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The relationship between dividend payout and economic policy uncertainty (EPU), ownership concentration and free cash flow in Chile

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ABSTRACT
This study examines how the dividend payout of Chilean firms is associated with economic policy uncertainty (EPU), while controlling for ownership concentration and free cash flow, to consider agency problems. Its contribution is twofold. First, it detects a non-linear, U-shaped relation between EPU and dividend payout, which is a novel finding. Second, this result holds only in cases of high EPU. No significant relationship in cases of low EPU was detected. The sample comprises an unbalanced panel data of 1034 observations from 2005 to 2016. Including ownership concentration as an independent variable leads to a negative association between it and dividend payout, showing a potential agency problem between the main shareholder and the minorities. If free cash flow is considered in the model, then the results show a positive relation between free cash flow and dividend payout, which implies the mitigation of the agency problem. Finally, once both variables (ownership concentration and free cash flow) are considered together as explanatory variables, only free cash flow turns out to be statistically significant and positively associated with dividend payout.

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1. Introduction

In corporate finance, dividend payout policy is one of the most important financial decisions to make. Dividend payout may change according to the level of economic policy uncertainty (EPU). Baker et al. (2016) asserted that uncertainty due to fiscal, monetary, regulatory, and trade activities may produce a significant association between the real economy and financial markets. EPU refers to uncertainty about government actions which affect the economic environment (Beckmann & Czudaj,

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2017). Theoretically, EPU may positively or negatively impact the dividend payout. The correlation is considered to be positive when there are rising finance costs during a period of uncertainty (Huang et al., 2015). Another explanation flows from an increase in manager risk perception regarding firm cash flows during high EPU (Berkman et al., 2011). Furthermore, in periods of high EPU, the external cost of capital rises (Xu, 2020), implying a greater need for internally generated cash by the firm reducing the dividend payout. It is more difficult to raise funds during periods of uncertainty (Lei et al., 2015).

The empirical evidence on the relationship between dividend payout and EPU is not conclusive. For example, recently, Attig et al. (2021) reported a positive relationship, while Nie and Yin (2022) reported a more negative one. Therefore, the following are the primary research questions that this study seeks to address: What is the relationship between dividend payout and the EPU level? What is the relationship between dividend payout and EPU volatility? How does including ownership concentration and free cash flow as explanatory variables change these relationships? The last two variables are relevant in explaining dividend payout. Ownership concentration normally shows a negative association with dividend payout because of the incentive to transfer wealth from minority shareholders to major stockholders (Shleifer & Vishny, 1997). Free cash flow may be either positively related to dividend payout (mitigation of agency costs) or negatively related to it (exacerbation of agency costs).

We choose Chile to study the relationship between dividend payout and EPU, ownership concentration, and free cash flow. First, Chile is one of the few countries in the world that mandates minimum dividends of 30% of the annual net income for listed companies. The objective is to protect the minority shareholders (La Porta et al., 1997), granting less discretion in selecting and implementing dividend policy to the controlling owners. Despite the requirement for dividends, 67% of Chile's listed companies pay dividends over the required level, raising the question of why the main shareholders of Chilean companies have an incentive to do so. One explanation is that businesses manage the free cash flow issue while making dividend payments (Jensen, 1986). Second, Chile is a French civil law country where investors have weak protection; this motivates major shareholders to extract private benefits (La Porta et al., 1997). Third, Chilean listed firms exhibit a high level of ownership concentration (48% of stocks are in hands of the major shareholder) with a pyramidal ownership structure, generating the incentive to transfer wealth from the minority shareholders to the major stockholders (Shleifer & Vishny, 1997). Fourth, pension fund administrators are significant minority shareholders who have helped shape the stock market. With regard to significant shareholder decisions, they have actively monitored those decisions (Espinosa, 2009; Lefort & Walker, 2000). These investors may play a role in controlling the agency problem of free cash flow.

Therefore, in general, Chile offers an ideal scenario to extract private benefits (Torres et al., 2017), which makes firms pay less dividends. However, the findings of this study demonstrate that, even in these favorable conditions, businesses increase dividend payments to reduce free cash flow.

A sample of 133 non-financial listed Chilean firms from 2005 to 2016 were analyzed. The contribution of this study is twofold. First, it detects a non-linear, U-shaped relation between EPU and dividend payout, which is a novel finding. Second, this result holds only in cases of high EPU. No significant relationship in cases of low EPU was detected. The study is organized in five sections. Section 2 contains the literature review and hypotheses development. Section 3 describes the sample and methodology. Section 4 presents the results. Section 5 concludes the study. Section 6 presents limitations, and the final section proposes ideas for future research.

2. Literature review and hypotheses

2.1. EPU and dividend payout

Theoretically, dividend payout decisions after changes in the level of EPU can go either way. If the precautionary motive dominates, when EPU increases, firms pay less dividends. In general, financing costs increase due to more information asymmetry during an uncertainty period (Huang et al., 2015). EPU increases can also be associated with higher manager risk perception regarding a firm's cash flow (Berkman et al., 2011) and an increase in financial distress probability. Furthermore, the external cost of capital increases during times of high EPU (Xu, 2020), implying a greater requirement for internally generated cash by the company to fund the current and future initiatives and lower the dividend payout. It is more difficult to raise funds during periods of uncertainty (Lei et al., 2015). Additionally, since internal funds are less expensive than external funds (Myers & Majluf, 1984), the firm has to reduce the dividend payout to finance its regular operation and new investments. All these arguments explain a negative relationship between EPU and dividend payout. However, the agency theory may explain the positive relationship between EPU and dividends. Agency costs tend to be more intense during periods of crisis (Bae et al., 2012; Lins et al., 2013). Under higher levels of EPU, free cash flow may increase due to fewer positive NPV (Net Present Value) projects available in the market. Under this circumstance, the shareholders may require higher payout levels to reduce investment in value-destroying projects. Therefore, if the firm increases its dividend payout, then the managers will be bound by a long-term commitment to diminish future free cash flow and be exposed to monitoring by the capital market, thus reducing the agency cost associated with the free cash flow (Easterbrook, 1984; Jensen, 1986; Rozeff, 1982). From the asymmetric information perspective, managers may use dividends as a way to signal future prospects and earnings (Miller & Rock, 1985). In this case, when EPU increases, the dividend payout may also increase in order to convey positive information to the market about investment opportunities and earnings. According to Baker et al. (2021) the increase in dividend payout is higher among better-performing firms, since this group has more benefits associated with the signal sent to the market throughout the dividend.

In terms of empirical evidence, Sarwar et al. (2020) studied the impact of EPU on dividend sustainability in China. They reported that during high EPU, past dividend payers are more likely to terminate dividend payments, and the firms that did not pay dividends in the past, are less likely to initiate dividends. Alhudhaif (2021)

studied the relationship between EPU and dividend payout for all public firms in the USA. He found a negative relation between EPU and dividend payout, which is more pronounced under fiscal policy uncertainty, as opposed to monetary policy uncertainty.

The first international study linking EPU and dividend policy was conducted by Attig et al. in 2021. They considered firms from 19 countries, including Chile. Their main finding was the positive association between EPU and dividend payments. Firms more sensitive to agency problems (e.g., free cash flow) pay more dividends during high EPU. Further, pertaining to this relationship, Attig et al. (2021) reported a stronger effect on firms with concentrated ownership in countries with weak shareholder protection. Sarwar et al. (2020) showed that in China, talented managers are less likely to cut dividends because they are confident about maintaining the same level of dividends in the long run even during high EPU.

Sarwar and Hassan (2021) studied the moderating role of board financial expertise (BFE) on dividend decisions (high EPU for Chinese listed firms). When BFE is included as a moderator, the previous non-payer firms initiate dividends, and the previous payers maintain dividend payments under EPU.

Nie and Yin (2022) showed that in China, dividend changes are followed by changes in cash flow volatility. They controlled for EPU, which is associated with reduced dividend payments and future investments, since it could increase the cost of external financing, particularly in countries with poor shareholder protection (Bhattacharya et al., 2017; He et al., 2020; Mielcarz et al., 2018).

Considering theoretical arguments and empirical findings, it is possible to find either a positive or a negative relationship between dividend payout and EPU. Thus, we propose the following:

H1. A change in the level of EPU is associated with a firm's payout policy, and the direction of this association can go either way.

Since EPU deals with uncertainty, both the level and volatility of EPU are important. A firm that faces higher volatility will make different decisions to control the adverse consequences associated with this scenario than one that faces lower volatility. In cases of low volatility, due to budgetary restrictions and a preference for using internal cash flow to fund initiatives, a firm will continue to pursue an investment strategy that will result in fewer dividend payments. However, if the volatility increases, it will prefer to invest less, generating free cash flow. It will subsequently decide to pay more dividends to mitigate this agency problem. Therefore, we anticipate a non-linear relation between volatility in EPU and dividend payout.

H2. The relationship between dividend payout and EPU volatility is non-linear, and it is U-shaped.

Firms should be more concerned about a higher level of EPU rather than a lower one. According to Pástor and Veronesi (2012), if investors have a certain expectation regarding the change in the level of EPU and the realized change is above the expected value, then the stock will trade at a lower price, which implies a lower return. However, if the realized change in EPU is below the market expectation, then the stock prices will rise, implying higher returns. The authors assume a benevolent

government, and market participants expect positive changes in EPU. Therefore, when changes in EPU are favorable, the stock prices will have a low increase because the investors already will have incorporated in their expectations the positive changes in EPU. This can be applied to dividend decisions and other financial decisions. If the change in both the level and the volatility of EPU is higher than expected, this will impact the dividend payout. If the average and volatility of EPU are low, no changes in the dividend payout will be expected.

H3. High (low) level and high (low) volatility of EPU is related (not related) to dividend payout.

We will test H1, H2, and H3 under both scenarios (high and low) of EPU.

2.2. Ownership concentration, free cash flow, and dividend payout

Agency cost theory is one of the most popular explanations for dividend policy (Easterbrook, 1984; Jensen, 1986; Jensen & Meckling, 1976; Rozeff, 1982; indirectly Shleifer & Vishny, 1986, 1997). These studies suggested that dividend payout may serve to mitigate agency costs. Shleifer and Vishny (1986, 1997) proposed the agency problem called principal-principal (Type II), where the major shareholder has an incentive to extract wealth from the minority shareholders. This is particularly relevant to Chile due to the high ownership concentration in hands of the major shareholder (48% of the stocks, according to our data). On the one hand, Jensen and Meckling (1976) proposed to pay higher dividends in companies with diluted ownership to reduce the managers' perquisite consumption. If managers' incentives are not properly aligned with the other shareholders, then the managers are likely pursue their own interest, which are different from the stockholders (principals). The stockholders lack the incentive to monitor the managers because the monitoring cost is greater than the benefits to do it. However, Shleifer and Vishny (1986, 1997) did not include dividend payout as a means of resolving the agency problem (Type II) brought on by the interaction between the majority and minority shareholders. In this sense, cash flows retained at the company level may be used by the major shareholders to extract wealth from the minority shareholders. Hence, it can be inferred that dividends may play a relevant role in mitigating this agency cost. La Porta et al. (2000) proposed two agency models of dividend. According to the "outcome" model, the minority shareholder right setup defines the level of dividends. Under a stronger shareholder right environment, firms are pushed to pay higher dividends. As per the "substitute" model, the insiders pay higher dividends to uphold the reputation of their decent treatment of the minority shareholders. Therefore, weaker minority shareholder rights should be associated with lower dividends. The empirical evidence provided by La Porta et al. (2000) is consistent with the outcome model. This is particularly true in countries with common law, where dividends are higher, compared to countries with the French civil law.

Empirically, a negative relation between dividend payout and ownership concentration for different countries and regions was reported: Finland (Khalfan & Wendt, 2020), Germany (Gugler & Yurtoglu, 2003), Italy (Mancinelli & Ozkan, 2006), Japan (Harada & Nguyen, 2011), Latin America (González et al., 2017), Malaysia

(Ting et al., 2017), Mexico (San Martín Reyna, 2017), Turkey (Al-Najjar & Kilincarslan, 2019), UK (Khan, 2006). However, there are few cases that show a positive relation between these: China (Liu et al., 2018; Thanatawee, 2012), India (Arora & Srivastava, 2021), Vietnam (Kien & Chen, 2020). Since most of the results from emerging countries report a negative relation between dividends and ownership concentration, our hypothesis is as follows:

H4: Firms with higher ownership concentration pay less dividends, without controlling for other sources of agency problems.

Positive and negative relationships have been reported for countries with low investor protection, where we would have expected a negative association between dividend payout and ownership concentration due to the low regulatory cost to expropriate wealth from minority shareholders. Focusing on evidence from Latin America, Chong and López-de-Silanes (2007) concluded that these nations have less robust investor protections than other French civil law nations as well as higher expropriation risks, higher capital costs, and smaller dividend payments.

These external conditions in Chile, in conjunction with high ownership concentration, strengthen the hypothesis about extracting wealth from minority shareholders. There is a need to control for other agency problems that may even change the expected negative association between dividend payout and ownership concentration.

Regarding free cash flow, Jensen (1986) considered dividend policy as an effective mechanism to reduce the free cash flow (FCF) problem. According to Jensen (1986) a firm with excess cash flow has the incentive to over-invest. The FCF hypothesis of the agency theory states that excess cash reserves increases managerial discretion and encourages managers to look out for their own interests (Byrd, 2010; Myers & Rajan, 1998). Kadioglu and Yilmaz (2017) suggested that managers make unnecessary expenditures in detriment of shareholders' interests. Jensen proposed dividend policy as one mechanism to mitigate FCF. Therefore, a firm will pay more dividends if it faces FCF. Franc-Dąbrowska et al. (2020) studied the determinants of dividend payout decisions for publicly quoted food industry firms operating in emerging markets. The major determinants are free cash flow, liquidity, profitability, and size. Mahdzan et al. (2016) studied the determinants of dividend policies of public listed firms in Malaysia. They examined eight industries, and the results varied across these industries. Agency cost is positively related to dividend payments in the basic material industry. Size and leverage are important in the technology and consumer non-cyclical industries. Non-significant results are reported for energy and consumer cyclical industries.

According to Richardson (2006), specific corporate governance models can lower the costs associated with excessive investment. Previous empirical results show that dividend payout is regularly associated with the redistribution of excess funds (Huang et al., 2015; La Porta et al., 2000; Mitton, 2004). Additionally, corporate governance features affect FCF (McKnight & Weir, 2009). Therefore, some characteristics of the governance, such as ownership concentration, cannot be separated from FCL in order to explain dividend payout. Agency costs can be exacerbated or mitigated.

We may observe a negative relation between ownership concentration and dividend payment, which indicates that agency costs are exacerbated. Nevertheless, if we

control for potential benefits associated with mitigated FCF, we may even observe a non-significant relation between dividend payout and ownership concentration.

H5: The more intense the free cash flow problem, the higher the dividend payment, controlling for ownership concentration.

3. Sample and methodology

3.1. Sample and data sources

Our dataset includes firm-level and country-level information from several sources. Following the extant literature, we first obtained the EPU index of Chile from Baker, Bloom and Davis's website.[1] Second, we extracted firm-level financial statement data from Thompson Reuters Eikon. Third, data on the ownership held by pension funds in Chilean companies were manually gathered from the website of the Chilean Pension Funds Regulator (*Superintendencia de Pensiones*). Following previous literature on the subject, we excluded all financial and utility firms as well as investment firms from the analysis (Llanos-Contreras et al., 2021). Our final dataset was an unbalanced panel comprising 1034 observations from 133 firms for the 2005–2016 period. Information was limited to this period of time because of data availability.

3.2. Methodology

We broke down the analysis of how firms' dividend policy is related to EPU, controlling for ownership concentration and free cash flow, using a two-step procedure. First, we examined how EPU influences the dividend payout of Chilean firms. Second, we explored whether and how this relationship is affected by agency problems.

3.2.1. Dividend policy and EPU

To test the effects of EPU on firms' dividend policy, we used Tobit regression. It is the appropriate method since public firms in Chile have to pay a mandatory dividend of 30% of net earnings. Some of the firms may pay 0 dividends, in case of losses. In our sample, 67% of the firms pay above the 30%. The Tobit method is designed to estimate linear relationships between variables when the dependent variable is either left or right-censored. It is more suitable to deal with censored data compared to other techniques (e.g., OLS), which could lead to bias and inconsistencies in the coefficient estimates. Additionally, previous studies have used this method to examine dividend payouts (see Attig et al., 2016; González et al., 2014; Isakov & Weisskopf, 2015)

Equation (1) can be expressed as follows:

$$\begin{aligned} Div_Payout_{i,t} = {} & \beta_0 + \beta_1 EPU_t + \beta_2 EPU_t^2 + \beta_3 AFPown_{i,t} + \beta_4 Leverage_{i,t} + \beta_5 CAPEX_{i,t} \\ & + \beta_6 ROA_{i,t} + \beta_7 GrSales_{i,t} + \beta_8 Size_{i,t} + \beta_9 Age_{i,t} + \beta_{10} CFvolatility_{i,t} \\ & + Fixed\ \ Efects + \varepsilon_{i,t} \end{aligned} \tag{1}$$

where i and t index are firms and years, respectively. Dividend payout is the dependent variable, which changes the latter to check for robustness. Based on previous research (Attig et al., 2021; La Porta et al., 2000), our main proxy variable of dividends (*Div_Payout*) was computed as the ratio between cash dividend payments to net income before extraordinary items. Dividends take the value equal 0 if the firm has negative earnings (Attig et al., 2016). We also considered the alternative measures of dividends for the robustness check. Concerning our key explanatory variables, we used the monthly EPU_t, which reflects one of the two economic policy uncertainty measures (*EPUaverage* or *EPUvolatility*). Thus, these variables enabled us to examine the direct effect of EPU on firms' dividend payout. To test the non-linear relationship between EPU and dividend payout, we incorporated the variable EPU_t^2.

In line with what the research to date suggests (e.g., Alzahrani & Lasfer, 2012; Attig et al., 2016; 2021), a set of control variables related to firm-specific determinants of dividend policy were included, namely leverage, CAPEX, ROA, growth in sales, cash flow volatility (CFvolatility), firm age (age), and size. Finally, to capture the potential monitoring role played by the AFPs (active institutional investors) in Chile, we included the percentage of shares in pension funds (AFPown). See Appendix for the description of the variables employed in this study. We also included a set of fixed effects at different aggregation levels to control for the unobservable time-invariant and industry-invariant fixed effects. Particularly, the fixed effects were included at the year-level and industry-level. $\varepsilon_{i,t}$ is the error term.

3.2.2. Dividend policy and EPU: ownership concentration and free cash flow

In this section, we explore whether and how the relationship between firms' dividend payout and EPU is affected by agency problems. To do this, we extend Equation (1) and propose the next Tobit regression model expressed by Equation (2):

$$\begin{aligned} Div_Payout_{i,t} = {} & \beta_0 + \beta_1 EPU_t + \beta_2 EPU_t^2 + \beta_3 OWNCONC_{i,t} + \beta_4 FCF_{i,t} + \beta_5 AFPown_{i,t} \\ & + \beta_6 Leverage_{i,t} + \beta_7 CAPEX_{i,t} + \beta_8 ROA_{i,t} + \beta_9 Size_{i,t} + \beta_{10} Age_{i,t} \\ & + \beta_{11} CFvolatility_{i,t} + Fixed\ \ Efects + \varepsilon_{i,t} \end{aligned} \tag{2}$$

OWNCONC represents the ownership concentration measured as the percentage of shares in hands of the largest shareholder. To measure free cash flow, we computed the ratio between growth in sales and cash flow (net income plus depreciation) to sales (FCF). The higher the FCF, the lower the free cash flow problem and vice versa. If FCF is negatively related to dividend payout, then the free cash flow is mitigated. Growth in sales is a proxy for growth opportunities, and cash flow is the amount of cash available for investment. A firm with low growth in sales and high cash flow (low FCF) most probably will have free cash flow problems. In this setup, our main variables of interest are OWNCONC and FCF.

4. Results

4.1. Dividend policy and EPU

We reported a set of panel regressions over the 2005–2016 period to analyze whether firms' dividend payout is related to EPU. Table 1 presents the results for the different estimations of Equation (1), considering dividend payout as the dependent variable ($Di_Payout_{i,t}$), our main variables of interest related to EPU_t (*EPUaverage and EPUvolatility*), its potential non-linear shape (EPU_t^2) as well as the set of control variables related to the firm characteristics. In Columns (1) to (3), we examined the effect of our first proxy variable of economic policy uncertainty, *EPUaverage,* while in Columns (4) to (6), we explored the impact of our second proxy variable represented by *EPUvolatility*. In the first specification, we did not include any control variables (Columns 1 and 4). We then tested the potential non-linear effect of *EPUaverage* (Column 2) and *EPUvolatility* (Column 4) on firms' dividend policy. Finally, we included all the control variables and estimated the full model expressed by Equation (1), using *EPUaverage* (Column 3) and *EPUvolatility* (Column 6) separately.

Regarding our two key variables related to EPU, Table 1 reports a negative and statistically significant effect on firms' dividend payout. Columns (1) to (3) show that *EPUaverage* negatively impacts *Div_Payout*, ceteris paribus. This relationship is

Table 1. Dividends and EPU.

	EPUaverage			EPUvolatility		
VARIABLES	Dividends (1)	Dividends (2)	Dividends (3)	Dividends (4)	Dividends (5)	Dividends (6)
EPU	−0.003***	−0.042**	−0.053***	−0.007***	−0.040***	−0.050***
	(0.001)	(0.018)	(0.018)	(0.003)	(0.015)	(0.016)
EPU^2		0.001**	0.000***		0.001**	0.001***
		(0.000)	(0.000)		(0.000)	(0.000)
AFPown			0.102			0.102
			(0.477)			(0.477)
Leverage			−0.150			−0.150
			(0.147)			(0.147)
Capex			0.598			0.598
			(0.405)			(0.405)
ROA			0.398			0.398
			(0.545)			(0.545)
GrSales			−0.002*			−0.002*
			(0.001)			(0.001)
Size			0.020			0.020
			(0.015)			(0.015)
Age			−0.047			−0.047
			(0.060)			(0.060)
CFvolatility			0.361			0.361
			(0.582)			(0.582)
Observations	1034	1034	846	1034	1034	846
Pseudo R2	0.2252	0.2252	0.2254	0.2250	0.2250	0.2254
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Note: This table presents the results from several estimations of our Equation (1) on the relationship between firms' dividend payout and EPU. The dependent variable (*Div_payout*) is the ratio between cash dividends payments and net income before extraordinary items. We employed the Tobit model with ye with errors clustered at the firm level and controlling for the time-fixed and industry-fixed effects. All the variables are discussed in detail in the Appendix. Robust standard errors are reported in parentheses. (***) indicates a significance level below 1%, (**) below 5%, and (*) below 10%.
Source: Most of the data comes from Thomson Reuters-Eikon and AFPown comes from Superintendencia de Administradoras de Fondos de Pensiones.

Table 2. Dividends and EPU: high vs. low EPU.

	EPUaverage		EPUvolatility	
	High (1)	Low (2)	High (3)	Low (4)
EPU	−0.117***	0.031	−0.001**	0.131
	(0.044)	(0.128)	(0.000)	(0.111)
EPU^2	0.002***	−0.000	0.000***	−0.004
	(0.000)	(0.001)	(0.000)	(0.003)
AFPown	−0.287	−0.346	−0.253***	0.331
	(0.695)	(0.558)	(0.063)	(0.661)
Leverage	−0.322*	−0.127	−0.018	−0.338*
	(0.210)	(0.170)	(0.019)	(0.177)
Capex	1.784**	0.300	2.134***	0.270
	(0.786)	(0.540)	(0.108)	(0.519)
ROA	0.304	0.647	0.361***	0.438
	(0.862)	(0.509)	(0.061)	(0.631)
GrSales	−0.008***	−0.001	−0.004***	−0.002
	(0.002)	(0.001)	(0.000)	(0.001)
Size	0.058***	0.002	0.021***	0.020
	(0.014)	(0.016)	(0.001)	(0.015)
Age	−0.107**	−0.035	−0.087***	−0.036
	(0.050)	(0.069)	(0.003)	(0.064)
CFvolatility	1.879*	0.028	0.020	0.710
	(1.125)	(0.748)	(0.099)	(0.803)
Observations	341	505	336	510
Pseudo R2	0.3624	0.2553	0.3095	0.2672
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

Notes: This table presents the results from several estimations of our Equation (1) on the relationship between firms' dividend payout and EPU. The dependent variable (*Div_payout*) is the ratio between cash dividends payments and net income before extraordinary items. Columns (1) and (3) report the regression results for the subsample, where the variables, EPUaverage and EPvolatility, are greater than the sample median, respectively. Columns (2) and (4) report the regression results for the subsample, where the variables, EPUaverage and EPUvolatility, are lower than the sample median, respectively. We employed the Tobit model with ye with errors clustered at the firm level and controlling for the time-fixed and industry-fixed effects. All the variables are discussed in detail in Appendix. Robust standard errors are reported in parentheses. (***) indicates a significance level below 1%, (**) below 5%, and (*) below 10%.
Source: Most of the data comes from Thomson Reuters-Eikon and AFPown comes from Superintendencia de Administradoras de Fondos de Pensiones.

statistically significant at the 1% confidence level. In other words, an increase in the average EPU index leads to a decline in firms' dividend payout. Likewise, Columns (4) to (6) report that *EPUvolatility* negatively affects *Div_Payout*. Specifically, an increase in the volatility of the EPU index leads to a decrease in firms' dividend payout. This relationship is also statistically significant at the 1% confidence level. These results support H1 (the relationship between dividend payout and EPU is negative).

Turning to the non-linear relationship between EPU and firms' dividend payout, Table 1 shows that this relationship is positive and statistically significant at the conventional levels. The estimation results reported in Columns (2) and (3) show a positive and statistically significant impact of the squared transformation of *EPUaverage* on *Div_Payout*. Similarly, Columns (5) and (6) exhibit a positive and statistically significant link between the squared transformations of *EPUvolatility on Div_Payout*. These results suggest a non-linear, U-shaped relationship between EPU and firms' dividends payout. Therefore, H2 stands supported. As far as we know, this is the first study in this area which reports a non-linear relation between EPU and dividend payout. The potential explanation is that when EPU is high, for precautionary motives, a firm will keep more internal resources and therefore pay less dividends. This is true

Table 3. Dividends and EPU: Probit model.

	EPUaverage		EPUvolatility	
VARIABLES	PDIV (1)	PDIV (2)	PDIV (3)	PDIV (4)
EPU	0.006*	−0.114*	0.022*	−0.067
	(0.003)	(0.066)	(0.012)	(0.084)
EPU^2		0.001*		0.002
		(0.000)		(0.001)
AFPown (t − 1)	0.365	0.365	0.365	0.365
	(1.667)	(1.667)	(1.667)	(1.667)
Leverage (t − 1)	−0.060	−0.060	−0.060	−0.060
	(0.327)	(0.327)	(0.327)	(0.327)
Capex1 (t − 1)	−0.802	−0.802	−0.802	−0.802
	(1.146)	(1.146)	(1.146)	(1.146)
ROA (t − 1)	6.428***	6.428***	6.428***	6.428***
	(2.055)	(2.055)	(2.055)	(2.055)
GrSales (t − 1)	0.003	0.003	0.003	0.003
	(0.002)	(0.002)	(0.002)	(0.002)
Size (t − 1)	0.023	0.023	0.023	0.023
	(0.032)	(0.032)	(0.032)	(0.032)
Age (t − 1)	0.038	0.038	0.038	0.038
	(0.118)	(0.118)	(0.118)	(0.118)
CFvolatility (t − 1)	3.544***	3.544***	3.544***	3.544***
	(1.359)	(1.359)	(1.359)	(1.359)
Observations	959	959	959	959
Pseudo R2	0.1418	0.1418	0.1418	0.1418
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

Notes: This table presents the results from several estimations of our Equation (1) on the relationship between firms' dividend payout and EPU. The dependent variable (*Div_payout*) is the ratio between cash dividends payments and net income before extraordinary items. We employed the Probit model with ye with errors clustered at the firm level and controlling for the time-fixed and industry-fixed effects. All the independent variables are lagged one period, with the exception of family firm characteristics. All the variables are discussed in detail in Appendix. Robust standard errors are reported in parentheses. (***) indicates a significance level below 1%, (**) below 5%, and (*) below 10%.
Source: Most of the data comes from Thomson Reuters-Eikon and AFPown comes from Superintendencia de Administradoras de Fondos de Pensiones.

until a minimum level of EPU, and from there on, the firm will reduce its capital expenditure due to the high uncertainty and start paying more dividends to mitigate free cash flow problems. Another potential explanation is related to a shareholder's need of funds due to high EPU. In this case, they will insist on higher dividends.

4.2. Subsample analysis: high and low EPU

We now turn to explore whether the effect of EPU on firms' dividend payout is conditional upon the level of uncertainty (high and low). Table 2 displays the results for the different estimates of Equation (1) by splitting the sample based on the level of *EPUaverage* and *EPUvolatility*. Columns (1) and (3) report the regression results for the subsample, where the variable *EPUaverage* and *EPUvolatility* are greater than their sample median, respectively. Similarly, Columns (2) and (4) report the regression results for the subsample, where the variable *EPUaverage* and *EPUvolatility* are lower than their sample median, respectively. In all the estimations the dependent variable is our key measure of dividend (*Div_Payout).*

From Columns (1) and (3) of Table 2, it is clear that both *EPUaverage and EPUvolatility* report a negative and statistically significant relation with *Div_Payout*

Table 4. Dividends and EPU: ownership concentration.

	EPUaverage			EPUvolatility		
VARIABLES	Dividends (1)	Dividends (2)	Dividends (3)	Dividends (4)	Dividends (5)	Dividends (6)
EPU	−0.003***	−0.039**	−0.052***	−0.008***	−0.039**	−0.051***
	(0.001)	(0.018)	(0.018)	(0.003)	(0.015)	(0.016)
EPU^2		0.000**	0.000***		0.001**	0.001***
		(0.000)	(0.000)		(0.000)	(0.000)
OWNCONC	−0.311***	−0.311***	−0.266**	−0.311***	−0.311***	−0.266**
	(0.110)	(0.110)	(0.129)	(0.110)	(0.110)	(0.129)
AFPown			0.151			0.151
			(0.491)			(0.491)
Leverage			−0.104			−0.104
			(0.154)			(0.154)
Capex			0.596			0.596
			(0.437)			(0.437)
ROA			0.291			0.291
			(0.550)			(0.550)
GrSales			−0.002*			−0.002*
			(0.001)			(0.001)
Size			0.010			0.010
			(0.017)			(0.017)
Age			−0.034			−0.034
			(0.060)			(0.060)
CFvolatility			0.375			0.375
			(0.595)			(0.595)
Observations	961	961	787	961	961	787
Industry FE	YES	YES	YES	YES	YES	YES
Pseudo R2	0.2328	0.2328	0.2264	0.2328	0.2328	0.2264
Year FE	YES	YES	YES	YES	YES	YES

Notes: This table presents the results from several estimations of our Equation (2) on the relationship between firms' dividend payout and EPU controlling for agency ownership concentration. OWNCONC is measured as the ownership held by the largest shareholder. The dependent variable (*Div_payout*) is the ratio between cash dividends payments and net income before extraordinary items. We employed the Tobit model with ye with errors clustered at the firm level and controlling for the time-fixed and industry-fixed effects. All the variables are discussed in detail in Appendix. Robust standard errors are reported in parentheses. (***) indicates a significance level below 1%, (**) below 5%, and (*) below 10%.
Source: Most of the data comes from Thomson Reuters-Eikon and AFPown comes from Superintendencia de Administradoras de Fondos de Pensiones.

when the level of uncertainty is high. Conversely, Columns (2) and (4) of Table 2 show that *EPUaverage* and *EPUvolatility* have no significant effect on *Div_Payout* when the level of uncertainty is low. This may mean that firms do not make changes in their dividend policy since they had already incorporated in their expectation of a low EPU. However, when the uncertainty is high, they need to make changes in the dividend policy to mitigate the adverse effects on the firm. This might be in line with the ideas proposed by Pástor and Veronesi (2012).

Regarding the non-linear relationship between EPU and firms' dividend payout, Columns (1) and (3) display a positive and statistically significant effect of the squared transformation of *EPUaverage* and *EPUvolatility* on *Div_Payout*. In contrast, Columns (2) and (4) of Table 2 present that the non-linear relationship between *EPUaverage* and *EPUvolatility* on *Div_Payout* is not significant when the level of uncertainty is low. These findings allow us to infer that the non-linear, U-shaped relationship between EPU and firms' dividends payout holds at high levels of uncertainty. These results support H3.

A robustness analysis was done first, following previous studies (e.g., Attig et al., 2016). We conducted probit regressions to provide additional evidence to investigate

Table 5. Dividends and EPU: free cash flow.

Variables	(1) Dividends	(3) Dividends	(5) Dividends	(7) Dividends	(9) Dividends	(11) Dividends
EPU	−0.004***	−0.061***	−0.064***	−0.010***	−0.057***	−0.060***
	(0.001)	(0.023)	(0.024)	(0.003)	(0.019)	(0.020)
EPU^2		0.000**	0.000***		0.001***	0.001***
		(0.000)	(0.000)		(0.000)	(0.000)
FCF	−0.146*	−0.146*	−0.307*	−0.146*	−0.146*	−0.307*
	(0.121)	(0.121)	(0.166)	(0.121)	(0.121)	(0.166)
AFPown			−0.067			−0.067
			(0.566)			(0.566)
Leverage			−0.435**			−0.435**
			(0.190)			(0.190)
Capex			0.026			0.026
			(0.495)			(0.495)
ROA			0.164			0.164
			(0.410)			(0.410)
Size			0.013			0.013
			(0.015)			(0.015)
Age			0.035			0.035
			(0.055)			(0.055)
CFvolatility			0.012			0.012
			(0.619)			(0.619)
Pseudo R2	0.2027	0.2027	0.2015	0.2027	0.2027	0.2015
Observations	820	820	786	820	820	786
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Notes: This table presents the results from several estimations of our Equation (2) on the relationship between firms' dividend payout and EPU controlling for FCF. This is computed by the ratio between growth in sales and cash flow (net income plus depreciation) over total sales. The dependent variable (Div_payout) is the ratio between cash dividends payments and net income before extraordinary items. We employed the Tobit model with ye with errors clustered at the firm level and controlling for the time-fixed and industry-fixed effects. All the variables are discussed in detail in Appendix. Robust standard errors are reported in parentheses. (***) indicates a significance level below 1%, (**) below 5%, and (*) below 10%.
Source: Most of the data comes from Thomson Reuters-Eikon and AFPown comes from Superintendencia de Administradoras de Fondos de Pensiones.

whether the effect of EPU on firms' dividends payout is due to other factors, such as the mandatory dividend requirement in Chile. Thus, we created a new proxy variable of dividend policy, PDIV, that takes a value of 1 if firm i's dividend payout is greater than the mandatory rule of 30% in year t and of 0, otherwise. We included all the control variables used in Equation (1). To deal with simultaneity concerns, we included all the control variables lagged by one year. We clustered the standard errors at the firm level to correct for serial correlation in the errors within each firm. Finally, we also controlled for the unobservable time-invariant and industry-invariant fixed effects.

Overall, the results in Table 3 support our previous findings about the effect of EPU on firms' dividend payout, validating H1, particularly, that the relationship between dividend payout and EPU is negative. Moreover, the results suggest that the effect of EPU on *Div_Payout* is non-linear. In other words, these results suggest a non-linear, U-shaped relationship between EPU and firms' dividend payout, supporting H2.

4.3. Controlling for ownership concentration and free cash flow

In this section, we examine whether and how the relationship between firms' dividend payout and EPU is affected by the presence of agency problems. Thus, the

Table 6. Dividends and EPU: ownership concentration and free cash flow.

Variables	(1) Dividends	(2) Dividends
EPU	−0.066***	−0.063***
	(0.024)	(0.020)
EPU^2	0.000***	0.001***
	(0.000)	(0.000)
OWNCONC	−0.208	−0.208
	(0.130)	(0.130)
FCF	−0.386**	−0.386**
	(0.172)	(0.172)
AFPown	0.012	0.012
	(0.590)	(0.590)
Leverage	−0.440**	−0.440**
	(0.194)	(0.194)
Capex	−0.115	−0.115
	(0.512)	(0.512)
ROA	0.138	0.138
	(0.435)	(0.435)
Size	0.008	0.008
	(0.016)	(0.016)
Age	0.042	0.042
	(0.056)	(0.056)
CFvolatility	0.199	0.199
	(0.624)	(0.624)
Pseudo R2	0.2026	0.2026
Observations	736	736
Industry FE	YES	YES
Year FE	YES	YES

Notes: This table presents the results from several estimations of our Equation (2) on the relationship between firms' dividend payout and EPU controlling for OWNCONC and FCF. OWNCONC is measured as the ownership held by the largest shareholder; FCF is computed by the ratio between growth in sales and cash flow (net income plus depreciation) over total sales. The dependent variable (Div_payout) is the ratio between cash dividends payments and net income before extraordinary items. We employed the Tobit model with ye with errors clustered at the firm level and controlling for the time-fixed and industry-fixed effects. All the variables are discussed in detail in Appendix. Robust standard errors are reported in parentheses. (***) indicates a significance level below 1%, (**) below 5%, and (*) below 10%.

specification of our baseline model is given by Equation (2), developed in section 3.2, and our main variables of interest are OWNCONC and FCF.

With respect to OWNCONC, all the estimates presented in Table 4 provide evidence of a negative and statistically significant effect of ownership concentration on firms' dividend payout. This suggests that firms with higher ownership concentration pay less dividends, without controlling other agency problems, providing support to H4. Additionally, in all columns of Table 4, we can observe a negative and statistically significant effect of EPU on dividends payout as well as a non-linear, U-shaped relationship between EPU and firms' dividend policy. These findings allow us to argue that after controlling for ownership concentration, our previous results would remain unchanged.

In Table 5, we can observe the impact of FCF on dividend payout, which turns out to be negative and statistically significant. This suggests that the higher the free cash flow problem (lower FCF), the higher the dividend payment. In contrast to the alternative, which would suggest that agency difficulties would worsen, it is implied that dividend distribution is employed to ameliorate the free cash flow problem.

We now turn to consider how both variables, EPU and ownership concentration, together impact dividend payout. All the estimates reported in Table 6 provide

evidence of a negative and statistically significant effect of *FCF* on *Div_payout,* which supports H5. Specifically, the more intense the free cash flow problem, the higher the dividend payment, controlling for ownership concentration. In fact, ownership concentration is no longer statistically significant.

5. Conclusions

A non-linear, U-shaped relation between EPU and dividend payout is a novel finding. We also found that the results hold only during high EPU. This means that EPU does not have any impact on dividend payout when the average and volatility of EPU are low.

Ownership concentration is negative and significantly related to dividend payout. This may suggest the presence of agency problems between the major shareholder and the minority shareholders. Free cash flow is positively and significantly associated with dividend payout, which imply the mitigation of the free cash flow problem.

Once ownership concentration and FCF are included together as independent variables, free cash flow becomes statistically significant, and ownership concentration is not statistically significant in the relationship with dividend payout. Therefore, the higher the free cash flow, the higher the dividend payout. This suggests that dividend payout serves to mitigate the free cash flow problem, nullifying the contrary ownership effect on dividend payout.

We ran Equation (1) with other proxies for dividend payment (e.g., ln(dividends); dividend payment/total assets; dividend yield); the main results held.

Theoretical improvements can be made by developing a model that includes EPU, dividends, and agency problems. This will make it easier to comprehend the non-linear link between dividend payout and EPU that this study has found. This can also be extended to include financing and investment decisions.

In terms of practical implications, it is clear that there is a need for the estate to maintain low levels of EPU in such a way that firms do not alter the dividend payment and capital expenditure significantly, which eventually impacts the welfare of stockholders. It is necessary for the management to synchronize cash holdings, capital expenditures, working capital, dividends, and financing decisions because at high levels of EPU, the businesses pay more dividends. This is so because their connections are undeniable.

6. Limitations of the study

The sample of this research is limited to one emerging country (Chile), which makes generalizability difficult. The sample must be expanded in terms of the time period and must also include other emerging countries as well as compare the results with firms from developed countries. The type of ownership should be considered (family, non-family, and business groups). This study does not consider contestability, which limits the extent to which agency problems are controlled. The separation between voting rights and cash flow rights is also necessary to further investigate wealth transfer incentives.

7. Future research

Future studies should include other emerging Latin American countries to find out if the results shown in this study hold at the cross-country level. It will be also interesting to include countries with mandatory and non-mandatory dividends to compare the results. The type of ownership will be interesting to study, for example, family and non-family firms. Beyond ownership concentration to control behavior, further corporate governance-related criteria need to be considered.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

Note

1. http://www.policyuncertainty.com

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References

Alhudhaif, E. (2021). Corporate Payout and Economic Policy Uncertainty in the US. Working Paper. Darla Moore School of Business, University of South Carolina.

Al-Najjar, B., & Kilincarslan, E. (2019). What do we know about the dividend puzzle? – A literature survey. *International Journal of Managerial Finance*, *15*(2), 205–235. https://doi.org/10.1108/IJMF-03-2018-0090

Alzahrani, M., & Lasfer, M. (2012). Investor protection, taxation, and dividends. *Journal of Corporate Finance*, *18*(4), 745–762. https://doi.org/10.1016/j.jcorpfin.2012.06.003

Arora, R., & Srivastava, A. (2021). Ownership concentration and dividend payout in emerging markets: Evidence from India. *Global Business Review*, *22*(5), 1276–1288. https://doi.org/10.1177/0972150918824953

Attig, N., Boubakri, N., El Ghoul, S., & Guedhami, O. (2016). The global financial crisis, family control, and dividend policy. *Financial Management*, *45*(2), 291–313. https://doi.org/10.1111/fima.12115

Attig, N., El Ghoul, S., Guedhami, O., & Zheng, X. (2021). Dividends and economic policy uncertainty: International evidence. *Journal of Corporate Finance*, *66*, 101785. https://doi.org/10.1016/j.jcorpfin.2020.101785

Bae, K.-H., Baek, J.-S., Kang, J.-K., & Liu, W. L. (2012). Do controlling shareholders' expropriation incentives imply a link between corporate governance and firm value? Theory and evidence. *Journal of Financial Economics*, *105*(2), 412–435. https://doi.org/10.1016/j.jfineco.2012.02.007

Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The Quarterly Journal of Economics*, *131*(4), 1593–1636. https://doi.org/10.1093/qje/qjw024

Baker, H., Chang, M., & Ho, C. (2021). Value of dividend signaling in uncertain times. *International Review of Finance*, *21*(4), 1419–1440. https://doi.org/10.1111/irfi.12334

Beckmann, J., & Czudaj, R. (2017). Exchange rate expectations and economic policy uncertainty. *European Journal of Political Economy*, *47*, 148–162. https://doi.org/10.1016/j.ejpoleco.2016.06.003

Berkman, H., Jacobsen, B., & Lee, J. B. (2011). Time-varying rare disaster risk and stock returns. *Journal of Financial Economics*, *101*(2), 313–332. https://doi.org/10.1016/j.jfineco.2011.02.019

Bhattacharya, U., Hsu, P., Tian, X., & Xu, Y. (2017). What affects innovation more: Policy or policy uncertainty? *Journal of Financial and Quantitative Analysis*, *52*(5), 1869–1901. https://doi.org/10.1017/S0022109017000540

Byrd, J. W. (2010). Financial policies and the agency costs of free cash flow: Evidence from the oil industry. Retrieved from http://ssrn.com/abstract=1664654.

Chong, A., & López-de-Silanes, F. (2007). Corporate governance in Latin America. Inter-American Development Bank, Research Department Departamento de Investigación Working Paper #591. Washington, District of Columbia

Easterbrook, F. H. (1984). Two agency-cost explanations of dividends. *The American Economic Review*, *74*, 650–659.

Espinosa, C. (2009). Estructura de Propiedad y Desempeño de la Firma: El caso chileno. *Academia, Revista Latinoamericana de Administración*, *43*, 41–62.

Franc-Dąbrowska, J., Mądra-Sawicka, M., & Ulrichs, M. (2020). Determinants of dividend pay-out decisions – The case of publicly quoted food industry enterprises operating in emerging markets. *Economic Research-Ekonomska Istraživanja*, *33*(1), 1108–1129. https://doi.org/10.1080/1331677X.2019.1631201

González, M., Guzmán, A., Pombo, C., & Trujillo, M.-A. (2014). Family involvement and dividend policy in closely held firms. *Family Business Review*, *27*(4), 365–385. https://doi.org/10.1177/0894486514538448

González, 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

Gugler, K., & Yurtoglu, B. B. (2003). Corporate governance and dividend pay-out policy in Germany. *European Economic Review*, *47*(4), 731–758. https://doi.org/10.1016/S0014-2921(02)00291-X

Harada, K., & Nguyen, P. (2011). Ownership concentration and dividend policy in Japan. *Managerial Finance*, *37*(4), 362–379. https://doi.org/10.1108/03074351111115313

He, F., Ma, Y., & Zhang, X. (2020). How does economic policy uncertainty affect corporate Innovation?–Evidence from China listed companies. *International Review of Economics & Finance*, *67*, 225–239. https://doi.org/10.1016/j.iref.2020.01.006

Huang, T., Wu, F., Yu, J., & Zhang, B. (2015). Political risk and dividend policy: Evidence from international political crises. *Journal of International Business Studies*, *46*(5), 574–595. https://doi.org/10.1057/jibs.2015.2

Isakov, D., & Weisskopf, J. P. (2015). Pay-out policies in founding family firms. *Journal of Corporate Finance*, *33*, 330–344. https://doi.org/10.1016/j.jcorpfin.2015.01.003

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance and takeovers. *The American Economic Review*, *76*, 323–329.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Kadioglu, E., & Yilmaz, E. A. (2017). Is the free cash flow hypothesis valid in Turkey? *Borsa Istanbul Review*, *17*(2), 111–116. https://doi.org/10.1016/j.bir.2016.12.001

Khalfan, T. M., & Wendt, S. (2020). The impact of ownership concentration on payout across Nordic firms. *Journal of Multinational Financial Management*, *56*, 100640. https://doi.org/10.1016/j.mulfin.2020.100640

Khan, T. (2006). Company dividends and ownership structure: Evidence from UK panel data. *The Economic Journal*, *116*(510), C172–C189. https://doi.org/10.1111/j.1468-0297.2006.01082.x

Kien, D. T., & Chen, Y.-P. (2020). Ownership structure impact on dividend policy of listed companies on Vietnamese securities market. *Journal of Mathematical Finance*, *10*(02), 223–241. https://doi.org/10.4236/jmf.2020.102014

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1997). Legal determinants of external finance. *The Journal of Finance*, *52*(3), 1131–1150. https://doi.org/10.1111/j.1540-6261.1997.tb02727.x

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

Lefort, F., & Walker, E. (2000). Corporate governance: A challenge for Latin America. *ABANTE*, *2*, 99–111.

Lei, G., Wang, W., & Liu, M. (2015). Political uncertainty, dividend policy adjustments and market effects. *China Journal of Accounting Studies*, *3*(1), 49–83. https://doi.org/10.1080/21697213.2015.1015370

Lins, K. V., Volpin, P., & Wagner, H. F. (2013). Does family control matter? International evidence from the 2008–2009 financial crisis. *Review of Financial Studies*, *26*(10), 2583–2619. https://doi.org/10.1093/rfs/hht044

Liu, Q., Lee, C., & Zhang, R. (2018). Economic policy uncertainty and firms' cash dividend policies. *Advances in Social Science, Education and Humanities Research*, *220*, 515–519. https://doi.org/10.2991/iceemt-18.2018.100

Llanos-Contreras, O., Arias, J., & Maquieira, C. (2021). Risk taking behavior in Chilean listed family firms: A socioemotional wealth approach. *International Entrepreneurship and Management Journal*, *17*(1), 165–184. https://doi.org/10.1007/s11365-019-00628-y

Mahdzan, N. S., Zainudin, R., & Shahri, N. K. (2016). Interindustry dividend policy determinants in the context of an emerging market. *Economic Research-Ekonomska Istraživanja*, *29*(1), 250–262. https://doi.org/10.1080/1331677X.2016.1169704

Mancinelli, L., & Ozkan, A. (2006). Ownership structure and dividend policy: Evidence from Italian firms. *The European Journal of Finance*, *12*(3), 265–282. https://doi.org/10.1080/13518470500249365

McKnight, P. J., & Weir, C. (2009). Agency costs, corporate governance mechanisms and ownership structure in large UK publicly quoted companies: A panel data analysis. *The Quarterly Review of Economics and Finance*, *49*(2), 139–158. https://doi.org/10.1016/j.qref.2007.09.008

Mielcarz, P., Osiichuk, D., & Behr, A. (2018). The influence of capital expenditures on working capital management in the corporate sector of an emerging economy: The role of financing constraints. *Economic Research-Ekonomska Istraživanja*, *31*(1), 946–966. https://doi.org/10.1080/1331677X.2018.1436450

Miller, M. H., & Rock, K. (1985). Dividend policy under asymmetric information. *The Journal of Finance*, *40*(4), 1031–1051. https://doi.org/10.1111/j.1540-6261.1985.tb02362.x

Mitton, T. (2004). Corporate governance and dividend policy in emerging markets. *Emerging Markets Review*, *5*(4), 409–426. https://doi.org/10.1016/j.ememar.2004.05.003

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, *13*(2), 187–221. https://doi.org/10.1016/0304-405X(84)90023-0

Myers, S. C., & Rajan, R. G. (1998). The paradox of liquidity. *The Quarterly Journal of Economics*, *113*(3), 733–771. https://doi.org/10.1162/003355398555739

Nie, J., & Yin, L. (2022). Do dividends signal safety? Evidence from China. *International Review of Financial Analysis*, *82*, 102123. https://doi.org/10.1016/j.irfa.2022.102123

Pástor, L., & Veronesi, P. (2012). Uncertainty about government policy and stock prices. *The Journal of Finance*, *67*(4), 1219–1264. https://doi.org/10.1111/j.1540-6261.2012.01746.x

Richardson, S. (2006). Over-investment of free cash flow. *Review of Accounting Studies*, *11*(2-3), 159–189. https://doi.org/10.1007/s11142-006-9012-1

Rozeff, M. S. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of Financial Research*, *5*(3), 249–259. https://doi.org/10.1111/j.1475-6803.1982.tb00299.x

San Martín Reyna, J. M. (2017). Ownership structure and its effect on dividend policy in the Mexican context. *Contaduría y Administración*, *62*(4), 1199–1213. https://doi.org/10.1016/j.cya.2015.12.006

Sarwar, B., & Hassan, M. (2021). Impact of economic policy uncertainty on dividend decision: A moderating role of board financial expertise. *Journal of Public Affairs*, *21*(3), 1–11. https://doi.org/10.1002/pa.2613

Sarwar, B., Hassan, M., & Naheed, R. (2020). How does managerial ability cherish dividend payout decisions during economic policy uncertainty. *South Asian Review of Business and Administrative Studies*, *2*, 65–80.

Sarwar, B., Ming, X., & Husnain, M. (2020). Economic policy uncertainty and dividend sustainability: New insight from emerging equity market of China. *Economic Research-Ekonomska Istraživanja*, *33*(1), 204–223. https://doi.org/10.1080/1331677X.2019.1708769

Shleifer, A., & Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of Political Economy*, *94*(3, Part 1), 461–488. https://doi.org/10.1086/261385

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *The Journal of Finance*, *52*(2), 737–783. https://doi.org/10.1111/j.1540-6261.1997.tb04820.x

Thanatawee, Y. (2012). Ownership structure and dividend policy: Evidence from Thailand. *International Journal of Economics and Finance*, *5*(1), 121–132. https://doi.org/10.5539/ijef.v5n1p121

Ting, I. W. K., Kweh, Q. L., & Somosundaram, K. (2017). Ownership concentration, dividend payout and firm performance: The case of Malaysia. *Malaysian Journal of Economic Studies*, *54*(2), 269–280. https://doi.org/10.22452/MJES.vol54no2.6

Torres, J. P., Jara Bertín, M., & López-Iturriaga, F. J. (2017). Corporate control and firm value: The bright side of business groups. *Journal of Family Business Strategy*, *8*(2), 99–108. https://doi.org/10.1016/j.jfbs.2017.04.003

Xu, Z. (2020). Economic policy uncertainty, cost of capital, and corporate innovation. *Journal of Banking & Finance*, *111*, 105698. https://doi.org/10.1016/j.jbankfin.2019.105698

Appendix. Variable definitions.

Abbreviation	Description
Div_payout	The ratio between cash dividends payments and net income before extraordinary items
Economic policy uncertainty	
EPUaverage	The average of the monthly EPU index
EPUvolatility	The standard deviation of the monthly EPU index
Firm Characteristics	
AFPown	Proportion of firm ownership held by pension fund administrators (AFPs)
CAPEX	The ratio between capital expenditures and total assets
Size	Natural logarithm of total assets
ROA	The ratio of operating income and total assets
Leverage	The ratio between total liabilities and total assets
Cfvolatility	Standard deviation of the firm's operational cash flow over the prior five years
Age	Natural lo logarithm of firm's age
GrSales	Change in sales from $t-1$ to t divided by sales in t-1
OWNCONC	The ownership held by the largest shareholder
FCF	Growth in sales divided by cash flow (net income plus depreciation) over sales

Notes: Firm characteristics are computed using accounting and market data from Thompson Reuters Eikon.