-owned enterprises (SOEs) have different capital access (Chang et al., 2014) and distribution incentives (Huang et al., 2018) than their counterparts in other countries. The ownership structure of firms can significantly affect the firm management and operating strategy. These unique features of Chinese financial markets allow us to explore of corporate governance affects the relationship between firm performance and dividend payouts.

This paper makes several important contributions to the existing research. Firstly, while there have been numerous studies on pecking order theory, this study contributes to the nascent body of empirical evidence on the pecking order theory in emerging markets and how firm performance influences the decision to use internal financing. Secondly, we focus on a unique institutional characteristic of Chinese financial markets: the higher presence of CEO duality, explained in detail below, which aligns the incentives of managers and shareholders, alleviating the principal-agent problem. Finally, we explore the unique corporate governance structure of SOEs, which face complex incentives. We explore how management power in SOEs affects their capital structure and distribution policy, particularly SOEs that also have CEO duality, thereby contributing to a better understanding of these unique aspects of Chinese financial markets.

The rest of this study is organized as follows. Section 2 reviews the related literature to develop several specific hypotheses. Section 3 discusses data and empirical methodology used to test those hypotheses. The empirical results are reported and discussed in Section 4. Finally, Section 5 concludes and provides some directions for future research.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Pecking order theory

Firms tend to seek additional investments when they have profitable investment opportunities that are expected to generate high returns. Although any investment involves a cost to capital, firms with profitable investment opportunities expect to be able to cover those costs with the returns from their project. How will firms finance those investments? According to the pecking order theory of Myers (1984), firms will turn first to retained earnings. This is because the cost of capital increases with information asymmetry, meaning the best source of reliable, inexpensive capital is retained earnings, which managers have perfect control over. Therefore, if the pecking order theory is correct, high-performing firms are likely to use retained earnings first, with external capital being used only when internal capital is insufficient to cover new projects.

There are certainly qualifications to this to be found in the literature. Small firms may be more likely than large firms to use retained earnings first, as they have difficulty accessing external capital (Yıldırım & Çelik, 2021). Financing decisions by firms using stock repurchases to actively manage their capital structure may instead seek an optimal ratio of debt versus equity financing as posited by the static tradeoff theory (De Jong et al., 2011). Additionally, there is evidence that firms may choose to issue additional equity rather than rely on retained earnings when the equity issuance value is affected by market timing and the market is good (Chen et al., 2013).

We note that there are competing theories about how firm performance influences dividend payouts. The "outcome view" (Jensen, 1986; La Porta et al., 2000) posits that high firm performance mitigates the principal-agent problem by making bad investments by manager/agents more visible to shareholders/principals (Biddle et al., 2009). This disciplines managers who might otherwise be tempted to underpay dividends. Therefore, the outcome view predicts that better firm performance translates into higher dividends. There is empirical support for this view in both developed and developing financial market research (Lie, 2005; Fukuda, 2000; Rajesh Kumar & Sujit, 2018). The "substitute view", by contrast, suggests that better firm performance substitutes for dividend payments as a reputational signal to markets that the firm is high performing. The substitute view predicts that better firm performance substitutes for dividend payments and therefore translates into lower dividend payments.

In addition to profitability as measured by return on equity (ROE), we control for various firm specific characteristics that may influence dividend payouts, which are discussed below. Here we would like to draw attention to firm earnings quality. While firms may manipulate other measures of earnings such as earnings per share, the quality of earnings is often a better measure of how reliable a company's earnings are for assessing current and future performance (Ghosh et al., 2005; Alsmady, 2022). In the empirical analysis to follow we will first investigate a baseline regression of the relationship between firm performance and dividend payouts, and then explore whether that relationship is robust to the inclusion of earnings quality as a control variable.

Based on the pecking order theory of Myers (1984) and the substitute view of earnings quality, we hypothesize that overall, shareholders of firms with profitable investment opportunities find it optimal to take advantage of those opportunities for growth and are willing to wait for dividends.

Therefore, our first set of hypotheses propose that the relationship between firm performance and dividend payouts is negative. When firms have good performance, as measured by high ROE, firms are more likely to sacrifice dividend payouts in order to pursue growth opportunities. We hypothesize that this fundamental relationship holds even after controlling for earnings quality.

H1a: Better firm performance leads to lower firm dividend payouts.

H1b: Better firm performance leads to lower firm dividend payouts even after controlling for the quality of firm earnings.

2.2. Corporate governance and capital structure

As discussed above, the theoretical literature posits that relationship between firm performance and dividend payouts is affected by the principal–agent problem between the firms' manager/agents and the shareholders/principals. If managerial power is heavily concentrated, the manager/agent's incentives may affect the firm's dividend policy more than the incentives of shareholders/principals. This has also been confirmed empirically across many different countries (Zhang et al., 2023). Furthermore, the empirical research has demonstrated that if the decision-maker experiences high recognition bias, the capital structure may become more volatile with operational performance (Gu, 2023). Due to the special institutions and cultural factors in China's financial markets, the concentration of managerial power, or, conversely, the size of the so-called "power gap" between the chairman and CEO is an especially important factor in corporate governance in China (Wang et al., 2021).

To explore the effect of concentrated managerial power on the relationship between firm performance and dividend payouts, we investigate the role of CEO duality. CEO duality refers to a situation in which the CEO of a company simultaneously serves as the chair of the company's board of directors (Voinea et al., 2022). In terms of corporate governance, there are advantages and disadvantages to CEO duality (see, for example, Ramdani and Witteloostuijin, 2010, for a discussion). One advantage of CEO duality is that it aligns incentives between shareholders and the CEO, thereby reducing the principal-agent problem. El Ammari (2021) has shown empirically that CEO duality affects dividend distribution policy in emerging markets.

Based on the theoretical literature suggesting that CEO duality reduces the principal-agent problem, we hypothesize that firms with highly concentrated managerial power, as indicated by CEO duality, will demonstrate and even stronger relationship between firm performance and dividend payouts than other firms. There, we propose the following hypotheses:

H2a: Concentrated management power as indicated by CEO duality strengthens the negative relationship between firm performance and dividend payouts.

H2b: Concentrated management power as indicated by CEO duality strengthens the negative relationship between firm performance and dividend payouts even after controlling for the quality of firm earnings.

2.3. Key stakeholder theory

When considering business ethics or corporate social responsibility through the key stakeholder theory (Donaldson & Preston, 1995), a firm's success is measured by the satisfaction it delivers to all stakeholders rather than solely by shareholder value. As highlighted by Lindsey et al. (2021) and Singh and Rahman (2022), merely fulfilling financial responsibility to shareholders does not meet the standards of corporate social responsibility.

In the case of state-owned firms, the stakeholders are the citizens of the country. This unique corporate governance structure, common in China, may affect dividend payout policies and the relationship between firm performance and dividend payouts (Yang et al., 2021). While the stakeholders of SOEs are the citizens of the country, the citizens do not directly own the SOEs, so they are not usually the direct shareholders. The citizens' elected officials are the ultimate owners of the corporation. As explained by Gugler (2003), state-owned enterprises may face a double principal-agent problem. The first is the traditional principal-agent problem between shareholder-principals and manager-agents. In the case of SOEs, if large numbers of citizen stakeholders shirk on their monitoring of elected officials, the actual shareholders, then even the shareholder-principals, the elected officials, may not actively monitor the SOEs resulting in a second principal-agent problem.

Shareholders of state-owned enterprises — in this case, the public — may expect SOEs to demonstrate more corporate social responsibility than privately held firms, as has been indicated in some of the existing literature on this topic (He & Kyaw, 2018; Shen et al., 2020). Thus, we might expect the level of dividend payouts at SOEs to be higher than those at other firms. However, given that the double principal-agent problem unique to SOEs means that stakeholders expectations are not weighted very heavily in the decision-making process, we expect the level of dividend payouts at SOEs to be lower than those at privately held firms. Since managers at SOEs may not need to worry about reputation in the market, the substitution hypothesis, which posits that firms with weak corporate governance need to establish a reputation by paying dividends (see, for example, Al-Najjar & Hussainey, 2009), will not hold at SOEs.

It is interesting to consider the implications of heavily concentrated managerial power on the behavior of state-owned enterprises. In the case of privately held firms, we discussed above how CEO duality would be expected to result in an even stronger negative relationship between firm performance and dividend payouts than at other firms (*H2a* and *H2b*). However, in the case of SOEs, while CEO duality may ameliorate the primary principal-agent problem, aligning the incentives of managers and shareholders, it does not address the secondary principal-agent problem between the shareholders — elected officials — and the stakeholders — citizens of the state. Therefore, we might expect the level of dividend payouts to be even lower at SOEs in which managerial power is heavily concentrated than they are at other SOEs. And we might expect the negative relationship between firm performance and dividend payouts to be weaker at SOEs in which managerial power is heavily concentrated than it is at other firms.

We hypothesize that on the whole, the double principal-agent problem at state-owned enterprises in China results in a lower level of dividend payouts for SOEs and a stronger negative relationship between firm performance and dividend payouts at SOEs than at privately held firms. While CEO duality can alleviate the traditional principal-agent problem, it does not significantly alleviate the secondary principal-agent problem faced by SOEs, so we expect the secondary principal-agent problem faced by SOEs to result in weaker relationship between firm performance and dividend payouts for SOEs with CEO duality than for privately held firms with CEO duality.

H3a: The double principal-agent problem at state-owned enterprises (SOEs) means that SOEs pay lower dividend payouts overall than do privately held firms.

H3b: The double principal-agent problem at state-owned enterprises (SOEs) means that the negative relationship between firm performance and dividend payouts is even stronger at SOEs than at privately held firms.

H3c: Concentrated management power as indicated by CEO duality does not alleviate the secondary principal-agent problem at SOEs, so SOEs with CEO duality demonstrate a weaker negative relationship between firm performance and dividend payouts than do privately held firms with CEO duality.

H3d: Concentrated management power as indicated by CEO duality does not alleviate

the secondary principal-agent problem at SOEs, so SOEs demonstrate a weaker negative relationship between firm performance and dividend payouts than do privately held firms with CEO duality, even after controlling for the quality of firm earnings.

3. DATA AND EMPIRICAL METHODOLOGY

3.1. Data

To empirically test the hypotheses identified above, panel data on 1,264 manufacturing firms listed on the Chinese stock exchange over the period 2017 to 2022 were collected from the Choice Database. After excluding firms that listed after the first year of the sample, 2017, the final sample is a balanced panel of 7,584 firm-year observations.

Table 1 reports the descriptive statistics of the sample observations. Even before moving on to more sophisticated analysis, we can see from the summary statistics that dividend payouts are relatively small compared to earnings per share, which is what we might expect if the pecking order theory holds for our sample.

The descriptive statistics also indicate that about a quarter of the firms in the sample have heavily concentrated managerial power: the CEO is simultaneously serving as chair of the board. And about one-third of the firms are SOEs, which have another form of unique corporate governance.

Table 1. Descriptive statistics

Variables	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Dividend per share (*DIV*), yuan	7,584	0.172	0.617	0	0	0.2	26
Return on equity (*ROE*), %	7,584	2.739	191.885	-15,824.420	2.170	12.085	1,104.102
Earnings quality (*QUALITY*), %	6,551	0.096	0.265	0.0001	0.032	0.120	18.691
CEO and chair of board duality (*DUAL*), binary	7,584	0.242	0.428	0	0	0	1
State-owned enterprise (*SOE*), binary	7,584	0.338	0.473	0	0	1	1
Earnings per share (*EPS*), yuan	7,584	0.418	1.410	-16.460	0.060	0.570	49.930
Top shareholders' ownership (*TOP*), %	7,584	31.812	13.855	1.840	21.418	40.318	89.090

Table 2 lists the full variable names, the abbreviation used to represent the variable in the equations to follow, any treatment or calculation of the variables and relevant references from the existing literature.

Table 3 reports the correlation matrix of the variables used in the empirical analysis.

Table 2. Variable definitions

Variables	Symbol	Variables treatment	Reference
Dividend per share	DIV	*Dividend per share*	Dependent variable
Return on equity	ROE	*Net profit/Total equity*	Zhang, Cui, et al. (2020), Aivazian et al. (2003)
Earning quality	QUALITY	*Net profit/Revenue (firm year observation with negative net profit is excluded)*	Barros et al. (2020), Tong and Miao (2011)
CEO and chair of board duality	DUAL	*Binary, if the board chairman is also CEO, DUAL = 1, otherwise DUAL = 0*	Brockman and Unlu (2011), Barros et al. (2022), Sheikh (2022)
State-owned enterprise	SOE	*Binary, if the firm is state-owned, SOE = 1, otherwise SOE = 0*	Lou et al. (2021)
Earnings per share	EPS	*Net profit/total number of shares outstanding*	Yu et al. (2023), Michael and Moin (2022), Karpavičius (2014)
Top shareholders' ownership	TOP	*Percentage of shares hold by the largest shareholder*	Li, Zhou, et al. (2020), Kumar et al. (2023), Shah et al. (2023)

Table 3. Correlation matrix

Variables	DIV	ROE	QUALITY	DUAL	SOE	EPS
ROE	0.022					
QUALITY	0.101***	0.207***				
DUAL	-0.023*	0.006	0.004			
SOE	0.037**	0.011	-0.048***	-0.225***		
EPS	0.857***	0.067***	0.130***	-0.010	0.045***	
TOP	0.123***	0.022	-0.012	-0.065***	0.177***	0.107***

3.2. Empirical methodology

The data described above are used to empirically test the hypotheses presented in section two about the pecking order theory, the role of corporate governance on the pecking order theory and how shareholder theory influences the pecking order theory. While most existing empirical literature on the pecking order theory uses debt or the leverage ratio as the left-hand side dependent variable, exploring how much of the debt level or leverage ratio is explained by the firms' financing deficit, we are more interested in the decision by firms to sacrifice dividends in order to access internal financing. Thus, in the specifications to follow, dividends per share are the dependent variable, regressed on firm performance and other controls. We use ordinary least squares (OLS) analysis of the actual ratio of dividends per share rather than logit or probit analysis to investigate how firm performance affects the amount of dividends paid after controlling for shares, rather than simply the decision to pay dividends or not.

3.2.1. Choice of capital

If firms adhere to the pecking order theory, the initial resource shareholders and managers should consider is the profit or retained earnings from past years. If shareholders and managers perceive good investment opportunities or if the firm's performance is strong, they are expected to decrease dividends or avoid paying any additional dividends in order to take advantage of those investment opportunities and the strong performance. As explained above, we expect firms to wait for dividends in order to take advantage of investment opportunities even after controlling for earnings, so we include earnings per share as a firm-specific control variable and earnings quality.

Eq. (1) and Eq. (2) are used to test hypotheses *H1a* and *H1b*, which explore the implications of the pecking order theory using ROE as the measure of firm performance.

$$DIV_{i,t} = \beta_0 + \beta_1 ROE_{i,t} + \beta_2 EPS_{i,t} + \beta_3 TOP_{i,t} + \sum IND_i + \sum YEAR_t + \epsilon_{i,t} \tag{1}$$

$$DIV_{i,t} = \beta_0 + \beta_1 ROE_{i,t} + \beta_2 QUALITY_{i,t} + \beta_3 EPS_{i,t} + \beta_4 TOP_{i,t} + \sum IND_i + \sum YEAR_t + \epsilon_{i,t} \tag{2}$$

where, all variables are as defined above in Table 2 and *IND* represents sub-industry fixed effects to control for sub-industry factors that may influence dividend policy for firms in the same sub-industry across time and *YEAR* represents year fixed effects that control for macroeconomic or other time-specific factors that may influence dividend policy for all firms within a given year.

3.2.2. Corporate governance and choice of capital

When managers possess significant managerial control and follow the pecking order theory, their rational response to profit opportunities is to make

investment decisions immediately rather than hesitating. If strong performance in the past has resulted in lower dividends, then more concentrated management power should further strengthen the negative relationship between performance and dividend payout.

Eq. (3) and Eq. (4), below, have been formulated to test hypotheses *H2a* and *H2b*, that more concentrated management power strengthens the negative relationship between performance and dividend payouts, even after controlling for earnings quality.

$$DIV_{i,t} = \beta_0 + \beta_1 ROE_{i,t} + \beta_2 EPS_{i,t} + \beta_3 TOP_{i,t} + \beta_4 DUAL_{i,t} + \beta_5(ROE_{i,t} * DUAL_{i,t}) + \sum IND_i + \sum YEAR_t + \epsilon_{i,t} \tag{3}$$

$$DIV_{i,t} = \beta_0 + \beta_1 ROE_{i,t} + \beta_2 QUALITY_{i,t} + \beta_3 EPS_{i,t} + \beta_4 TOP_{i,t} + \beta_5 DUAL_{i,t} + \beta_6(ROA_{i,t} * DUAL_{i,t}) + \sum IND_i + \sum YEAR_t + \epsilon_{i,t} \tag{4}$$

3.2.3. Stakeholder management

Firm characteristics may influence funding source preferences, and the high number of SOEs is a unique feature of Chinese firms. In our final set of empirical tests, we examine whether SOEs' dividend payouts differ from those of privately held firms and whether CEO duality significantly influences dividend payout policies at SOEs as it does for privately held firms. Finally, we explore whether CEO

duality affects the relationship between firm performance and dividend payouts differently at SOEs as compared to privately held firms.

These questions are explored through empirical estimation of Eq. (5) and Eq. (6) below, which include a dummy variable representing state-owned enterprises, and interaction term between SOEs and CEO duality, as well as a triple interaction term between SOEs, CEO duality and firm performance.

$$DIV_{i,t} = \beta_0 + \beta_1 ROE_{i,t} + \beta_2 EPS_{i,t} + \beta_3 TOP_{i,t} + \beta_4 DUAL_{i,t} + \beta_5 SOE_{i,t} + \beta_6(SOE_{i,t} * DUAL_{i,t}) + \beta_7(ROE_{i,t} * DUAL_{i,t}) + \beta_8(ROE_{i,t} * DUAL_{i,t} * SOE_{i,t}) + \sum IND_i + \sum YEAR_t + \epsilon_{i,t} \tag{5}$$

$$DIV_{i,t} = \beta_0 + \beta_1 ROE_{i,t} + \beta_2 QUALITY_{i,t} + \beta_3 EPS_{i,t} + \beta_4 TOP_{i,t} + \beta_5 DUAL_{i,t} + \beta_6 SOE_{i,t} + \beta_7(SOE_{i,t} * DUAL_{i,t}) + \beta_8(ROE_{i,t} * DUAL_{i,t}) + \beta_9(ROE_{i,t} * DUAL_{i,t} * SOE_{i,t}) + \sum IND_i + \sum YEAR_t + \epsilon_{i,t} \tag{6}$$

3.2.4. Robustness checks, high and low dividend firms

We subject our initial empirical tests, presented above, to a series of robustness tests.

One potential concern is heterogeneity in firm behavior in our sample. It may be the case that the relationship between firm performance and dividend payouts are different for firms that for various idiosyncratic reasons tend to pay high dividend payouts than for firms that tend to pay low dividend payouts. To address concerns about this kind of heterogeneity in the sample influencing the empirical results, we separate the sample into two types of firms: 1) high dividend firms and 2) low dividend firms. The goal of this separation is to examine the homogeneities.

Another potential concern is the time element of our panel data, which includes the years of the COVID-19 pandemic. It may be the case that the relationship ben firm performance and dividend payouts are different on aggregate during the years of the COVID-19 pandemic. To test this within the current framework, we include a regression specification that includes a dummy variable for the COVID-19 pandemic years, plus an interaction term of those years and ROE, our measure of firm performance and the main parameter of interest.

We test this relationship using Eq. (7) and Eq. (8), below.

$$DIV_{i,t} = \beta_0 + \beta_1 ROE_{i,t} + \beta_2 EPS_{i,t} + \beta_3 TOP_{i,t} + \beta_5 COVID_t + \beta_5 COVID_t * ROE_{i,t} + \sum IND_i + \sum YEAR_t + \epsilon_{i,t+1} \quad (7)$$

$$DIV_{i,t} = \beta_0 + \beta_1 ROE_{i,t} + \beta_2 QUALITY_{i,t} + \beta_3 EPS_{i,t} + \beta_4 TOP_{i,t} + \beta_5 COVID_t + \beta_5 COVID_t * ROE_{i,t} + \sum IND_i + \sum YEAR_t + \epsilon_{i,t} \quad (8)$$

We have also run the existing specifications on sub-samples for the pre-covid period and the COVID-19 years oldy and found the results to be qualitatively similar. Those results are available from the authors on request.

4. RESULTS AND DISCUSSION

4.1. Tests adhere pecking order theory

The results of empirical estimation of Eq. (1) and Eq. (2), which tests hypotheses *H1a* and *H1b* that better firm performance leads to lower dividend payouts, even after controlling for earnings quality,

are reported in Table 4 and Table 5. In both tables, the coefficient estimates on the indicator of firm performance, *ROE*, are negative and highly statistically significant at the 1% level. This is true even after controlling for other firm-specific factors such as earnings per share and, in Table 5, earnings quality.

The results illustrate that even after controlling for earnings quality, when firm profitability is high, managers tend to cut dividends, resulting in smaller dividend payouts. Thus, the results provide empirical support the pecking order theory that managers prefer internal to external finance due to adverse selection.

Table 4. Performance and dividends
(Dependent variable — *DIV*)

Variables	Model 1		Model 2		Model 3	
ROE	-0.0001***	(0.00002)	-0.0001***	(0.00002)	-0.0001***	(0.00002)
TOP	0.001***	(0.0003)	0.001***	(0.0003)	0.001***	(0.0003)
EPS	0.374***	(0.0003)	0.374***	(0.0003)	0.368***	(0.0003)
Constant	-0.029***	(0.009)	-0.046***	(0.012)	-0.001	(0.027)
IND	N		N		Y	
YEAR	N		Y		Y	
Observations	7,584		7,584		7,584	
R²	0.736		0.737		0.745	
Adjusted R²	0.736		0.736		0.744	
Residual Std. Error	0.317 (df = 7580)		0.317 (df = 7575)		0.312 (df = 7547)	
F-statistic	7,049.822*** (df = 3; 7580)		2,647.149*** (df = 8; 7575)		611.603*** (df = 36; 7547)	

*Note: ***, **, * indicate 1%, 5%, and 10% significant level, respectively. Standard errors are shown in parentheses.*

Table 5. Performance, earning quality and dividends
(Dependent variable — *DIV*)

Variables	Model 1		Model 2		Model 3	
ROE	-0.0001***	(0.00002)	-0.0001***	(0.00002)	-0.0001***	(0.00002)
QUALITY	-0.053***	(0.014)	-0.051***	(0.014)	-0.056***	(0.014)
TOP	0.002***	(0.0003)	0.002***	(0.0003)	0.002***	(0.0003)
EPS	0.419***	(0.003)	0.420***	(0.003)	0.414***	(0.003)
Constant	-0.087***	(0.010)	-0.081***	(0.012)	-0.043	(0.027)
IND	N		N		Y	
YEAR	N		Y		Y	
Observations	6,551		6,551		6,551	
R²	0.799		0.799		0.806	
Adjusted R²	0.799		0.799		0.805	
Residual Std. Error	0.296 (df = 6546)		0.296 (df = 6541)		0.291 (df = 6513)	
F-statistic	6,501.137*** (df = 4; 6546)		2,894.737*** (df = 9; 6541)		733.189*** (df = 37; 6513)	

*Note: ***, **, * indicate 1%, 5%, and 10% significant level, respectively. Standard errors are shown in parentheses.*

As explained above, empirical studies of the pecking order theory that focus on the choice of external financing — debt financing vs. equity financing — often reject the implications of the pecking order theory in both developed (Frank & Goyal, 2003) and developing markets (Allini et al., 2018; Chen et al., 2013). However, this study focuses on the decision to use internal financing and are consistent with empirical evidence that investors prefer firms with low or even no dividend payout if firms have high growth opportunities (Huang & Paul, 2017).

4.2. Tests adhere to governance and performance

We next examine the results of empirical estimation of Eq. (3) and Eq. (4), which test hypotheses *H2a* and *H2b*, about the effect of concentrated managerial power on the pecking order theory. Table 5 and Table 6 report the results of an empirical estimation of Eq. (3) and Eq. (4), examining the effect that concentrated management has on the relationship between firm performance and dividend payouts established above in Table 3 and Table 4 above.

As above in Table 4 and Table 5, Table 6 and Table 7 report that the estimated coefficients on the measure of firm performance, *ROE*, are still negative and highly statistically significant at the 1% level, even after controlling for earnings quality in Table 7. While concentrated managerial power, *DUAL*, in itself does not seem to heavily influence dividend payouts, the interaction term between *ROE* and *DUAL* is also negative and highly statistically significant at the 1% level. This result provides evidence in support of hypothesis *H2a* that concentrated managerial power reduces the principal-agent problem and therefore strengthens the negative relationship between firm performance and dividend payouts. In Table 7 we note that this relationship holds even after controlling for earnings quality, supporting hypothesis *H2b*.

Table 6. Performance, management power and dividends
(Dependent variable — *DIV*)

Variables	Model 1		Model 2		Model 3	
ROE	-0.0001***	(0.00002)	-0.0001***	(0.00002)	-0.0001***	(0.00002)
Dual	-0.001	(0.009)	-0.001	(0.009)	0.002	(0.008)
TOP	0.001***	(0.0003)	0.001***	(0.0003)	0.001***	(0.0003)
EPS	0.379***	(0.003)	0.380***	(0.003)	0.374***	(0.003)
*ROE*DUAL*	-0.003***	(0.0002)	-0.003***	(0.0002)	-0.003***	(0.0002)
Constant	-0.025***	(0.009)	-0.038***	(0.013)	0.010	(0.027)
IND	N		N		Y	
YEAR	N		Y		Y	
Observations	7,584		7,584		7,584	
R²	0.742		0.742		0.750	
Adjusted R²	0.742		0.742		0.749	
Residual Std. Error	0.313 (df = 7578)		0.313 (df = 7573)		0.309 (df = 7545)	
F-statistic	4,362.380*** (df = 5; 7578)		2,183.158*** (df = 10; 7573)		596.527*** (df = 38; 7545)	

*Note: ***, **, * indicate 1%, 5%, and 10% significant level, respectively. Standard errors are shown in parentheses.*

Table 7. Performance, management power, earning quality and dividends
(Dependent variable — *DIV*)

Variables	Model 1		Model 2		Model 3	
ROE	-0.001***	(0.0002)	-0.001***	(0.0002)	-0.001***	(0.0002)
QUALITY	-0.046***	(0.014)	-0.044***	(0.014)	-0.050***	(0.014)
DUAL	-0.0004	(0.009)	-0.0005	(0.009)	0.001	(0.009)
TOP	0.002***	(0.0003)	0.002***	(0.0003)	0.002***	(0.0003)
EPS	0.419***	(0.003)	0.420***	(0.003)	0.414***	(0.003)
*ROE*DUAL*	-0.002***	(0.0004)	-0.002***	(0.0004)	-0.002***	(0.0004)
Constant	-0.086***	(0.010)	-0.079***	(0.013)	-0.041	(0.027)
IND	N		N		Y	
YEAR	N		Y		Y	
Observations	6,551		6,551		6,551	
R²	0.800		0.800		0.807	
Adjusted R²	0.800		0.800		0.806	
Residual Std. Error	0.295 (df = 6544)		0.295 (df = 6539)		0.291 (df = 6511)	
F-statistic	4,355.254*** (df = 6; 6544)		2,380.091*** (df = 11; 6539)		698.684*** (df = 39; 6511)	

*Note: ***, **, * indicate 1%, 5%, and 10% significant level, respectively. Standard errors are shown in parentheses.*

Although there is little in the existing literature looking explicitly at how concentrated managerial power affects the pecking order theory, these findings are consistent with empirical evidence that the power gap influences investment spending (Goergen & Renneboog, 2001), especially in China (Wang et al., 2012). These findings are also consistent with empirical studies that show a negative relationship between CEO power and dividend payouts in both developed (Sheikh, 2022) and developing countries (Kumar et al., 2023).

4.3. Tests adhere to key stakeholder theory

We next turn to an examination of the impact of the complex incentives in *SOEs*. Table 8 reports the results of an estimation of Eq. (5), which tests hypothesis *H3a–H3c*, that SOEs pay lower dividends than privately held firms, even *SOEs* that also have CEO duality, and that the negative relationship between firm profitability and dividend payouts is weaker at SOEs with highly concentrated managerial power than it is at privately held firms, even those with highly concentrated managerial power.

Looking at Table 8, we first note that the main results from the previous analysis remain robust. The coefficient estimates on firm performance, *ROE*, are again negative and highly statistically significant at the 1% level. This is true even after controlling for earnings quality in Table 9. Secondly, we confirm that the coefficient estimates on the interaction term between firm performance, *ROE*, and concentrated managerial power, *DUAL*, are highly statistically significantly negative, again indicating that firms with more concentrated managerial power as measured by CEO duality have an even stronger negative relationship between firm performance and dividend payouts than do other firms.

Turning to the new parameters of interest, we see that the coefficient estimate on the *SOE* dummy variable is negative and, once we control for *earnings quality* in Table 9, highly statistically significant. This demonstrates that *SOEs* in general pay lower dividends than do other firms, confirming *H3a*. The interaction term between *SOE* and *DUAL* is negative and statistically significant at the 5% (Table 8) or even 1% (Table 9) level, suggesting that *SOEs* with CEO duality also pay lower dividends than

do privately held firms, and possibly lower dividends than *SOEs* without CEO duality. These findings support *H3b*. Finally, the triple interaction term between *SOE*, *DUAL* and *ROE* is positive, quantitatively large at 0.005–0.014, and highly statistically significant at the 1% level. This suggests that the negative relationship between firm performance and dividend payouts is weaker at *SOEs* with CEO duality than it is at other firms. Although the relationship between firm performance and dividend payouts may remain negative on balance, the negative relationship is weaker at SOEs with CEO duality than at other firms with CEO duality or at privately held firms with a more traditional corporate governance structure. Although there is no study that we know of explicitly investigating how state ownership influences the pecking order theory, these findings are consistent with related studies which demonstrate that ownership structure influences dividend payouts (Gonzalez et al., 2017; Song et al., 2021) and that the incentives for dividend payouts by SOEs in China in particular differ from those of privately held firms (Li, Zhou, et al., 2020; Lou et al., 2021).

Table 8. Performance, SOE, management power and dividends
(Dependent variable — *DIV*)

Variables	Model 1		Model 2		Model 3	
ROE	-0.0001***	(0.00002)	-0.0001***	(0.00002)	-0.0001***	(0.00002)
DUAL	0.009	(0.010)	0.009	(0.010)	0.013	(0.010)
SOE	-0.012	(0.009)	-0.012	(0.009)	-0.010	(0.009)
TOP	0.001***	(0.0003)	0.001***	(0.0003)	0.001***	(0.0003)
EPS	0.383***	(0.003)	0.383***	(0.003)	0.377***	(0.003)
ROE*DUAL	-0.005***	(0.0003)	-0.005***	(0.0003)	-0.005***	(0.0003)
SOE*DUAL	-0.044**	(0.022)	-0.045**	(0.022)	-0.046**	(0.022)
ROE*SOE*DUAL	0.005***	(0.0005)	0.005***	(0.0005)	0.005***	(0.0005)
Constant	-0.026***	(0.009)	-0.039***	(0.013)	0.013	(0.026)
IND	N		N		Y	
YEAR	N		Y		Y	
Observations	7,584		7,584		7,584	
R²	0.746		0.746		0.754	
Adjusted R²	0.745		0.746		0.752	
Residual Std. Error	0.311 (df = 7575)		0.311 (df = 7570)		0.307 (df = 7542)	
F-statistic	2,777.536*** (df = 8; 7575)		1,710.718*** (df = 13; 7570)		562.839*** (df = 41; 7542)	

*Note: ***, **, * indicate 1%, 5%, and 10% significant level, respectively. Standard errors are shown in parentheses.*

Table 9. Performance, SOE, management power, earning quality and dividends
(Dependent variable — *DIV*)

Variables	Model 1		Model 2		Model 3	
ROE	-0.001***	(0.0002)	-0.001***	(0.0002)	-0.001***	(0.0002)
QUALITY	-0.036***	(0.014)	-0.034**	(0.014)	-0.039***	(0.014)
DUAL	0.113***	(0.012)	0.113***	(0.012)	0.113***	(0.012)
SOE	-0.029***	(0.008)	-0.029***	(0.008)	-0.025***	(0.009)
TOP	0.002***	(0.0003)	0.002***	(0.0003)	0.002***	(0.0003)
EPS	0.429***	(0.003)	0.430***	(0.003)	0.424***	(0.003)
ROE*DUAL	-0.013***	(0.001)	-0.013***	(0.001)	-0.013***	(0.001)
ROE*SOE*DUAL	0.014***	(0.001)	0.014***	(0.001)	0.014***	(0.001)
Constant	-0.089***	(0.010)	-0.084***	(0.013)	-0.040	(0.027)
IND	N		N		Y	
YEAR	N		Y		Y	
Observations	6,551		6,551		6,551	
R²	0.809		0.810		0.816	
Adjusted R²	0.809		0.809		0.815	
Residual Std. Error	0.288 (df = 6541)		0.288 (df = 6536)		0.284 (df = 6508)	
F-statistic	3,086.822*** (df = 9; 6541)		1,987.967*** (df = 14; 6536)		688.793*** (df = 42; 6508)	

*Note: ***, **, * indicate 1%, 5%, and 10% significant level, respectively. Standard errors are shown in parentheses.*

4.4. Robustness checks

4.4.1. Heterogeneity across firms

Table 10 and Table 11 present the results of heterogeneity analysis, which split the samples by the amount of firm dividend payouts.

We note the robustness of the main results: both subsamples of firms, those paying large dividends and those paying small dividends, reveal similar coefficients to the baseline model. The main results still hold: the coefficient estimate on the measure of firm performance, *ROE*, is negative and highly statistically significant, as above, even after controlling for the quality of firm earnings.

Table 10. High dividend firms
(Dependent variable — *DIV*)

Variables	Model 1		Model 2		Model 3	
ROE	-0.018***	(0.001)	-0.018***	(0.001)	-0.019***	(0.001)
QUALITY	0.070	(0.114)	0.049	(0.114)	-0.005	(0.120)
TOP	0.004***	(0.001)	0.004***	(0.001)	0.003***	(0.001)
EPS	0.449***	(0.005)	0.450***	(0.005)	0.441***	(0.005)
Constant	0.102***	(0.035)	0.125***	(0.045)	0.406***	(0.090)
IND	N		N		Y	
YEAR	N		Y		Y	
Observations	1,926		1,926		1,926	
R²	0.815		0.816		0.830	
Adjusted R²	0.815		0.815		0.827	
Residual Std. Error	0.489 (df = 1921)		0.488 (df = 1916)		0.473 (df = 1889)	
F-statistic	2,115.682*** (df = 4; 1921)		944.517*** (df = 9; 1916)		256.220*** (df = 36; 1889)	

Note: ***, **, * indicate 1%, 5%, and 10% significant level, respectively. Standard errors are shown in parentheses.

Table 11. Low dividend firms
(Dependent variable — *DIV*)

Variables	Model 1		Model 2		Model 3	
ROE	-0.0001***	(0.00002)	-0.0001***	(0.00003)	-0.0001***	(0.00002)
QUALITY	-0.003	(0.002)	-0.003	(0.002)	-0.003	(0.002)
TOP	0.0005***	(0.0001)	0.0005***	(0.0001)	0.0001***	(0.0001)
EPS	0.075***	(0.002)	0.075***	(0.002)	0.076***	(0.002)
Constant	0.015***	(0.002)	0.017***	(0.002)	0.021***	(0.005)
IND	N		N		Y	
YEAR	N		Y		Y	
Observations	4,625		4,625		4,625	
R²	0.206		0.207		0.223	
Adjusted R²	0.205		0.205		0.217	
Residual Std. Error	0.045 (df = 4620)		0.045 (df = 4615)		0.045 (df = 4587)	
F-statistic	299.797*** (df = 4; 4620)		133.539*** (df = 9; 4615)		35.538*** (df = 37; 4587)	

Note: ***, **, * indicate 1%, 5%, and 10% significant level, respectively. Standard errors are shown in parentheses.

4.4.2. Heterogeneity across time: The COVID period

We next explore heterogeneity across time. Our full sample includes the period of the COVID-19 pandemic, which may have influenced the relationship between firm performance and dividend payouts. To explore this question, we report in Table 12 and Table 13 and estimation of Eq. (7) and Eq. (8), which include a *COVID* time dummy for the years of the pandemic and an interaction term between the *COVID* time dummy and our measure of firm performance, *ROE*.

The baseline result is again robust to the inclusion of the *COVID* time dummy and interaction term. In both Table 12 and Table 13, the coefficient estimates on firm performance, *ROE*, is robustly negative and highly statistically significant. The *COVID* time dummy is not statistically significantly different from zero in most specifications, suggesting that dividend payouts by Chinese firms were not significantly higher or lower during the COVID-19 pandemic once we control for industry fixed effects.

Interestingly, the interaction term between firm performance and the *COVID* year dummy variable is negative and highly statistically significant at the 1% level. This illustrates that, while dividend payouts overall were not significantly higher or lower during the *COVID* years, firm dividend payouts in China were even more highly sensitive to firm performance during the *COVID* years than during other years of our sample period. This suggests that firm behavior adhered even more strongly to the pecking order theory during the *COVID* years. High performing firms were more likely to prefer internal financing over external financing during the years of the COVID-19 pandemic.

Table 12. Performance and dividends — Interactions during the COVID-19 pandemic
(Dependent variable — *DIV*)

Variables	Model 1		Model 2		Model 3	
ROE	-0.0001***	(0.00002)	-0.0001***	(0.00002)	-0.0001***	(0.00002)
TOP	0.001***	(0.0003)	0.001***	(0.0003)	0.001***	(0.0003)
EPS	0.375***	(0.003)	0.376***	(0.003)	0.370***	(0.003)
COVID	-0.002	(0.007)	0.015	(0.013)	0.015	(0.012)
*ROE*COVID*	-0.0004***	(0.0001)	-0.0004***	(0.0001)	-0.0004***	(0.0001)
Constant	-0.028***	(0.010)	-0.047***	(0.012)	-0.002	(0.027)
IND	N		N		Y	
YEAR	N		Y		Y	
Observations	7,584		7,584		7,584	
R²	0.737		0.738		0.746	
Adjusted R²	0.737		0.737		0.744	
Residual Std. Error	0.316 (df = 7578)		0.316 (df = 7574)		0.312 (df = 7546)	
F-statistic	4,251.775*** (df = 5; 7578)		2,365.438*** (df = 9; 7574)		598.125*** (df = 37; 7546)	

Note: ***, **, * indicate 1%, 5%, and 10% significant level, respectively. Standard errors are shown in parentheses.

Table 13. Performance, earning quality and dividends — Interactions during the COVID-19 pandemic
(Dependent variable — *DIV*)

Variables	Model 1		Model 2		Model 3	
ROE	-0.0004**	(0.0002)	-0.0004**	(0.0002)	-0.0004**	(0.0002)
QUALITY	-0.085***	(0.014)	-0.084***	(0.014)	-0.089***	(0.014)
TOP	0.002***	(0.0003)	0.002***	(0.0003)	0.002***	(0.0003)
EPS	0.424***	(0.003)	0.424***	(0.003)	0.418***	(0.003)
COVID	0.020**	(0.008)	0.003	(0.013)	0.005	(0.013)
Constant	-0.088***	(0.010)	-0.090***	(0.012)	-0.052*	(0.027)
IND	N		N		Y	
YEAR	N		Y		Y	
Observations	6,551		6,551		6,551	
R²	0.802		0.802		0.809	
Adjusted R²	0.802		0.802		0.808	
Residual Std. Error	0.294 (df = 6544)		0.294 (df = 6540)		0.289 (df = 6512)	
F-statistic	4,413.043*** (df = 6; 6544)		2,651.134*** (df = 10; 6540)		726.246*** (df = 38; 6512)	

Note: ***, **, * indicate 1%, 5%, and 10% significant level, respectively. Standard errors are shown in parentheses.

4.5. Summary of findings

The main reasons that cause confirm the hypotenuses are summarized in the discussion column. Those findings explain how the management power and the firm performance affect the dividend payouts.

Table 14 summarizes the main findings and whether they supported or refuted the stated hypotheses.

Table 14. Summary of findings

Hypotheses	Validation	Discussion
H1a: Better firm performance leads to lower firm dividend payouts.	Supported	Firms follow the pecking order theory and wait for dividends in order to take advantage of opportunities for growth.
H1b: Better firm performance leads to lower firm dividend payouts even after controlling for the quality of firm earnings.	Supported	After control the earnings quality, the firm performance still significantly affects dividends.
H2a: Concentrated management power as indicated by CEO duality strengthens the negative relationship between firm performance and dividend payouts.	Supported	Concentrated management power aligns the incentives of shareholders and managers, making it even more likely that firms follow the pecking order theory and wait for dividends in order to take advantage of opportunities for growth.
H2b: Concentrated management power as indicated by CEO duality strengthens the negative relationship between firm performance and dividend payouts even after controlling for the quality of firm earnings.	Supported	Earnings quality does not change the role of the CEO duality. The duality still enhances the negative relationship between firm performance and dividend payouts.
H3a: The double principal-agent problem at state-owned enterprises (SOEs) means that SOEs pay lower dividend payouts overall than do privately held firms.	Supported	SOEs pay lower dividends than do privately held firms once earnings quality is controlled for.
H3b: The double principal-agent problem at state-owned enterprises (SOEs) means that the negative relationship between firm performance and dividend payouts is even stronger at SOEs than at privately held firms.	Supported	The negative relationship between firm performance and dividend payouts is even stronger at than at privately held firms.
H3c: Concentrated management power as indicated by CEO duality does not alleviate the secondary principal-agent problem at SOEs, so SOEs with CEO duality demonstrate a weaker negative relationship between firm performance and dividend payouts than do privately held firms with CEO duality.	Supported	Concentrated management power aligns the incentives of shareholders and managers, reducing the primary principal-agent problem. But CEO duality does not address the secondary principal-agent problem unique to SOEs. Thus, SOEs are less likely than other firms to follow the pecking order theory and wait for dividends in order to take advantage of opportunities for growth, even if they also have CEO duality.
H3d: Concentrated management power as indicated by CEO duality does not alleviate the secondary principal-agent problem at SOEs, so SOEs demonstrate a weaker negative relationship between firm performance and dividend payouts than do privately held firms with CEO duality, even after controlling for the quality of firm earnings.	Supported	The other potential reason to consider is SOEs are more politically connected with government, and the dividends may be more meaningful to show social respectability, which may explain for SOEs, the negative relationship between performance and dividends payout is weaker.

5. CONCLUSION

This study demonstrates that there is a robust negative relationship between firm performance and dividend payouts among listed manufacturing firms in China. Concentrated management power as indicated by CEO duality aligns the incentives of shareholders and managers, strengthening this negative relationship between firm performance and dividend payouts. State-owned enterprises, which face a double principal-agent problem, pay lower dividend payouts overall than do privately held firms and have an even stronger negative relationship between firm performance and dividend payouts than do privately held firms. However, concentrated management power as indicated by CEO duality does not alleviate the secondary principal-agent problem at SOEs, so SOEs with CEO duality demonstrate a weaker negative relationship between firm performance and dividend payouts than do privately held firms with CEO duality. These results are robust to firm heterogeneity and were not only maintained but in fact strengthened during the COVID-19 pandemic.

These results suggest that high performing firms in China delay dividend payouts, instead pursuing opportunities for growth. Therefore, these results provide evidence that Chinese firms follow the pecking order theory in prioritizing internal finance, which has the lowest information asymmetries, when they perform well and generate high returns on equity. The pecking order theory of capital structure is even more heavily prioritized at firms with heavily concentrated managerial power — firms at which the CEO holds the dual role of chair of the board — and at state-owned enterprises. Firms seem to have followed the pecking order theory of capital structure even more strongly during the recent COVID-19 pandemic years.

The results presented here contribute to an emerging body of empirical evidence on the pecking order theory in emerging markets and how corporate governance and stakeholder theory influence the relationship between firm performance and dividend payouts. It is perhaps not surprising that empirical analysis supports the pecking order theory in emerging markets, where accessing external finance is difficult and costly. The unique features of emerging markets like China, where state ownership and CEO duality are much more common than in highly developed financial markets, allow us to explore the implications of corporate governance on capital structure and confirm existing studies, which suggest that firm ownership structure significantly affects firm management and operating strategy, including decisions about capital structure.

Unlike most existing empirical studies of the pecking order theory, which examine the choice between debt or equity when turning to external financing, the analysis presented here recognizes that retaining earnings and paying dividends are endogenous choices faced by firms and focuses on firms' decision to use internal financing, which has the lowest information asymmetries of any financing options.

One limitation of this approach, however, is that is analyzes the static relationship between firm performance and the distribution of dividends: how firm performance affects current dividend payouts. Other financial market research investigates the question of how dividend payouts today may affect the firms' future performance. Therefore, one direction for future research may be to investigate the dynamic relationship between firm performance and dividend payouts and how CEO duality and state ownership effect the dynamic relationship between those variables.

The pecking order theory emphasizes the cost of capital and ordered preferences for financing when information asymmetries exist. The tradeoff theory, which is often contrasted with the pecking order theory, emphasizes the optimal level of debt and equity. Although they are often juxtaposed against each other, both the pecking order theory and the tradeoff theory assume the underlying goal is to optimize corporate decision-making. Determining which theory to apply in any given environment requires careful judgment and timing. Future research should also work towards identifying signals of change to help firms make better corporate decisions and contribute to the field of management science.

REFERENCES

1. Adair, P., & Adaskou, M. (2015). Trade-off-theory vs. pecking order theory and the determinants of corporate leverage: Evidence from a panel data analysis upon French SMEs (2002–2010). *Cogent Economics & Finance, 3*(1), Article 1006477. https://doi.org/10.1080/23322039.2015.1006477
2. Aharon, D. Y., Kroll, Y., & Riff, S. (2023). Modified degree of operating leverage risk measure. *Finance Research Letters, 51*, Article 103493. https://doi.org/10.1016/j.frl.2022.103493
3. Aivazian, V., Booth, L., & Cleary, S. (2003). Do emerging market firms follow different dividend policies from U.S. firms? *The Journal of Financial Research, 26*(3), 371–387. https://doi.org/10.1111/1475-6803.00064
4. Al-Najjar, B., & Hussainey, K. (2009). The association between dividend payout and outside directorships. *Journal of Applied Accounting Research, 10*(1), 4–19. https://doi.org/10.1108/09675420910963360
5. Allini, A., Rakha, S., McMillan, D. G., & Caldarelli, A. (2018). Pecking order and market timing theory in emerging markets: The case of Egyptian firms. *Research in International Business and Finance, 44*, 297–308. https://doi.org/10.1016/j.ribaf.2017.07.098
6. Alsmady, A. A. (2022). Quality of financial reporting, external audit, earnings power and companies performance: The case of Gulf Corporate Council countries. *Research in Globalization, 5*, Article 100093. https://doi.org/10.1016/j.resglo.2022.100093
7. Aoki, Y. (2023). The effect of dividend smoothing on bond spreads: Evidence from Japan. *International Review of Economics & Finance, 85*, 621–637. https://doi.org/10.1016/j.iref.2023.02.018
8. Banerjee, S., Humphery-Jenner, M., & Nanda, V. (2018). Does CEO bias escalate repurchase activity? *Journal of Banking & Finance, 93*, 105–126. https://doi.org/10.1016/j.jbankfin.2018.02.003
9. Barros, V., Guedes, M. J., Santos, P., & Sarmento, J. M. (2022). Does CEO turnover influence dividend policy? *Finance Research Letters, 44*, Article 102085. https://doi.org/10.1016/j.frl.2021.102085
10. Barros, V., Matos, P. V., & Sarmento, J. M. (2020). What firm's characteristics drive the dividend policy? A mixed-method study on the Euronext stock exchange. *Journal of Business Research, 115*, 365–377. https://doi.org/10.1016/j.jbusres.2019.11.042
11. Bhandari, A., Kohlbeck, M., & Mayhew, B. (2022). Association of related party transactions with sensitivity of investments and external financing. *Journal of Corporate Finance, 72*, Article 102146. https://doi.org/10.1016/j.jcorpfin.2021.102146
12. Biddle, G. C., Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics, 48*(2–3), 112–131. https://doi.org/10.1016/j.jacceco.2009.09.001
13. Brockman, P., & Unlu, E. (2011). Earned/contributed capital, dividend policy, and disclosure quality: An international study. *Journal of Banking & Finance, 35*(7), 1610–1625. https://doi.org/10.1016/j.jbankfin.2010.11.014

14. Burdeos, A. O. (2021). Earnings management, corporate governance, and ownership structure of Philippine initial public offerings. *Corporate Ownership & Control*, *18*(4), 175–191. https://doi.org/10.22495/cocv18i4art12

15. Cao, V. N. (2015). What explains the value premium? The case of adjustment costs, operating leverage and financial leverage. *Journal of Banking & Finance*, *59*, 350–366. https://doi.org/10.1016/j.jbankfin.2015.04.033

16. Chang, C., Chen, X., & Liao, G. (2014). What are the reliably important determinants of capital structure in China? *Pacific-Basin Finance Journal*, *30*, 87–113. https://doi.org/10.1016/j.pacfin.2014.06.001

17. Chen, D.-H., Chen, C.-D., Chen, J., & Huang, Y.-F. (2013). Panel data analyses of the pecking order theory and the market timing theory of capital structure in Taiwan. *International Review of Economics & Finance*, *27*, 1–13. https://doi.org/10.1016/j.iref.2012.09.011

18. Chen, H. (2015). The effect of agency problems on optimal operating leverage and social welfare. *Journal of Accounting and Public Policy*, *34*(3), 319–331. https://doi.org/10.1016/j.jaccpubpol.2015.03.003

19. Chen, M., & Matousek, R. (2020). Do productive firms get external finance? Evidence from Chinese listed manufacturing firms. *International Review of Financial Analysis*, *67*, Article 101422. https://doi.org/10.1016/j.irfa.2019.101422

20. Cubeddu, L., Hannan, S. A., & Rabanal, P. (2023). External financing risks: How important is the composition of the international investment position? *Journal of International Money and Finance*, *131*, Article 102772. https://doi.org/10.1016/j.jimonfin.2022.102772

21. De Jong, A., Verbeek, M., & Verwijmeren, P. (2011). Firms' debt–equity decisions when the static tradeoff theory and the pecking order theory disagree. *Journal of Banking & Finance*, *35*(5), 1303–1314. https://doi.org/10.1016/j.jbankfin.2010.10.006

22. Debnath, P., Dey, B. K., Mazumdar, N., Das, S., & Gachuiwo, H. (2022). Demystifying the nexus between ownership structure and performance: A study of the emerging market [Special issue]. *Corporate & Business Strategy Review*, *3*(2), 306–320. https://doi.org/10.22495/cbsrv3i2siart12

23. Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *The Academy of Management Review, 20*(1), 65–91. https://doi.org/10.2307/258887

24. El Ammari, A. (2021). Do CEO duality and ownership concentration impact dividend policy in emerging markets? The moderating effect of crises period. *International Journal of Financial Studies*, *9*(4), Article 62. https://doi.org/10.3390/ijfs9040062

25. Frank, M. Z., & Goyal, V. K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics*, *67*(2), 217–248. https://doi.org/10.1016/S0304-405X(02)00252-0

26. Frank, M. Z., & Goyal, V. K. (2008). Trade-off and pecking order theories of debt. In B. Espen Eckbo (Ed.), *Handbook of empirical corporate finance* (pp. 135–202). Elsevier. https://doi.org/10.1016/B978-0-444-53265-7.50004-4

27. Fukuda, A. (2000). Dividend changes and earnings performance in Japan. *Pacific-Basin Finance Journal*, *8*(1), 53–66. https://doi.org/10.1016/S0927-538X(99)00024-4

28. Gahlon, J. M. (1981). Operating leverage as a determinant of systematic risk. *Journal of Business Research*, *9*(3), 297–308. https://doi.org/10.1016/0148-2963(81)90023-0

29. García-Feijóo, L., & Jorgensen, R. D. (2010). Can operating leverage be the cause of the value premium? *Financial Management*, *39*(3), 1127–1154. https://doi.org/10.1111/j.1755-053X.2010.01106.x

30. Ghosh, A., Gu, Z., & Jain, P. C. (2005). Sustained earnings and revenue growth, earnings quality, and earnings response coefficients. *Review of Accounting Studies*, *10*, 33–57. https://doi.org/10.1007/s11142-004-6339-3

31. Goergen, M., & Renneboog, L. (2001). Investment policy, internal financing and ownership concentration in the UK. *Journal of Corporate Finance*, *7*(3), 257–284. https://doi.org/10.1016/S0929-1199(01)00022-0

32. Gonzalez, M., Molina, C. A., Pablo, E., & Rosso, J. W. (2017). The effect of ownership concentration and composition on dividends: Evidence from Latin America. *Emerging Markets Review*, *30*, 1–18. https://doi.org/10.1016/j.ememar.2016.08.018

33. Gombola, M., Liu, F.-Y., & Chou, D.-W. (2019). Capital structure dynamics with restricted equity issuance: Evidence from Chinese post-IPO firms. *Asia Pacific Management Review*, *24*(1), 72–85. https://doi.org/10.1016/j.apmrv.2018.07.002

34. Grassetti, F., Mammana, C., & Michetti, E. (2023). Asset price-GDP cross feedback. The role of dividend policies in a dynamic setting. *Communications in Nonlinear Science and Numerical Simulation*, *116*, Article 106888. https://doi.org/10.1016/j.cnsns.2022.106888

35. Guariglia, A., Liu, X., & Song, L. (2011). Internal finance and growth: Microeconometric evidence on Chinese firms. *Journal of Development Economics*, *96*(1), 79–94. https://doi.org/10.1016/j.jdeveco.2010.07.003

36. Gugler, K. (2003). Corporate governance, dividend payout policy, and the interrelation between dividends, R&D, and capital investment. *Journal of Banking & Finance*, *27*(7), 1297–1321. https://doi.org/10.1016/S0378-4266(02)00258-3

37. Gurdgiev, C., & Ni, Q. (2023). Board diversity: Moderating effects of CEO overconfidence on firm financing decisions. *Journal of Behavioral and Experimental Finance*, 37, Article 100783. https://doi.org/10.1016/j.jbef.2022.100783

38. Gyimah, D., Danso, A., Adu-Ameyaw, E., & Boateng, A. (2022). Firm-level political risk and corporate leverage decisions. *International Review of Financial Analysis*, *84*, Article 102354. https://doi.org/10.1016/j.irfa.2022.102354

39. Gu, L. (2023). Executives' financial experience and myopic marketing management: A myopic loss-aversion perspective. *Journal of Business Research*, *157*, Article 113587. https://doi.org/10.1016/j.jbusres.2022.113587

40. Haddad, K., & Lotfaliei, B. (2019). Trade-off theory and zero leverage. *Finance Research Letters*, *31*, 165–170. https://doi.org/10.1016/j.frl.2019.04.011

41. He, W., & Kyaw, N. A. (2018). Ownership structure and investment decisions of Chinese SOEs. *Research in International Business and Finance*, *43*, 48–57. https://doi.org/10.1016/j.ribaf.2017.07.165

42. Hillmann, L. (2023). Dividend taxation and the ownership structure of private firms. *Journal of Corporate Finance*, *79*, Article 102380. https://doi.org/10.1016/j.jcorpfin.2023.102380

43. Huang, W., & Paul, D. L. (2017). Institutional holdings, investment opportunities and dividend policy. *The Quarterly Review of Economics and Finance*, *64*, 152–161. https://doi.org/10.1016/j.qref.2016.06.008

44. Huang, X., Kabir, R., & Zhang, L. (2018). Government ownership and the capital structure of firms: Analysis of an institutional context from China. *China Journal of Accounting Research, 11*(3), 171–185. https://doi.org/10.1016/j.cjar.2018.07.001

45. Hundal, S., & Eskola, A. (2020). Board of directors, capital structure, investment decisions and firm-performance: An empirical study of Nordic firms [Special issue]. *Corporate Ownership & Control, 17(4),* 377–390. https://doi.org/10.22495/cocv17i4siart14

46. Iancu, D. A., Trichakis, N., & Tsoukalas, G. (2017). Is operating flexibility harmful under debt? *Management Science, 63*(6), 1730–1761. https://doi.org/10.1287/mnsc.2015.2415

47. Jabbouri, I., & El Attar, A. (2017). Does a high dividend payout ratio signal proper corporate governance or high agency cost of debt? *Corporate Ownership & Control, 14(2),* 51–58. https://doi.org/10.22495/cocv14i2art5

48. Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review, 76*(2), 323–329. http://www.jstor.org/stable/1818789

49. Karpavičius, S. (2014). Dividends: Relevance, rigidity, and signaling. *Journal of Corporate Finance, 25*, 289–312. https://doi.org/10.1016/j.jcorpfin.2013.12.014

50. Kong, D., Ji, M., & Liu, L. (2023). Mandatory dividend policy and investment efficiency within state-owned business groups. *Pacific-Basin Finance Journal, 77*, Article 101910. https://doi.org/10.1016/j.pacfin.2022.101910

51. Kumar, S., Sasidharan, A., Olasiuk, H., & Vihari, N. S. (2023). Does board independence matters for dividend policy in emerging economies. *Procedia Computer Science, 221*, 853–860. https://doi.org/10.1016/j.procs.2023.08.061

52. La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (2000). Agency problems and dividend policies around the world. *The Journal of Finance, 55*(1), 1–33. https://doi.org/10.1111/0022-1082.00199

53. Lagasio, V. (2021). Corporate governance, ownership, and performance: A closer look at the Italian case. *Corporate Ownership & Control, 19*(1), 8–16. https://doi.org/10.22495/cocv19i1art1

54. Lee, Y. K. (2022). The effect of ownership structure on corporate payout policy and performance: Evidence from Korea's exogenous dividends tax shock. *Pacific-Basin Finance Journal, 73*, Article 101763. https://doi.org/10.1016/j.pacfin.2022.101763

55. Li, T., Munir, Q., & Abd Karim, M. R. (2017). Nonlinear relationship between CEO power and capital structure: Evidence from China's listed SMEs. *International Review of Economics & Finance, 47*, 1–21. https://doi.org/10.1016/j.iref.2016.09.005

56. Li, W., Zhou, J., Yan, Z., & Zhang, H. (2020). Controlling shareholder share pledging and firm cash dividends. *Emerging Markets Review, 42*, Article 100671. https://doi.org/10.1016/j.ememar.2019.100671

57. Li, Z., Li, Q., & Zeng, Y. (2020). Contraction flexibility, operating leverage, and financial leverage. *Journal of Management Science and Engineering, 5*(1), 43–56. https://doi.org/10.1016/j.jmse.2020.02.002

58. Lie, E. (2005). Operating performance following dividend decreases and omissions. *Journal of Corporate Finance, 12*(1), 27–53. https://doi.org/10.1016/j.jcorpfin.2004.04.004

59. Lindsey, K., Mauck, N., & Olsen, B. (2021). The coming wave of small business succession and the role of stakeholder synergy theory. *Global Finance Journal, 48*, Article 100457. https://doi.org/10.1016/j.gfj.2018.11.003

60. Lou, X., Qian, A., & Zhang, C. (2021). Do CEO's political promotion incentives influence the value of cash holdings: Evidence from state-owned enterprises in China. *Pacific-Basin Finance Journal, 68*, Article 101617. https://doi.org/10.1016/j.pacfin.2021.101617

61. Lu, J., Ho, K.-Y., Ho, P.-H., & Ko, K.-C. (2023). CEO overconfidence, lottery preference and the cross-section of stock returns. *Finance Research Letters, 54*, Article 103749. https://doi.org/10.1016/j.frl.2023.103749

62. Michaely, R., & Moin, A. (2022). Disappearing and reappearing dividends. *Journal of Financial Economics, 143*(1), 207–226. https://doi.org/10.1016/j.jfineco.2021.06.029

63. Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review, 48*(3), 261–297. http://www.jstor.org/stable/1809766

64. Myers, S. C. (1984). The capital structure puzzle. *The Journal of Finance, 39*(3), 574–592 https://doi.org/10.1111/j.1540-6261.1984.tb03646.x

65. Neugebauer, T., Shachat, J., & Szymczak, W. (2023). A test of the Modigliani-Miller theorem, dividend policy and algorithmic arbitrage in experimental asset markets. *Journal of Banking & Finance, 154*, Article 106814. https://doi.org/10.1016/j.jbankfin.2023.106814

66. Rajesh Kumar, B., & Sujit, K. S. (2018). Determinants of dividends among Indian firms — An empirical study. *Cogent Economics & Finance, 6*(1), Article 1423895. https://doi.org/10.1080/23322039.2018.1423895

67. Ramdani, D., & Van Witteloostuijn, A. (2010). The impact of board independence and CEO duality on firm performance: A quantile regression analysis for Indonesia, Malaysia, South Korea and Thailand. *British Journal of Management, 21*(3), 607–627. https://doi.org/10.1111/j.1467-8551.2010.00708.x

68. Sahoo, M., Srivastava, K. B. L., Gupta, N., Mittal, S. K., Bakhshi, P., & Agarwal, T. (2022). Promoter ownership, institutional ownership, and firm performance. *Corporate Ownership & Control, 20*(1), 162–175. https://doi.org/10.22495/cocv20i1art15

69. Sarkar, S. (2018). Optimal DOL (degree of operating leverage) with investment and production flexibility. *International Journal of Production Economics, 202*, 172–181. https://doi.org/10.1016/j.ijpe.2018.05.022

70. Shah, M. H., Xiao, Z., Abdullah (2023). Internal pyramid structure, judicial efficiency, firm-level governance and dividend policy. *International Review of Economics & Finance, 83*, 764–785. https://doi.org/10.1016/j.iref.2022.10.019

71. Sheikh, S. (2022). CEO power and the likelihood of paying dividends: Effect of profitability and cash flow volatility. *Journal of Corporate Finance, 73*, Article 102186. https://doi.org/10.1016/j.jcorpfin.2022.102186

72. Shen, J. H., Zhang, J., Lee, C.-C., & Li, W. (2020). Toward a theory of internal governance structure of China's large SOEs. *Journal of Asian Economics, 70*, Article 101236. https://doi.org/10.1016/j.asieco.2020.101236

73. Shi, W., & Wang, R. (2012). Dynamic internal control performance over financial reporting and external financing. *Journal of Contemporary Accounting & Economics, 8*(2), 92–109. https://doi.org/10.1016/j.jcae.2012.05.001

74. Shin, H.-H., & Park, Y. S. (1999). Financing constraints and internal capital markets: Evidence from Korean chaebols'. *Journal of Corporate Finance, 5*(2), 169–191. https://doi.org/10.1016/S0929-1199(99)00002-4

75. Shyam-Sunder, L., & Myers, S. C. (1999). Testing static tradeoff against pecking order models of capital structure. *Journal of Financial Economics, 51*(2), 219–244. https://doi.org/10.1016/S0304-405X(98)00051-8

76. Singh, A. P., & Rahman, Z. (2022). Stakeholder engagement and corporate performances: Empirical evidence from an emerging economy. *Corporate Ownership & Control, 19(4)*, 141–152. https://doi.org/10.22495/cocv19i4art12

77. Song, X., Yao, M., Su, W., & Lin, D. (2021). The impact of ultimate controller's ownership on cash dividend policy based on a comparative analysis between owner-management and professional-management modes. *The North American Journal of Economics and Finance, 57*, Article 101439. https://doi.org/10.1016/j.najef.2021.101439

78. Tong, Y. H., & Miao, B. (2011). Are dividends associated with the quality of earnings? *Accounting Horizons, 25*(1), 183–205. https://doi.org/10.2308/acch.2011.25.1.183

79. Ugur, M., Solomon, E., & Zeynalov, A. (2022). Leverage, competition and financial distress hazard: Implications for capital structure in the presence of agency costs. *Economic Modelling, 108*, Article 105740. https://doi.org/10.1016/j.econmod.2021.105740

80. Vicente, J. A. (2020). State-owned enterprises' corporate governance: Evidence from a Portuguese company. *Corporate Ownership & Control, 18*(1), 127–137. https://doi.org/10.22495/cocv18i1art10

81. Voinea, C. L., Rauf, F., Naveed, K., & Fratostiteanu, C. (2022). The impact of CEO duality and financial performance on CSR disclosure: Empirical evidence from state-owned enterprises in China. *Journal of Risk and Financial Management, 15*(1), Article 37. https://doi.org/10.3390/jrfm15010037

82. Wang, B. Y., Duan, M., & Liu, G. (2021). Does the power gap between a chairman and CEO matter? Evidence from corporate debt financing in China. *Pacific-Basin Finance Journal, 65*, Article 101495. https://doi.org/10.1016/j.pacfin.2021.101495

83. Xia, C., Chan, K. C., Cao, C., & Tan, Y. (2021). Generalized trust, personalized trust, and dynamics of capital structure: Evidence from China. *China Economic Review, 68*, Article 101640. https://doi.org/10.1016/j.chieco.2021.101640

84. Xiao, H., Zhao, Y., & Zhou, M. (2022). Can financial factors affect corporate debt leverage convergence? *Pacific-Basin Finance Journal, 72*, Article 101728. https://doi.org/10.1016/j.pacfin.2022.101728

85. Yang, X., Li, W., & Fu, Y. (2021). Ultimate ownership, corporate diversification, and cash dividends: Evidence from China. *Emerging Markets Finance and Trade, 57*(13), 3878–3890. https://doi.org/10.1080/1540496X.2020.1848815

86. Yıldırım, D., & Çelik, A. K. (2021). Testing the pecking order theory of capital structure: Evidence from Turkey using panel quantile regression approach. *Borsa Istanbul Review, 21*(4), 317–331. https://doi.org/10.1016/j.bir.2020.11.002

87. Yu, D., Huang, D., Chen, L., & Li, L. (2023). Forecasting dividend growth: The role of adjusted earnings yield. *Economic Modelling, 120*, Article 106188. https://doi.org/10.1016/j.econmod.2022.106188

88. Zhang, L., Ma, Y., & Hu, Y. (2023). Does CEO duality worsen or fosters audit quality: Evidence from Chinese firms? *Economic Research-Ekonomska Istraživanja, 36*(1), 687–707. https://doi.org/10.1080/1331677X.2022.2095521

89. Zhang, X., Cui, C., & Xie, D. (2020). Are dividends all for rewarding investors? Evidence from payouts induced by return on equity targets. *China Journal of Accounting Studies, 8*(3), 470–494. https://doi.org/10.1080/21697213.2021.1926412

90. Zhang, Y., Uchida, K., & Dong, L. (2020). External financing and earnings management: Evidence from international data. *Research in International Business and Finance, 54*, Article 101275. https://doi.org/10.1016/j.ribaf.2020.101275