Dividends and Economic Policy Uncertainty: International Evidence

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Abstract

We provide the first international evidence on the impact of policy-induced uncertainty on dividend policy. We find that a high level of economic policy uncertainty is positively associated with dividend payout. This evidence is robust to addressing endogeneity. We further find that firms' free cash flows and governance quality as well as the quality of country-level indicators of shareholder protection, disclosure, enforcement, and creditor protection influence the effect of policy-induced uncertainty on dividends. Collectively, our novel evidence suggests that economic policy uncertainty is a missing factor that help explain firms' catering to the dynamic dividend preferences of investors.

A bird in the hand is worth two in the bush!

1. Introduction

Research on the importance of uncertainty for dividend policy has gained momentum in recent years. This work follows two main thrusts. The first investigates the effect of firm-level risk on payout policy. This stream of research includes Chay and Suh (2009), who show that risk—as captured by stock return volatility—negatively impacts both the probability of paying dividends and the amount paid, and Hoberg and Prabhala (2009) who find that systematic and idiosyncratic risk explain the propensity to pay dividends. The second stream of research focuses on the impact of the (event-driven) uncertainty in the firm's environment on payout policy. This body of work includes Huang et al. (2015), who provide international evidence that political risk bears negatively on dividends, Bliss et al. (2015) and Attig et al. (2016), who show that the recent 2008–2009 financial crisis was associated with a decrease in corporate payout, and Buchanan et al. (2017), who show that uncertainty around U.S. tax policy changes affects firms' dividend policy. In this paper we extend this growing literature by taking a different tack: for a sample of 28,589 firms from 19 countries over the 1991–2015 period, we study the effect on a firm's dividend policy of the overall level of policy uncertainty in the economy.

Several observations motivate our focus. First, aggregate policy uncertainty affects the real economy and in turn firms' growth prospects and future earnings power. Baker et al. (2016), for instance, show that policy uncertainty can weaken the economy and delay economic recovery, as high levels of policy uncertainty lead economic agents to reduce spending, investment, and hiring. Similarly, Bonaime et al. (2018) argue that policy uncertainty can negatively affect the global economy by reducing capital flows, driving business cycles, and limiting economic recovery. The uncertainty associated with aggregate policies should thus influence a firm's future earnings and

in turn dividend policy.

Second, the extant dividend literature provides little evidence on the effect of policy and regulation-induced uncertainty on corporate payout policy. The scarcity of research on the impact of economic policy uncertainty is notable given its effect on the stability of future corporate earnings, a key determinant of dividend payout as revealed by Brav et al. (2005, 2008) survey of executives. The lack of evidence on this relation may be explained by the challenges associated with measuring policy-induced economic uncertainty (Gulen & Ion, 2015). We help fill this void in the literature by exploring the effect of Baker et al.'s (2016) aggregate economic policy uncertainty (EPU) index on dividend policy.

Third, unlike firm-specific uncertainty, EPU results from government policy and regulatory shocks as well as other shocks that are largely beyond a manager's control (e.g., commodity shocks, wars, trade sanctions, and terrorist attacks), which makes EPU difficult to hedge. Further, while EPU correlates with uncertainty driven by events such as political elections and financial crises, it accounts for policy uncertainty outside the time frame captured by event-driven uncertainty.[1] Investigating the impact of EPU on dividends is relevant because EPU varies strongly over time (Baker et al. 2016),[2] which may impact investors' time-varying risk preferences and thus investors'

[1] Namely uncertainty resulting from the policy-making process and policy choices to monitor those shocks (e.g., Baker et al., 2014).

[2] For instance, Bloom (2007) states that uncertainty about future productivity and demand conditions increases by 50% to 100% during recessions and by 100% to 200% following major political and economic shocks.

demand for dividends.[3]

Fourth, the development of the EPU index has led to a new stream of research that has gained momentum in recent years. Investigating the extent to which managers adjust their firm's payout policy to EPU adds to this line of inquiry, which stresses the importance of EPU in increasing the equity risk premium (Brogaard & Detzel, 2015) and decreasing firm-level capital investment (Gulen & Ion, 2015), cash holdings (Demir & Ersan, 2017), bank liquidity creation (Berger et al., 2017), and merger and acquisition activity at both the firm and the macro levels (Bonaime et al., 2018).

The observations above parallel anecdotal evidence that, despite the unusually high level of policy uncertainty in recent years (Baker et al., 2016), some firms have increased their dividends to record levels. For instance, in 2012 ExxonMobil increased its quarterly dividend by 21% to become the world's largest corporate dividend payer. During the same year, Cisco Systems Inc. raised its quarterly dividend by 75% and Apple paid its first dividend since 1995. On the surface, these changes may appear to be counterintuitive because precautionary motives suggest that firms should retain a greater portion of their earnings, and hence decrease dividend payments, in response to heightened uncertainty in an effort to buffer investments from financing shocks (e.g., Attig et al., 2016; Bliss et al., 2015; Buchanan et al., 2017; Chay & Suh, 2009; Huang et al., 2015, among others). An agency-theoretic lens, however, suggests a positive association between EPU and dividends. Paying dividends can bind managers to a long-term commitment to disgorge future free cash flow and expose them to monitoring by the market, which reduces the agency costs of

[3] Baker and Wurgler (2004a) suggest that investors' demand for dividends varies over time, possibly reflecting their time-varying risk preferences (Ben-David, 2010).

free cash flow (e.g., Easterbrook, 1984; Jensen, 1986; Rozeff, 1982). Studying Asian and Euorpean firms, Faccio et al. (2001) find the firms vulnerable to expriopriation (tightly affilicated to a business group and lower ownership-to-control ratio) pay significantly higher dividends. To the extent that agency costs are more pronounced during times of crisis (e.g., Bae et al., 2012; Lins et al., 2013; Mitton, 2002), the monitoring benefits of dividends are expected to be more pronounced under greater uncertainty. An increase in uncertainty may also increase investors' preference for dividends over capital gains since "a bird in the hand is worth two in the bush",[4] leading managers to maintain or increase dividends to credibly signal positive information about earnings.[5]

In this study, we take the direction of the link between EPU and dividends to be an empirical issue. Results of our main analysis show that EPU consistently bears a positive and significant effect on dividends as measured by different dividend payout ratios, the dividend yield, the log of real cash dividends, and the total payout ratio. This evidence runs strongly counter to

[4] The bird-in-hand argument was first suggested by Gordon (1959) and Lintner (1962), who stressed investors' preference for cash dividends over capital gains. Miller and Modigliani (1961) show, however, that capital gains and dividends are substitutes. Ben-David (2010) suggests that in good times (e.g., booms) investors tend to prefer stocks of firms that invest their earnings, while in low-sentiment periods (e.g., recessions) investors may prefer "safer" dividend-paying stocks.

[5] It is possible that, during times of high uncertainty, managers choose to pay higher dividends since dividend increases signal better prospects (Bhattacharya, 1979; Miller & Rock, 1985). Delving deeper into the dividend signaling story, Baker et al. (2015) present a model indicating that managers seem to use dividends to signal firm strength to investors who are averse to reductions in dividends.

the finding of Bliss et al. (2015) and Attig et al. (2016) that during the 2008–2009 financial crisis, which was associated with high levels of uncertainty, firms reduced dividend payouts, but lends credence to the observation that, during the post-crisis high economic uncertainty period, firms tended to increase dividend payouts rather than cash holdings (Floyd et al. (2015). Our main results remain unchanged when we control for firm-, industry-, and country-level macroeconomic uncertainty, which suggests that the effect of EPU on dividend payout policy is distinct from that of other sources of uncertainty. Our findings also survive extensive robustness tests. In particular, our results remain unchanged when we control for firm investment, firm growth, and firm investment opportunities, the market's expectation of future economic conditions, political elections, the degree of social trust in the country, individual investors' tax rates, and the strength of investor protection. Interestingly, and in the spirit of Faccio and Xu (2015), our main evidence remains valid when we employ change regressions in lieu of level regressions. Importantly, while we take caution in claiming causality between EPU and dividends, we find that our results are again unchanged when we implement two-stage instrumental variables analysis using political fractionalization to instrument EPU.[6]

In additional analysis, we investigate the extent to which firm-specific characteristics influence the stability our results. We find that the positive relationship between EPU and dividends is more pronounced when demand for dividends, as measured by the dividend premium, is high and when firms face fewer growth opportunities. Moreover, the positive relationship between EPU and dividends seems to concentrate in firms with large free cash flows, no

[6] Aghion et al. (2004) find that in countries with high political fractionalization, legislative actions tend to be blocked.

independent board chair, low board ownership, low board independence, and low external blockholdings. These new findings appear to support the agency explanation of higher dividend payouts during high EPU periods.

We also examine how country-level institutional indicators affect the link between EPU and dividends. We find that EPU bears significantly positively on dividends in countries with low shareholder protection, disclosure, securities regulation, and enforcement quality. In addition, the positive effect of EPU on dividends is more pronounced in countries with strong creditor rights, plausibly because of the substitution effect between restrictive payout policies and poor creditor rights (Brockman and Unlu, 2009) in countries with weak creditor rights.[7]

In sum, in this paper we report novel evidence of a positive association between dividends and policy-induced uncertainty. This study is but a first step of many needed to gain a deeper understanding of the factors that lead to different dividend payout policies over time and across countries. Importantly, our evidence may help reconcile two opposing views on the variation in corporate dividends over time. On the one hand, Baker and Wurgler (2004a) suggest that time-varying demand for dividends by investors may be explained by investors' time-varying risk preferences (Ben-David, 2010). An early articulation of this view is put forward by Long (1978). Baker and Wurgler (2004b) further suggest that firms pay dividends to cater to investor demand for dividends. On the other hand, Fama and French (2001) show that firms have become less likely to pay dividends. While Baker and Wurgler (2004a) use their catering theory to explain this lower

[7] Brockman and Unlu (2009) find that dividends are significantly lower in countries with poor creditor rights, which suggests that in the presence of weak creditor rights, a more restrictive payout policy can minimize the firm's agency costs of debt.

propensity to pay dividends—they show that the propensity to pay is positively associated with the market dividend premium, international evidence in Denis and Osobov (2008) casts doubt on the catering explanation for dividends. Indeed, Denis and Osobov (2008) attribute reductions in the propensity to pay dividends (over the 1994–2002 period) to a failure of newly listed firms to initiate dividends. Similarly, DeAngelo et al. (2009) show that dividends have become more concentrated in fewer firms that pay large dividends.

The study of Hoberg and Prabhala (2009) is particularly germane to this debate. The authors show that firm-specific risk is a significant determinant of the propensity to pay dividends and the catering explanation of dividends tends to lose significance once they control for risk. We shed light on this debate by providing evidence of fluctuations in dividends that are in line with the fluctuations in policy-driven uncertainty. In particular, our findings appear to suggest that dividends have not disappeared per se, but rather vary with the level of EPU. The increase in dividend payouts during periods of high policy uncertainty, particularly in firms with high agency problems, may be driven by investor sentiment and investors' dynamic demand for dividends, as a safer source of income than capital gains. For instance, we show that the impact of EPU of dividends is economically more significant when the demand for dividend is higher. Equally important, we show that the effect of policy uncertainty on dividends is distinct from that of firm-specific risk. Overall, our evidence indicates that EPU is a missing piece in explaining investors' dynamic demand for dividends.

The rest of this study is organized as follows. In Section 2, we describe our research design and sample construction. In Section 3 we describe our empirical analysis and report the results. In Section 4 we conclude.

2. Data, Variables, and Descriptive Statistics

2.1. Data and Sample Construction

We begin with all firms listed in Compustat North America and Compustat Global. We merge these files with the policy uncertainty index of 19 countries developed by Baker et al. (2016) and with macroeconomic variables from World Development Indicators (WDI). We exclude observations prior to 1991 due to limited country coverage. We further exclude financial firms (SIC codes 6000-6999) and utility firms (SIC codes 4900-4999) because of various regulatory restrictions that could affect their payout decisions. We also remove firm-year observations with negative values for total assets (AT) or cash dividends declared on common/ordinary shares (DVC), as well as those with missing values for Standard Industrial Classification (SIC) codes, cash dividends (DVC), and the control variables in our baseline model (see Section 2.2.3). We winsorize all firm-level ratio variables at the 1st and 99th percentiles to limit the influence of outliers, and we lag all control variables by one year to alleviate potential simultaneity concerns. Our initial sample comprises 247,550 firm-year observations for 28,589 unique firms from 19 countries during the 1991–2015 period.

2.2. Variables

2.2.1. Dividend Policy

Following recent literature (e.g., Chay & Suh, 2009), our main measure of a firm's dividend policy is the dividend payout ratio (*Payout ratio*), defined as the ratio of cash dividends declared on common/ordinary shares (DVC) to net income before extraordinary items (IB). We take *Payout ratio* to be missing if a dividend payer has negative earnings unless the firm pays zero dividends.

For robustness, we also consider several alternative measures of dividend policy when examining the relationship between corporate dividends and policy uncertainty (e.g., Brockman &

Unlu, 2009; Floyd et al., 2015; Von Eije & Megginson, 2008): dividend yield (*Dividend yield*), dividends scaled by sales (*Div_Sale*), dividends scaled by cash flow (*Div_CF*), amount of cash dividends paid (*Log$Div*), and total payout (*Total payout ratio*). *Dividend yield* is defined as the ratio of cash dividends declared on common/ordinary shares (DVC) to firm market capitalization (PRCC_F*CSHO). In a survey of 384 financial executives at public and private firms in the U.S., Brav et al. (2005) find that dividend payout ratio and dividend yield are the most popular targets of managers of dividend-paying firms. *Div_Sale* and *Div_CF* are the ratios of common stock cash dividends (DVC) to total sales (SALE) and to cash flow (i.e., net income (IB) plus depreciation (DP)), respectively. We treat *Div_Sale* (*Div_CF*) as missing if a dividend payer has negative sales (negative cash flow). *Log$Div* is computed as the natural logarithm of 1 plus the amount of cash dividends (DVC) in millions of $US, to reduce concerns over the choice of scale variable. Total payout (*Total payout ratio*) is the sum of cash dividends (DVC) and share repurchases divided by net income before extraordinary items (IB). *Total payout ratio* is treated as missing if a firm has negative earnings, unless the firm has zero dividends and stock repurchases. The repurchase amount equals purchases of common and preferred stock (PRSTKC) minus any decrease in the value of preferred stock outstanding (PSTKRV; if missing, then PSTK) (see Kahle and Stulz (2017). We set the repurchase amount to zero when it is missing to increase the sample size.

2.2.2. Economic Policy Uncertainty (EPU) Index

Following recent literature (e.g., Bonaime et al., 2018; Brogaard & Detzel, 2015; Gulen & Ion, 2015), we capture economic policy-related uncertainty using the aggregate policy uncertainty index developed by Baker et al. (2016) (henceforth BBD). They construct a monthly EPU index

for 19 countries[8] by conducting a computer-automated search of major newspapers in each country to obtain a monthly count of articles containing the following terms: (E) "economic" or "economy"; (P) "tax," "government spending," "regulation," "central bank," or certain other policy-related terms; and (U) "uncertain" or "uncertainty." BBD then 1) scale the raw monthly EPU article counts by the total number of articles in the same newspaper and month, 2) standardize each newspaper's scaled EPU frequency count to a unit standard deviation, 3) each month, average across the number of newspapers used in a country to obtain the EPU index for the country, and 4) normalize the resulting monthly series over the coverage period of the country to achieve a mean of 100. The final step yields the news-based EPU index for the 19 countries.

Note that the terms used in the news search for E, P, and U are carefully chosen by consulting professionals who are well versed in the local language and economy, and who can identify the uncertainty specific to each country. BBD show that their index captures clear spikes in uncertainty around important policy-relevant events, such as the Gulf Wars and the debt ceiling dispute in the summer of 2011. Their index is not necessarily correlated with political events that have more mild economic consequences.

To rule out concerns that their newspaper-based index could be an inaccurate measure of the overall level of policy-induced uncertainty, BBD conduct various validation tests of their index. First, under close supervision and training, they employ human audits of newspapers. They find that their computer-automated search is strongly correlated with the results of a human-generated index. Second, to ensure that a newspaper's political slant does not significantly affect the

[8] The index has been made available by the authors at http://www.policyuncertainty.com/index.html.

reliability of the index, they use the media slant index of Gentzkow and Shapiro (2010) to divide newspapers based on whether they exhibit a left or right political slant and they compare the "left" and "right" versions of the index. BBD find that, regardless of political slant, their index does not distort variations in policy uncertainty over time.

Third, BBD compare their index to other reasonable measures of economic uncertainty, such as the Chicago Board Options Exchange Volatility Index, and indicators based on an analysis of the Beige Book and 10-K filings. They confirm that their index is distinct in scope from other indicators, and that it contains information about policy-related economic uncertainty as opposed to general financial uncertainty and stock market events. We also note that commercial data providers such as Bloomberg, Haver Analytics, and Reuters carry the BBD index, suggesting that it is relevant to the entities (e.g., banks, hedge funds, and policymakers) that subscribe to these data services.

Following Gulen and Ion (2015), we compute economic policy uncertainty (*EPU*) as the natural logarithm of the 12-month arithmetic average of the BBD index ending in the fiscal year-end month.

2.2.3. Control Variables

Closely following the literature on dividend policy (e.g., Attig et al., 2016; Brockman & Unlu, 2009), we include six variables to control for firm-level characteristics: 1) retained earnings (*RE*), the ratio of retained earnings (RE) to total assets (AT); 2) the equity ratio (*TE*), the ratio of common stockholders' equity (CEQ) to total assets (AT); 3) profitability (*ROA)*, the ratio of net income before extraordinary items (IB) to total assets (AT); 4) the natural logarithm of sales growth (*SGR*), $\log[(\text{SALE}_t/\text{SALE}_{t-1})]$; 5) firm size (*SIZE*), the natural logarithm of total assets (AT)

in millions of $US; and 6) cash holdings (*CASH*), the ratio of cash and short-term investments (CHE) to total assets (AT).

To control for growth opportunities and the aggregate economic environment, we include GDP per capita (*GDPPC*), defined as the natural logarithm of GDP per capita in constant 2010 $US, and GDP growth (*GDPGROWTH*),[9] defined as the annual percentage change in GDP, from WDI. Table 1 summarizes definitions and data sources for all variables used in our analyses.

2.3. Descriptive Statistics

Table 2 presents summary statistics for our initial sample of 247,550 firm-year observations. Note that to reduce concerns about potential sample bias, in examining the relationship between dividend payouts and policy uncertainty using different payout measures, we do not restrict our sample according to the availability of our primary payout measure (*Payout ratio)*. When we employ *Payout ratio*, our main sample comprises 234,297 firm-year observations for 28,316 firms from 19 countries over the 1991–2015 period. The mean (median) *Payout ratio* is 0.25 (0.04), with a range from zero at the 5th percentile to 0.97 at the 95th percentile.

*** Insert Table 2 about here ***

Table 3 presents descriptive statistics for our main sample by country. On average, we observe considerable variation in *Payout ratio* across countries. Over our sample period, Australia has the highest *Payout ratio* of 0.71, followed by the U.K. (0.58) and the Netherlands (0.57), while China and the U.S. exhibit the lowest *Payout ratios*, at 0.17 and 0.11, respectively. The level of

[9] Gulen and Ion (2015) document a strong negative relation between the BBD index and GDP growth.

policy uncertainty (*EPU*), the natural logarithm of the original BBD index, is highest for France, at 4.87, and lowest for Ireland, at 4.44. In line with other cross-country studies, U.S. and Japanese firms account for 46% and 18% of our main sample, respectively.[10] In the next section we show that our findings are not driven by the dominance of these countries in our sample.

*** Insert Table 3 about here ***

Table 4 shows the distribution of our main sample by both year and industry, where we use the Fama–French 12-industry classification. Our sample reveals decent variation in *Payout ratio* across industries, from 0.34 in consumer non-durables and 0.31 in the manufacturing and telephone and television transmission industries to 0.12 in the healthcare, medical equipment, and drug industries. Turning to the evolution of *Payout ratio* over time, we find that starting from 0.24 in 1991, *Payout ratio* fell to a low of 0.19 in 1995 then rose to 0.26 in 2001 (9/11), after which it stabilized at around 0.27 until 2007. It then jumped to 0.30 in 2008 (global financial crisis), sank to 0.25 in 2010, rebounded to 0.27 in 2012 (Eurozone crises, U.S. fiscal fights, China leadership transition, European immigration crisis), and continued to rise to around 0.34 in 2014 and 2015. The correlation between *Payout ratio* and major events contributing to global economic policy uncertainty provides preliminary support for the agency cost prediction of increased dividends during high *EPU* periods to reduce the agency costs of free cash flow and accommodate investors' preference for safe dividends.

*** Insert Table 4 about here ***

[10] Brockman and Unlu (2009) point out that dominance of firms from the U.S., the U.K., and Japan is common in international studies. In our sample, U.K. firms account for only 3.6% of observations in part because the monthly BBD index for the U.K. is only available after 1997.

3. Empirical Analysis

3.1. Policy Uncertainty and Dividend Payouts

Our baseline model is as follows:

$$Payout\ variable_{i,j,t} = \beta_0 EPU_{j,t-1} + \beta_1 RE_{i,t-1} + \beta_2 TE_{i,t-1} + \beta_3 ROA_{i,t-1} + \beta_4 SGR_{i,t-1} + \beta_5 SIZE_{i,t-1} + \beta_6 CASH_{i,t-1} + \beta_7 GDPPC_{j,t-1} + \beta_8 GDPGROWTH_{j,t-1} + \delta_t + FIXED\ EFFECTS + \varepsilon_{i,t},$$

where *i, j,* and *t* indexes firms, industries, and years, respectively. The dependent variable is one of the payout variables described in Section 2.2.1. *FIXED EFFECTS* contain industry, country, or firm fixed effects depending on the regression. Our cross-country setting enables us to include year fixed effects, δ_t, in all regressions; this is not feasible in single-country studies of policy uncertainty, where all firms face the same level of country-specific policy uncertainty in a given period (e.g., Nguyen & Phan, 2017). Throughout this paper, standard errors are clustered at the firm level to adjust for within-firm correlation.

Table 5 presents our main evidence on the relationship between policy uncertainty and corporate dividend payouts. In Models 1 and 2 we focus on *Payout ratio* and estimate the impact of *EPU* on dividends after controlling for firm-level characteristics and macroeconomic conditions. In Model 1, we control for firm and year fixed effects. Khan et al. (2016) argue that the inclusion of both firm and time fixed effects is a generalization of the difference-in-differences approach, which improves causal interpretation. Combined with standard errors clustered at the firm level, this model accounts for correlations between unobservable time-invariant firm effects and explanatory variables, unobservable aggregate time trends, and within-firm serial correlation. We find that *Payout ratio* is positively associated with equity ratio, firm size, and cash holdings, but negatively associated with retained earnings, profitability, and sales growth.

More importantly, the estimated coefficient on *EPU* is positive (0.084) and statistically significant at the 1% level. Two possible explanations can be offered for the positive relation between *EPU* and dividends. First, consistent with the agency cost prediction, paying dividends during high *EPU* periods reduces the agency costs of free cash flow, since *EPU* tends to depress investment opportunities and exacerbate agency costs. Second, consistent with the bird in hand argument, investors' preference for "safe" dividends increases during high *EPU* periods. Interestingly, holding other variables at their sample mean, a one-standard-deviation increase in *EPU* (0.32) above its mean corresponds to a 0.03 (0.32×0.084) increase in *Payout ratio*. Given that the unconditional mean *Payout ratio* is 0.25, the magnitude of this effect is economically sizable.

In Model 2, we replace firm fixed effects with industry and country fixed effects.[11] Country fixed effects control for unobservable, time-invariant, country-level heterogeneity that may correlate with the level of policy uncertainty or influence corporate payout practices in a given country. Consistent with our previous finding, our main variable of interest, *EPU*, enters the regression positively and is significant at the 1% level. This result suggests that firms tend to increase dividend payouts as policy uncertainty increases.

*** Insert Table 5 about here ***

In Models 3 to 7 we rerun the specification in Model 1 using the alternative payout

[11] We follow Faccio and Xu (2015) and re-estimate Model 2 by replacing the levels of the dependent and independent variables with their annual changes from *t*-1 to *t*. We find that changes in *EPU* are positively related to changes in *Payout Ratio,* with the result significant at the 1% level. Results are available upon request.

measures (*Dividend yield*, *Div_Sale, Div_CF, Log$Div*, and *Total payout ratio,* respectively). We find that the coefficients on *EPU* are positive and significant at the 1% level in all five models. The results indicate that, when facing a high level of policy-related uncertainty, firms tend to have a higher dividend-to-price ratio, dividend-to-sales ratio, dividend-to-cash flow ratio, dividend amount, and total payout ratio (including both dividends and repurchases). These results are consistently in line with our previous finding based on *Payout ratio*.

Overall, we find that during periods characterized by a high level of policy uncertainty, firms are more likely to increase dividends and total payouts. This evidence can be viewed through the lens of agency theory: firms may distribute more cash when policy uncertainty increases to alleviate the agency costs of free cash flow. It is possible also that firms adjust their dividend payout policy to cater to increased demand for dividends as a safer source of income than future capital gains. In the analyses below we focus on *Payout ratio*, as our results are qualitatively the same using each measure of corporate dividend payouts considered, and we use Model 1 of Table 5 as our baseline model.

3.2. Potential Omitted Variables

To ease concerns that the omission of variables related to policy uncertainty and dividend payout may bias the estimates of our proxies for policy uncertainty, in Table 6 we include several additional control variables.

*** Insert Table 6 about here ***

Gulen and Ion (2015) find that, when facing policy uncertainty, firms are concerned about investment irreversibility and may restrict investments for precautionary reasons. In Model 1, we capture these concerns by including firm-level measures of capital expenditures (*CAPX*) and R&D expenditures (*XRD* and *XRDDUM*). *CAPX* and *XRD* are scaled by total assets (AT). *XRDDUM*

equals one if R&D expenditures (XRD) are non-zero or non-missing, and zero otherwise.

Prior studies suggest that firm-level and macroeconomic uncertainty may influence dividend payout policy (e.g., Chay & Suh, 2009; Floyd et al., 2015). To reduce the concern that the BBD index may capture the influence of other types of uncertainty on payout policy, in Model 2 we add controls for firm-level, industry-level, and macroeconomic uncertainty. At the firm level, we follow Chay and Suh (2009) to measure cash flow uncertainty (*SRVOL*) using the standard deviation of monthly stock returns in the fiscal year, and we follow Kim et al. (2015) to capture earnings uncertainty (*EARNVOL*) using the standard deviation of annual earnings over five years. To measure industry-level uncertainty, we define *INDUSTRY_SHOCK* as the first principal component of the industry-year median of the absolute change in each of the seven economic shock variables (profitability, asset turnover, R&D, capital expenditures, employee growth, ROA, and sales growth) (Harford (2005). As a proxy for macroeconomic uncertainty, we follow Bonaime et al. (2018) and use the within-year standard deviation of firm sales growth in each country (*SD_SALES_GR*).

Julio and Yook (2012) provide cross-country evidence that firms tend to reduce investment expenditures during election years. To reduce concerns that our findings may be driven by the negative influence of elections on corporate investment or payout policy, in Model 3 we add an election year dummy variable (*ELECTION*) that comes from the Database of Political Institutions. This variable equals one if there is an executive or legislative election in a given year, and zero otherwise.

Bloom et al. (2016) suggest that uncertainty is strongly countercyclical. As stated at the outset, an important predictor of firms' dividend policy is the perceived stability of future cash flows, which can be affected by the business cycles driven by the economic uncertainty. To address

this concern, in Model 4 we follow Gulen and Ion (2015) and control for forecasted real GDP growth (*R_GDP_F*), the consumer confidence index (*CCI*), and composite leading indicators (*CLI*) from the WDI and OECD databases. Higher values for these variables indicate better market expectations of future economic conditions.

Guiso et al. (2008) argue that trust could influence investors' perceptions of the transaction costs and agency costs associated with stock market participation. To reduce the concern that our results capture a relationship between corporate payout policy and investors' trust in companies and management, in Model 5 we control for trust (*TRUST*), which we define as the percentage of survey responses from each country that indicate most people can be trusted in response to the World Values Survey question, "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?"

Prior literature further documents that, to maximize shareholder value, managers consider individual-level taxes when deciding corporate payout policies (Chetty & Saez, 2005; Hanlon & Hoopes, 2014). To alleviate concerns that changes in payout policy may capture shifts in tax rates of different countries during the same period, in Model 6 we follow Hail et al. (2017) and add the maximum statutory dividend tax rate (*DIVTAX)* and capital gains tax rate (*CGTAX*) for individuals (in percent). *DIVTAX* and *CGTAX* are time-varying until 2004, after which we use the 2004 tax rates.

Finally, La Porta et al. (2000) suggest that firms pay dividends as a result of strong shareholder protection. They find that minority shareholders are incentivized to pressure managers to distribute cash. Brockman and Unlu (2009) similarly suggest that low dividend payouts can serve as a substitute for weak creditor rights. They find that when creditor confidence in recovering claims during bankruptcy is low, creditors tend to use contractual covenants to restrict dividend

payouts. These findings suggest that an increase in dividend payouts when facing policy uncertainty may reflect changes in investor protection. To mitigate this concern, in Model 7 we control for anti-director rights and its enforcement (*SHAREHOLDER PROTECT*) as well as creditor rights and its enforcement (*CREDITOR PROTECT*). We construct *SHAREHOLDER PROTECT* as the product of the anti-self-dealing index of Djankov et al. (2008b) and the rule of law index from Worldwide Governance Indicators. The time-invariant anti-self-dealing index measures the strength of the legal protection of minority shareholders against expropriation by corporate insiders, while the time-varying rule of law index, available as of 1996, captures perceptions of the extent to which agents have confidence in and abide by the rules of society. *CREDITOR PROTECT* is computed as the product of the creditor rights index of Djankov et al. (2007) and the recovery rate for secured creditors. According to Djankov et al. (2007), the creditor rights index measures the four powers of secured lenders in bankruptcy granted by a country's laws and regulations. It thus ranges from zero (weak creditor rights) to four (strong creditor rights). It is time-varying for the 1990–2003 period and based on 2003 values thereafter. The recovery rate for secured creditors is the present value of the terminal value of the firm after bankruptcy costs, considering any violations of the absolute priority rule (see Djankov et al. (2008a), and ranges from zero to one.

Each of the models in Table 6 shows that *EPU* remains a significant predictor of corporate dividend payouts, with significance at the 1% level. This suggests our main finding of a positive relation between economic policy uncertainty and dividend payouts is not driven by these omitted variables.

3.3. Sample Composition and Alternative Clustering

When examining summary statistics by country in Table 3, we observe that firms located

in the U.S., Japan, and China account for 46%, 18%, and 11% of our main sample, respectively. To reduce concerns that observations from a single country are driving our results, in Models 1 to 3 of Table 7 we exclude firms from each of these countries in turn and re-estimate our main model (Model 1 of Table 5). In Model 4, we use a weighted regression with weights equal to the inverse of the number of firm-year observations in each country to account for the variation in the number of observations across countries. In addition to clustering standard errors at the firm level in our main regression, we consider alternative ways to cluster the standard errors. We adjust standard errors for clustering at the country level in Model 5, and use two-way clustering at both the country-year and the firm level in Model 6 following Faccio and Xu (2015). We find that *EPU* loads significantly positively in Models 1 to 6, suggesting that our previous findings are not affected by overrepresented countries and alternative clustering of standard errors.

*** Insert Table 7 about here ***

3.4. Endogeneity

A natural concern with our empirical analysis is potential endogeneity stemming from omitted variables, measurement errors, and simultaneity, which may bias the estimated coefficient on *EPU* (Roberts & Whited, 2013). To address omitted variable and measurement error concerns, in addition to firm and year fixed effects in our analyses above we control for various firm- and country-level characteristics. Moreover, to address concerns that, in determining payout ratios, the BBD index may capture other factors that are potentially correlated with *EPU*, in Table 6 we include proxies for corporate investment, uncertainty type, macroeconomic conditions, trust, investor-level taxes, and legal institutions.

However, while it is unlikely that firm-level payout decisions contribute to policy-related uncertainty at a macro level, it remains possible that some unobserved factors may increase policy

uncertainty and corporate policy payout decisions simultaneously (i.e., cov (EPU, $\varepsilon_{i,t}$) ≠0). As in other empirical analyses, we are unable to randomly assign the level of policy uncertainty to firms or to observe their corresponding changes in dividend payouts. In this section, therefore, we use the instrumental variables approach to further alleviate simultaneity concerns. A highly divided legislature could increase the difficulty of forming a consensus on any given policy, which could lead to greater economic policy uncertainty. Consistent with this argument, Grier et al. (2015) find strong evidence that political fractionalization is related to longer delays in the reform of fiscal policy and the stabilization of high deficits. We argue that political fractionalization (*FRAC*) is a valid instrument for *EPU* because it is likely to increase policy-related uncertainty but is not likely to have a direct effect on corporate dividend policy. *FRAC* comes from the Database of Political Institutions 2015 and is defined as the probability that two deputies picked at random from the legislature will be of different parties. This measure varies from zero to one, with larger values indicating a more divided legislature.

We report first- and second-stage results of this analysis in Models 1 and 2 of Table 8. In Model 1, we find that *FRAC* loads positively at the 1% level. This suggests that EPU is higher in the presence of a more divided legislature, consistent with the literature on political institutions. We perform two tests to check the suitability of the selected instrument. To assess relevance, we conduct an *F*-test of the excluded exogenous variable in the first regression, in which the null hypothesis is that the instrument does not explain the variation in *EPU*. The hypothesis is rejected at the 1% level, indicating that *FRAC* captures the variation in *EPU*. Second, we check rank by using the under-identification test of the Kleibergen–Paap *rk LM* statistic, in which the null hypothesis is that the matrix of reduced-form coefficients on the excluded instruments is not full rank. The chi-square value rejecting the null at the 1% is 14.12, which suggests that the model is

well identified at the 1% level.

Model 2 reports the second-stage results using the fitted values of *EPU* computed from the first stage. We find that the coefficient estimate of *EPU* is positive and significant at the 1% level, alleviating the concern that our previous findings are driven by endogeneity.

*** Insert Table 8 about here ***

3.5. Additional Analyses

The empirical analysis in previous sections suggests a robust and positive relationship between economic policy uncertainty and dividend payouts. Our results are consistent with the free cash flow hypothesis and the bird in hand argument, rather than with the precautionary motives hypothesis. Managers have incentives to retain firm earnings in order to overinvest and expropriate rents (Jensen, 1986). This problem may be aggravated by declining corporate investment (Gulen & Ion, 2015). We thus expect policy uncertainty to have a stronger effect on firms that are prone to severe agency problems. In addition, Ben-David (2010) posits that investors prefer safer dividend-paying stocks during bad times when sentiment is low. Our findings support this argument. We show that firms pay higher dividends in response to investors' preferences for increased dividends when policy uncertainty is high and hence sentiment is low.

In this section, we perform split-sample tests to examine how the effect of economic policy uncertainty on dividend payouts is affected by demand for dividends, growth opportunities, positive free cash flows, the strength of corporate governance, and the strength of the legal protection of shareholders and creditors. We split the sample according to the mean values of the continuous conditioning variables for subsample tests below (zero and one for binary conditioning variables).

3.5.1. The Role of Demand for Dividends

Baker and Wurgler (2004b) suggest that managers cater to time-varying investor demand for dividends and that firms adjust their payout policies in response to the magnitude of the dividend premium/discount in stock prices. To examine whether the increase in dividend payouts during periods of high policy uncertainty is conditional on the demand for dividends, we compare the effect of *EPU* on *Payout ratio* in country-years with above- versus below-mean dividend premiums. We define *Divpremium* as the difference between the logarithm of the equally weighted average market-to-book ratio of dividend payers and non-payers in each country-year. We split the sample using the mean value of *DivPremium*. The results are in Models 1 and 2 of Table 9.

We note that while *EPU* loads positively at the 1% level in both models, it has greater economic significance in the above-mean *DivPremium* subsample. These results suggest that managers cater to investors' higher risk aversion during high *EPU* periods, with the effect more pronounced when dividend premiums are high.

*** Insert Table 9 about here ***

3.5.2. The Role of Growth Opportunities and Free Cash Flow

Firms with fewer growth opportunities and higher free cash flows tend to have marked agency problems (Chen et al., 2011; Lang et al., 1991). We capture firms' growth opportunities with sales growth (*SGR*), as defined above.[12] We split the sample by the mean level of *SGR*. The results are in Models 3 and 4 of Table 9. We find that the coefficient on *EPU* loads positively at

[12] We also measure growth opportunities using *TobinQ*, computed as the ratio of the market value of assets to total book assets, where the market value of assets equals total book assets minus stockholders' equity plus market capitalization. The results are similar to the findings for *SGR*.

the 1% level in both sets of subsamples but has greater influence for firms with fewer growth opportunities.

Next, we follow Brockman and Unlu (2009) and measure free cash flows using a binary variable (*POSFCF*) that equals one if the firm has positive free cash flow and zero otherwise. Free cash flow is defined as net income (IB) plus depreciation and amortization (DP) scaled by total assets (AT). In Models 5 and 6, we divide the sample by whether the firm has positive free cash flow (*POSFCF* = 1 or 0). The results show that the positive relationship between *EPU* and *Payout ratio* is statistically and economically more significant for firms with positive free cash flows. These results suggest that firms that are more vulnerable to agency problems (few growth opportunities and positive free cash flows) pay out more cash when policy uncertainty is higher.

3.5.3. The Role of Board Characteristics

Governance experts and shareholder activists have promoted the separation of the CEO and chairman of the board roles (Larcker & Tayan, 2016). Prior literature further suggests that board ownership (Morck et al., 1988), independent directors (e.g., Black & Kim, 2012; Core et al., 1999; Nguyen & Nielsen, 2010), and blockholders (Shleifer & Vishny, 1997) are associated with improved monitoring. Turning to the role of dividends, Easterbrook (1984) and Rozeff (1982) argue that dividends serve as a corporate governance device that reduces free cash flow problems and exposes firms to market monitoring when raising funds through the market. Our findings above suggest that this role of dividend payouts becomes more significant as agency problems intensify due to higher EPU (Bae et al., 2012). Accordingly, we next examine how the positive relationship between policy uncertainty and dividend payouts is affected by the strength of corporate governance at the firm level.

We obtain information on corporate governance from NRG Metrics Data, a database used by listed firms and institutional investors. NRG Metrics employs expert analysts to manually review and collect detailed information on the characteristics of CEOs, boards, and ownership from corporate annual reports dating back to 2007.[13] We capture corporate governance quality using the following variables: 1) *INDEP_CHAIRMAN*, a binary variable that indicates whether the board chairman is independent; 2) *BOARD_OWNERSHIP*, the percentage of shareholding by all the board members; 3) *BOARD_INDEP*, the percentage of independent members on the board; and 4) *EXTERNALBLOCK*, the percentage of shareholding by all external blockholders. The results are reported in Table 10.

In Models 1 and 2 we split the sample along the independence of the firm's chairman. The coefficient on *EPU* is positive and highly significant at the 5% level only when the chairman is not independent. This suggests that the pressure to pay out cash is higher in firms with severe agency problems. In Models 3 and 4 (5 and 6, 7 and 8), we split the sample along the mean level of *BOARD_OWNERSHIP* (*BOARD_INDEP, EXTERNALBLOCK*). While the estimated coefficients on *EPU* are statistically insignificant in the above-mean subsamples, they are positive and significant at the 5% level or better in the below-mean subsamples. These results suggest that *EPU* exerts stronger pressure on *Payout ratio* when firms have insufficient interest alignment (a

[13] The NRG Metrics data provide good coverage for large-cap indices from developed and advanced emerging countries, middle- and small-cap indices for European countries, and countries that provide annual reports in English (India, Indonesia, Philippines, and Russia). In our sample, China and Chile are not captured by NRG Metrics Data.

lower level of board ownership) and weaker monitoring (reflected by a smaller percentage of independent directors on the board as well as lower shareholdings by external blockholders).[14]

*** Insert Table 10 about here ***

3.5.4. The Role of Legal Institutions

The level of investor protection affects the extent of agency problems. La Porta et al. (2000), for instance, argue that strong shareholder protection allows minority shareholders to extract more cash from corporate insiders. We examine whether the strength of minority shareholder protection influences the positive effect of *EPU* on payout ratios in Table 11.

*** Insert Table 11 about here ***

Our first measure of the strength of shareholder protection is the composite *SHAREHOLDER PROTECT* index, which is the product of the anti-self-dealing index and the rule of law index. We split the sample along the mean of *SHAREHOLDER PROTECT*. Results for the above- and below-mean subsamples are reported in Models 1 and 2, respectively. We find that the coefficient on *EPU* loads significantly positively only in the below-mean sample, suggesting that the positive relationship between *EPU* and *Payout ratio* is more pronounced in countries with weaker shareholder protection.

Following La Porta et al. (2006), we next measure the strength of investor protection using 1) *DISCLOSE*, the arithmetic mean of six indicators of prospectus disclosure requirements (i.e., prospects, compensation, shareholders, inside ownership, irregular contracts outside the ordinary

[14] To some extent our findings of a more pronounced impact of EPU on dividends in firms that are more prone to agency problems corroborate the evidence of Faccio et al. (2001) that higher dividends are paid to offset investors' concerns of greater risk of exportation.

course of business, and transactions with related parties); 2) *SECURITY REG*, the first principal component of the disclosure index, the liability standard index, and the public enforcement index, which measure disclosure requirements and liability standards that facilitate private enforcement as well as the strength of public enforcement by supervisory bodies; and 3) *PUBLIC ENFORCE,* the arithmetic mean of the supervisor characteristics, rule-making powers, investigative powers, orders, and criminal indices. We split the sample along the mean levels of *DISCLOSE*, *SECURITY REG*, and *PUBLIC ENFORCE* and report the results in Models 3 to 8. As can be seen, *EPU* loads positively at the 1% level in all subsamples except Model 7, which exhibits economically larger coefficients in all three below-mean subsamples. This suggests that, during times of greater policy uncertainty, shareholders demand (and managers consent to) the distribution of cash as a substitute for formal investor protection in countries where security laws provide insufficient protection.

Brockman and Unlu (2009) further show that managers in countries with weak creditor rights are under greater pressure to lower dividend payouts because of creditors' concerns about debt repayments. Drawing on the insights of Brockman and Unlu (2009), we argue that during times of high policy uncertainty, managers may employ more restrictive dividend policies to reassure weakly protected creditors. To capture the extent of creditor rights and debt enforcement, we use the variable *CREDITOR PROTECT* as defined in Section 3.2. We then divide the sample by the mean value of *CREDITOR PROTECT* and report the results in Models 9 and 10. While *EPU* continues to load significantly positively in both subsamples, its effect appears to be more pronounced in countries with higher creditor rights, possibly because the substitution effect between a restrictive payout policy and poor creditor rights (Brockman & Unlu, 2009) is less pronounced in countries with weak creditor rights.

4. Conclusion

In this paper we examine the effect of economic policy uncertainty on corporate dividend policy. If the precautionary motive dominates, managers should pay out less cash during times of greater policy-related uncertainty. Conversely, if EPU is associated with increased agency costs of free cash flow and hence increased investor demand for safer income dominates, firms will pay out more dividends. We find evidence for the latter view. Specifically, we find that EPU is significantly related at the 1% level to various dividend payout ratios (dividend-to-earnings, dividend-to-price, dividend-to-sales, and dividend-to-cash flow), the natural logarithm of real cash dividends, and the total payout ratio. The positive relationship between policy uncertainty and corporate payouts is robust to including additional controls for the dividend premium, corporate investment policy, uncertainty at the firm, industry, and country levels, election uncertainty, market expectations about future economic conditions, the degree of social trust, individual investors' tax rates, and the strength of investor protection. Moreover, our results are not driven by sample composition and are not sensitive to controls for endogeneity problems.

In additional analyses we find further evidence in support of the agency hypothesis. In particular, we find that the effect of policy uncertainty on dividend payouts is more pronounced when dividend premiums are high, in firms with fewer growth opportunities and higher positive free cash flows, in firms with weaker governance/monitoring, and in firms located in countries with weak shareholder protection. In addition, we find that shareholder pressure to extract cash is attenuated in countries with weak creditor protection, where managers use a more conservative dividend policy as a substitute mechanism to reduce agency conflicts between shareholders and creditors.

Our novel evidence identifies EPU as a missing factor that can help explain firms' catering to the dynamic dividend preferences of investors and suggests that the effect of EPU on dividends is distinct from that of firm-level uncertainty or sources of non-firm uncertainty. Future studies may extend our analysis by examining the interaction between dividend policies, other corporate policies, and competitive dynamics during high EPU periods.

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Table 1. Variable Definitions

Variables	Definition	Sources
Dependent Variables		
Payout ratio	Ratio of cash dividends declared on common/ordinary shares (DVC) to net income before extraordinary items (IB).	Authors' calculations based on Compustat data
Dividend yield	Ratio of cash dividends declared on common/ordinary shares (DVC) to firm market capitalization (PRCC_F*CSHO).	As above
Div_Sale	Ratio of cash dividends declared on common/ordinary shares (DVC) to total sales (SALE).	As above
Div_CF	Ratio of cash dividends declared on common/ordinary shares (DVC) to the sum of net income (IB) plus depreciation and amortization (DP)).	As above
Log$Div	Natural logarithm of the amount of cash dividends declared on common/ordinary shares (DVC) in millions of $US, plus 1.	As above
Total payout ratio	Ratio of cash dividends declared on common/ordinary shares (DVC) and repurchase to net income before extraordinary items (IB). Repurchase amount equals purchase of common and preferred stock (PRSTKC) minus any decrease in the value of preferred stock outstanding (PSTKRV; if missing, then PSTK).	As above
Key Explanatory Variable		
EPU	Natural logarithm of the moving average of the monthly policy uncertainty index over the 12 months ending in the month of the fiscal year-end.	BBD (2016)
Control Variables		
RE	Ratio of retained earnings (RE) to total assets (AT).	Authors' calculations based on Compustat data
TE	Ratio of common stockholders' equity (CEQ) to total assets (AT).	As above
ROA	Return on assets computed as ratio of net income before extraordinary items (IB) to total assets (AT).	As above
SGR	Natural logarithm of sales growth computed as $\log[(SALE_t/SALE_{t-1})]$. Or $\log\left(\frac{\Delta SALE_t}{SALE_{t-1}} + 1\right)$	As above

SIZE	Natural logarithm of total assets (AT) in millions of $US.	As above
CASH	Ratio of cash and short-term investments (CHE) to total assets (AT).	As above
GDPPC	Natural logarithm of GDP per capita in constant 2010 $US.	WDI
GDPGROWTH	Annual percentage of GDP growth.	As above
Variables for Additional Analysis		
CAPX	Ratio of capital expenditures (CAPX) to total assets (AT).	Authors' calculations based on Compustat data
XRD	Ratio of R&D expenditures (XRD) to total assets (AT).	As above
XRDDUM	Binary variable that equals 1 if R&D expenditure (XRD) is non-zero or non-missing, and 0 otherwise.	As above
SRVOL	Standard deviation of monthly stock returns in the current fiscal year.	As above
EARNVOL	Five-year standard deviation of firm's annual earnings (IB) from year *t*-4 to *t*.	As above
INDUSTRY_SHOCK	First principal component of the industry-year median of the absolute change in each of the seven economic shock variables, including profitability, asset turnover, R&D, capital expenditures, employee growth, ROA, and sales growth, using the entire Compustat universe.	As above
SD_SALES_GR	Cross-sectional standard deviation of sales growth, calculated for each country-year, using the entire Compustat universe.	As above
Election	Binary variable that equals 1 if there was an executive election or a legislative election in a given year, and 0 otherwise.	DPI
R_GDP_F	Real GDP growth rate forecast based on an assessment of the economic climate in individual countries and of the world economy using a combination of model-based analyses and expert judgment. This indicator is measured as a year-over-year growth rate.	OECD
CLI	Moving average of the monthly composite leading indicator of turning points in business cycles over the 12 months ending in the month of the fiscal year-end. The index shows a fluctuation of economic activity around its long-term potential level. It indicates short-term economic movements in qualitative rather than quantitative terms.	

CCI	Moving average of the monthly consumer confidence index over the 12 months ending in the month of the fiscal year-end. The index is based on households' plans for major purchases and their economic situation, both currently and in the immediate future. Opinions compared to a "normal" state are collected, with the difference between positive and negative answers providing a qualitative index on economic conditions.	OECD
TRUST	Percentage of survey responses indicating that most people can be trusted in reply to the WVS question, "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" This variable is constructed as an average value by country and by year, using information from five waves of surveys over the 1989–2014 period. For gap years when the survey was not conducted for a given country, the value from the most recent survey is used.	World Values Survey
DIVTAX	Maximum statutory dividend tax rates for individuals (in percent).	Hail et al. (2017)
CGTAX	Maximum statutory capital gains tax rates for individuals (in percent).	As above
SHAREHOLDER PROTECT	Product of the anti-self-dealing index and the rule of law index. The anti-self-dealing index measures the legal protection of minority shareholders against expropriation by corporate insiders, calculated as the average of ex ante private control of self-dealing (average of approval by disinterested shareholders and ex ante disclosure) and ex post control over self-dealing transactions (average of disclosure in periodic filings and ease of proving wrongdoing). The rule of law index captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and, in particular, the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Rule of law is time-varying.	Djankov et al. (2008b) and WGI
CREDITOR PROTECT	Product of the creditor rights index and the recovery rate. The index of creditor rights measures four powers of secured lenders in bankruptcy granted by a country's laws and regulations. The index ranges from 0 (weak) to 4 (strong). This variable is available for the 1990–2003 period. Values in subsequent years are set to values of the 2003 variable. The recovery rate for secured creditors is defined as the present value of the terminal value of the firm after bankruptcy costs, considering any violations of the absolute priority rule. The recovery rate is a percentage ranging from 0 to 1.	Djankov et al. (2007) and Djankov et al. (2008a)
FRAC	Probability that two deputies picked at random from the legislature will be of different parties.	DPI

DivPremium	Difference between the logarithm of the equally weighted average market-to-book ratio of dividend payers and the logarithm of the equally weighted average market-to-book ratio of non-payers for each country-year.	Authors' calculations based on Compustat data
TobinQ	Ratio of market value of assets to total book assets, where market value of assets equals total book assets minus stockholder's equity plus market capitalization.	As above
POSFCF	Binary variable that equals 1 if the firm has positive free cash flow, and 0 otherwise. Free cash flow is defined as net income (IB) plus depreciation and amortization (DP) scaled by total assets (AT).	As above
INDEP_CHAIRMAN	Binary variable that equals 1 if the board chair is independent, and 0 otherwise.	Authors' calculations based on NRG
BOARD_OWNERSHIP	Percentage of shares held by board members.	NRG
BOARD_INDEP	Ratio of independent members to board size.	As above
EXTERNALBLOCK	Percentage of shares held by external blockholders.	As above

Table 2. Summary Statistics for the Initial Sample

Variables	N	Mean	SD	p5	p25	p50	p75	p95
Payout ratio	234,297	0.25	0.49	0.00	0.00	0.04	0.32	0.97
Dividend yield	230,383	0.01	0.02	0.00	0.00	0.00	0.02	0.05
Div_Sale	247,160	0.01	0.03	0.00	0.00	0.00	0.01	0.06
Div_CF	191,900	0.15	0.21	0.00	0.00	0.08	0.21	0.54
Log$Div	247,550	1.11	1.57	0.00	0.00	0.28	1.79	4.49
Total payout ratio	226,748	0.36	0.72	0.00	0.00	0.14	0.42	1.41
EPU	247,550	4.65	0.32	4.20	4.41	4.66	4.86	5.18
RE	247,550	-0.56	3.01	-3.50	-0.05	0.12	0.29	0.59
TE	247,550	0.42	0.43	-0.06	0.31	0.47	0.65	0.86
ROA	247,550	-0.04	0.33	-0.50	0.00	0.03	0.07	0.15
SGR	247,550	0.11	0.50	-0.34	-0.02	0.07	0.21	0.69
SIZE	247,550	5.24	2.18	1.60	3.92	5.27	6.61	8.84
CASH	247,550	0.17	0.19	0.00	0.04	0.11	0.24	0.59
GDPPC	247,550	10.21	1.07	7.34	10.51	10.65	10.74	10.82
GDPGROWTH	247,550	3.32	3.16	-0.71	1.65	2.75	4.32	9.65
CAPX	218,224	0.06	0.07	0.00	0.02	0.04	0.07	0.20
XRD	234,297	0.03	0.09	0.00	0.00	0.00	0.02	0.20
XRDDUM	234,297	0.41	0.49	0.00	0.00	0.00	1.00	1.00
SRVOL	186,293	0.13	0.08	0.04	0.08	0.11	0.16	0.30
EARNVOL	219,346	39.35	117.49	0.40	1.88	5.80	20.60	181.16
INDUSTRY_SHOCK	234,005	0.61	1.63	-1.31	-0.38	0.37	1.15	4.46
SD_SALES_GR	233,382	18.68	34.12	0.13	0.32	4.94	21.36	139.22
ELECTION	230,994	0.35	0.48	0.00	0.00	0.00	1.00	1.00
R_GDP_F	231,991	3.36	3.17	-0.63	1.66	2.75	4.45	9.80
CLI	232,017	99.95	1.08	98.12	99.35	100.10	100.65	101.41
CCI	219,487	99.93	1.37	97.35	98.95	100.02	100.82	102.27
TRUST	233,772	0.39	0.08	0.23	0.36	0.37	0.42	0.55
DIVTAX	247,550	25.28	12.83	0.00	15.00	25.00	39.10	41.30
CGTAX	247,550	19.17	9.65	0.00	15.00	20.00	26.00	38.70
SHAREHOLDER PROTECT	166,844	0.69	0.54	-0.34	0.46	0.93	1.03	1.54
CREDITOR PROTECT	222,346	1.31	0.79	0.84	0.86	0.86	1.91	2.87
FRAC	230,762	0.49	0.20	0.00	0.49	0.50	0.59	0.71
DivPremium	196,428	-0.31	0.29	-0.90	-0.42	-0.33	-0.21	0.20
POSFCF	223,839	0.81	0.39	0.00	1.00	1.00	1.00	1.00
DISCLOSE	209,018	0.89	0.14	0.75	0.75	1.00	1.00	1.00
SECURITY REG	209,018	0.05	1.59	-1.99	-1.99	1.30	1.30	1.30
PUBLIC ENFORCE	234,297	0.16	0.33	0.00	0.00	0.00	0.00	1.00
INDEP_CHAIRMAN	11,476	0.34	0.47	0.00	0.00	0.00	1.00	1.00
BOARD_OWERNSHIP	11,910	5.60	13.81	0.00	0.02	0.65	3.56	31.36
BOARD_INDEP	11,910	64.51	26.93	0.00	50.00	71.00	87.00	92.00
EXTERNALBLOCK	11,910	0.07	0.18	0.00	0.00	0.00	0.03	0.53

This table reports the number of observations, means, standard deviations, and the 5th, 25th, 50th, 75th, and 95th percentiles for the variables used in this paper. The initial sample consists of 247,550 firm-year observations for 28,589 unique firms from 19 countries during the 1991–2015 period. Variable definitions and sources are in Table 1.

Table 3. Summary Statistics by Country

Country	N	%	Unique firms	*Payout ratio*	*EPU*	*RE*	*TE*	*ROA*	*SGR*	*SIZE*	*CASH*	*GDPPC*	*GDPGROWTH*
Australia	3,740	1.6%	641	0.71	4.48	0.01	0.51	0.06	0.15	5.31	0.12	10.80	3.18
Brazil	1,097	0.5%	204	0.55	4.85	0.14	0.49	0.07	0.15	6.34	0.16	9.26	3.33
Canada	15,625	6.7%	2,237	0.20	4.73	-1.20	0.46	-0.12	0.15	4.67	0.15	10.69	2.39
Chile	116	0.0%	47	0.40	4.46	0.23	0.54	0.07	0.15	6.15	0.08	9.30	5.59
China	25,139	10.7%	2,748	0.17	4.76	0.02	0.50	0.05	0.15	5.44	0.20	8.14	9.66
France	1,431	0.6%	388	0.52	4.87	0.08	0.42	0.05	0.09	6.18	0.16	10.59	1.47
Germany	3,808	1.6%	569	0.48	4.69	0.12	0.39	0.04	0.07	6.24	0.13	10.57	1.34
India	11,951	5.1%	1,783	0.28	4.57	0.29	0.47	0.08	0.19	4.28	0.10	7.10	7.76
Ireland	525	0.2%	58	0.40	4.44	0.04	0.43	0.04	0.12	5.90	0.14	10.52	5.97
Italy	890	0.4%	210	0.47	4.63	0.10	0.42	0.03	0.09	6.46	0.13	10.49	0.52
Japan	42,130	18.0%	3,572	0.48	4.61	0.27	0.47	0.03	0.04	6.24	0.18	10.67	1.06
Korea	5,134	2.2%	865	0.32	4.72	0.05	0.48	0.05	0.10	6.18	0.15	9.90	4.08
Netherlands	449	0.2%	100	0.57	4.49	0.14	0.41	0.06	0.06	7.02	0.10	10.81	1.35
Russia	140	0.1%	57	0.33	4.58	0.36	0.54	0.08	0.19	7.23	0.07	9.10	5.84
Singapore	2,273	1.0%	468	0.50	4.66	0.23	0.56	0.07	0.11	5.14	0.21	10.71	6.13
Spain	459	0.2%	93	0.45	4.59	0.13	0.40	0.06	0.08	7.04	0.10	10.33	1.81
Sweden	2,858	1.2%	383	0.52	4.49	0.13	0.47	0.03	0.11	5.36	0.16	10.76	2.36
U.K.	8,403	3.6%	1,419	0.58	4.65	0.10	0.44	0.05	0.10	5.60	0.12	10.52	2.40
U.S.	108,129	46.2%	12,474	0.11	4.64	-1.29	0.37	-0.13	0.13	4.73	0.19	10.68	2.63
Total	234,297	100.0%	28,316	0.25	4.65	-0.60	0.42	-0.05	0.12	5.19	0.18	10.19	3.39

This table reports the number of observations and firms, as well as the averages of the regression variables, by country. The final sample for our main regression includes 234,297 firm-year observations for 28,316 unique firms from 19 countries over the 1991–2015 period. Variable definitions and sources are in Table 1.

Table 4. Statistics by Year and Industry

Panel A. Sample distribution by year				Panel B. Sample distribution by industry			
Year	N	%	*Payout ratio*	FF12	N	%	*Payout ratio*
1991	5,737	2.45%	0.24	Business Equipment	41,766	17.83%	0.15
1992	5,796	2.47%	0.24	Chemicals	11,474	4.90%	0.32
1993	6,002	2.56%	0.24	Consumer Durables	10,561	4.51%	0.27
1994	6,491	2.77%	0.21	Energy	10,072	4.30%	0.19
1995	6,898	2.94%	0.19	Healthcare	21,564	9.20%	0.12
1996	8,003	3.42%	0.20	Manufacturing	41,646	17.77%	0.31
1997	8,762	3.74%	0.21	Consumer Non-Durables	20,575	8.78%	0.34
1998	9,332	3.98%	0.23	Other	40,809	17.42%	0.28
1999	9,028	3.85%	0.23	Wholesale and Retail	29,525	12.60%	0.29
2000	9,343	3.99%	0.23	Telecom	6,305	2.69%	0.31
2001	9,473	4.04%	0.26				
2002	9,851	4.20%	0.24				
2003	10,115	4.32%	0.23				
2004	11,164	4.76%	0.24	Total	234,297	100.00%	0.25
2005	11,003	4.70%	0.27				
2006	11,128	4.75%	0.27				
2007	11,060	4.72%	0.25				
2008	10,100	4.31%	0.30				
2009	10,313	4.40%	0.26				
2010	11,018	4.70%	0.25				
2011	10,794	4.61%	0.25				
2012	10,745	4.59%	0.27				
2013	11,283	4.82%	0.25				
2014	10,717	4.57%	0.34				
2015	10,141	4.33%	0.34				
Total	234,297	100.00%	0.25				

This table reports the distribution of firms over time and across industries for our main sample of 234,297 firm-year observations for 28,316 unique firms from 19 countries over the 1991–2015 period. Panel A reports changes in the mean value of *Payout ratio* by year. Panel B reports *Payout ratio* by industry. *Payout ratio* is defined as the ratio of cash dividends to common stockholders (DVC) to net income before extraordinary items (IB).

Table 5. Policy Uncertainty and Dividend Payout

Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Payout ratio		*Dividend yield*	*Div_Sale*	*Div_CF*	*Log$Div*	*Total payout ratio*
EPU	0.084***	0.083***	0.002***	0.001***	0.027***	0.087***	0.057***
	(11.955)	(11.722)	(7.777)	(3.179)	(9.646)	(8.142)	(5.788)
Firm Characteristics							
RE	-0.006***	-0.003***	-0.000***	-0.000***	-0.002**	-0.027***	-0.016***
	(-12.955)	(-8.047)	(-3.609)	(-5.083)	(-2.304)	(-16.929)	(-17.846)
TE	0.027***	0.021***	0.001***	0.002***	0.047***	0.082***	0.073***
	(8.527)	(6.644)	(6.010)	(6.349)	(11.963)	(8.305)	(12.833)
ROA	-0.010***	0.043***	0.001***	0.002***	0.019***	0.019***	0.011**
	(-4.363)	(14.644)	(6.757)	(11.578)	(4.505)	(2.616)	(2.246)
SGR	-0.016***	-0.034***	-0.000***	-0.001***	-0.018***	0.011***	-0.036***
	(-12.081)	(-23.255)	(-4.620)	(-7.127)	(-12.727)	(4.350)	(-15.201)
SIZE	0.037***	0.026***	0.001***	0.001***	0.012***	0.214***	0.097***
	(16.404)	(26.085)	(7.208)	(5.147)	(8.675)	(27.567)	(24.377)
CASH	0.056***	-0.016**	0.001***	0.009***	0.076***	0.178***	0.169***
	(6.233)	(-2.027)	(3.194)	(14.918)	(10.779)	(8.399)	(10.025)
Local Market Characteristics							
GDPPC	-0.254***	-0.196***	-0.016***	-0.027***	-0.188***	-0.842***	-0.351***
	(-24.977)	(-20.936)	(-31.394)	(-29.846)	(-31.936)	(-30.098)	(-26.303)
GDPGROWTH	-0.013***	-0.014***	-0.000***	-0.001***	-0.008***	-0.035***	-0.010***
	(-15.516)	(-17.205)	(-7.832)	(-23.746)	(-24.019)	(-23.941)	(-9.008)
Constant	2.286***	2.346***	0.162***	0.273***	1.826***	7.944***	3.096***
	(22.920)	(23.744)	(32.644)	(31.246)	(32.528)	(30.225)	(24.049)
Observations	234,297	234,297	230,383	247,160	191,900	247,550	226,748
Firm FE	YES	NO	YES	YES	YES	YES	YES
CN FE	NO	YES	NO	NO	NO	NO	NO
Industry FE	NO	YES	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES	YES	YES
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Adj R2		0.156					
W/in R2	0.0142		0.0509	0.0579	0.0400	0.131	0.0162

This table reports results from regressing different measures of dividend policy on *EPU* as well as firm- and country-level controls using the initial sample of 247,550 firm-year observations for 28,589 unique firms from 19 countries over the 1991–2015 period. The sample size varies across models due to the availability of the dependent variable used. In Models 1 and 2, the dependent variable is *Payout ratio,* defined as the ratio of cash dividends (DVC) to net income before extraordinary items (IB). The dependent variables in Models 3 to 7 are *Dividend yield*, the ratio of cash dividends (DVC) to firm market capitalization; *Div_Sale*, the ratio of cash dividends (DVC) to total sales (SALE); *Div_CF,* the ratio of cash dividends (DVC) to the sum of net income (IB) plus depreciation and amortization (DP)); *Log$Div*, the natural logarithm of one plus real cash dividends (DVC) in millions of $US; and *Total payout ratio,* the sum of cash dividends (DVC) and repurchases divided by net income before extraordinary items (IB). All variables are defined in Table 1. Year dummies are included in all regressions. Industry dummies based on the Fama–French 12-industry classification, country fixed effects, and firm fixed effects are included as indicated in in this table. All parameters are estimated using pooled OLS, with standard errors adjusted for clustering by firm. *t*-statistics are reported beneath each coefficient estimate in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 6. EPU and Dividend Payout: Alternative Explanations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Additional controls	Investment	Uncertainty	Elections	Future economic conditions	Trust	Taxes	Investor protection
EPU	0.056***	0.089***	0.087***	0.067***	0.111***	0.083***	0.091***
	(7.954)	(10.918)	(11.878)	(8.747)	(14.335)	(11.925)	(11.073)
CAPX	-0.036*						
	(-1.867)						
XRD	0.049***						
	(4.611)						
XRDDUM	0.041***						
	(7.135)						
SRVOL		-0.289***					
		(-18.241)					
EARNVOL		-0.000*					
		(-1.775)					
INDUSTRY_SHOCK		-0.020***					
		(-8.446)					
SD_SALES_GR		-0.000***					
		(-5.709)					
ELECTION			0.011***				
			(5.275)				
R_GDP_F				0.002			
				(0.172)			
CLI				-0.014***			
				(-8.380)			
CCI				-0.008***			
				(-4.780)			
TRUST					0.546***		
					(13.605)		
DIVTAX						-0.001**	
						(-2.209)	
CGTAX						0.002***	
						(3.327)	
SHAREHOLDER PROTECT							-0.001
							(-0.038)
CREDITOR PROTECT							0.052***
							(3.012)

Firm Characteristics							
RE	-0.004***	-0.009***	-0.006***	-0.006***	-0.004***	-0.006***	-0.004***
	(-8.093)	(-10.753)	(-11.975)	(-12.582)	(-9.438)	(-12.907)	(-7.952)
TE	0.027***	0.091***	0.028***	0.026***	0.028***	0.028***	0.026***
	(8.735)	(10.720)	(8.751)	(7.972)	(8.423)	(8.548)	(7.082)
ROA	-0.002	-0.047***	-0.010***	-0.009***	-0.013***	-0.011***	-0.008***
	(-0.733)	(-8.983)	(-4.233)	(-3.636)	(-5.105)	(-4.557)	(-2.631)
SGR	-0.013***	-0.026***	-0.015***	-0.014***	-0.014***	-0.015***	-0.014***
	(-10.327)	(-12.331)	(-11.578)	(-11.360)	(-10.203)	(-12.081)	(-8.558)
SIZE	0.025***	0.055***	0.034***	0.037***	0.032***	0.038***	0.032***
	(11.212)	(17.025)	(15.264)	(16.000)	(13.035)	(16.510)	(11.063)
CASH	0.041***	0.067***	0.057***	0.055***	0.047***	0.056***	0.044***
	(4.796)	(5.145)	(6.305)	(5.989)	(4.800)	(6.160)	(4.119)
Local Market Characteristics							
GDPPC	-0.298***	-0.217***	-0.264***	-0.263***	-0.292***	-0.253***	-0.305***
	(-24.827)	(-16.033)	(-25.736)	(-24.670)	(-28.620)	(-22.134)	(-26.168)
GDPGROWTH	-0.014***	-0.012***	-0.013***	-0.015	-0.011***	-0.012***	-0.018***
	(-16.093)	(-12.150)	(-15.289)	(-1.186)	(-12.805)	(-14.940)	(-18.694)
Constant	2.877***	1.858***	2.388***	4.652***	2.352***	2.260***	2.658***
	(24.218)	(13.700)	(23.968)	(20.044)	(23.279)	(20.947)	(22.140)
Observations	218,224	179,945	230,994	219,459	202,953	234,297	154,893
Number of firms	27,880	22,674	28,214	25,998	25,941	28,316	23,791
Firm FE	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES
W/in R2	0.0147	0.0186	0.0152	0.0161	0.0183	0.0143	0.0185

This table re-estimates Model 1 of Table 5 after adding potential omitted variables. The dependent variable is *Payout ratio*, defined as the ratio of cash dividends (DVC) to net income before extraordinary items (IB). Our main sample includes 234,297 firm-year observations for 28,316 unique firms from 19 countries over the 1991–2015 period. The sample size varies across models due to the availability of the control variables added. All variables are defined in Table 1. Year and firm fixed effects are included in all regressions. All parameters are estimated using a firm fixed effects model, with standard errors adjusted for clustering by firm. *t*-statistics are reported beneath each coefficient estimate in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 7. EPU and Dividend Payout: Sample Composition and Alternative Clustering

	(1)	(2)	(3)	(4)	(5)	(6)
	Exclude U.S.	Exclude Japan	Exclude China	Weighted Least Squares	Cluster by country	Two-way clustering
EPU	0.097***	0.045***	0.077***	0.094***	0.084***	0.084***
	(11.832)	(6.084)	(9.527)	(11.863)	(3.775)	(3.136)
Firm Characteristics						
RE	-0.016***	-0.003***	-0.005***	-0.003***	-0.006	-0.006***
	(-10.771)	(-5.651)	(-9.931)	(-6.443)	(-1.443)	(-4.851)
TE	0.143***	0.024***	0.022***	0.013***	0.027	0.027***
	(11.840)	(7.770)	(6.854)	(4.243)	(1.366)	(4.378)
ROA	-0.059***	-0.004*	-0.010***	-0.004*	-0.010	-0.010**
	(-6.100)	(-1.731)	(-4.219)	(-1.777)	(-0.806)	(-2.350)
SGR	-0.033***	-0.009***	-0.017***	-0.010***	-0.016*	-0.016***
	(-9.235)	(-7.151)	(-12.539)	(-10.241)	(-1.786)	(-6.054)
SIZE	0.074***	0.020***	0.034***	0.022***	0.037*	0.037***
	(17.364)	(9.193)	(13.692)	(9.711)	(1.841)	(6.331)
CASH	0.006	0.061***	0.053***	0.057***	0.056***	0.056***
	(0.291)	(7.199)	(5.451)	(6.568)	(4.424)	(3.754)
Local Market Characteristics						
GDPPC	-0.276***	-0.306***	0.021	-0.233***	-0.254***	-0.254***
	(-21.906)	(-29.122)	(0.751)	(-21.518)	(-6.012)	(-4.769)
GDPGROWTH	-0.013***	-0.013***	-0.002**	-0.014***	-0.013	-0.013***
	(-13.816)	(-14.415)	(-1.994)	(-13.184)	(-1.685)	(-2.911)
Constant	2.279***	2.982***	-0.445	2.090***	2.286***	
	(19.839)	(29.231)	(-1.580)	(18.875)	(4.388)	
Observations	126,168	192,167	209,158	234,297	234,297	234,297
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Cluster by	Firm	Firm	Firm	Firm	Country	Firm & Country-year
W/in R2	0.0257	0.0225	0.00799	0.00882	0.0142	0.00970

This table re-estimates Model 1 in Table 5 using different subsamples in Models 1 to 3, weighted least squares (WLS) in Model 4, and alternative clustering of the standard errors in Models 5 and 6. The dependent variable is *Payout ratio*, defined as the ratio of cash dividends (DVC) to net income before extraordinary items (IB). All variables are defined in Table 1. Year and firm fixed effects are included in all regressions. All parameters are estimated using a firm fixed effects model, with standard errors adjusted for clustering by firm in Models 1 through 4. Standard errors are clustered by country in Model 5 and by two dimensions (country-year and firm) in Model 6. *t*-statistics are reported beneath each coefficient estimate in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 8. Endogeneity

	(1)	(2)
	First stage (DV: EPU)	Second stage (DV: *Payout ratio*)
FRAC	0.083***	
	(3.773)	
Fitted *EPU*		2.733***
		(3.025)
Firm Characteristics		
RE	-0.002***	-0.000
	(-5.942)	(-0.176)
TE	-0.007***	0.048***
	(-4.223)	(5.569)
ROA	-0.007***	0.007
	(-3.568)	(0.872)
SGR	-0.003***	-0.006
	(-5.030)	(-1.484)
SIZE	0.014***	-0.003
	(13.667)	(-0.238)
CASH	0.004	0.046***
	(0.917)	(3.152)
Local Market Characteristics		
GDPPC	0.347***	-1.180***
	(85.540)	(-3.745)
GDPGROWTH	-0.016***	0.030**
	(-41.227)	(2.080)
Observations	227,660	227,660
Firm FE	YES	YES
Year FE	YES	YES
F-test in the 1st stage	14.23***	
Kleibergen–Paap *rk* LM test	14.12***	

This table reports results from instrumental variables regression of *Payout ratio* on *EPU* as well as firm- and country-level controls. The dependent variable is *Payout ratio*, defined as the ratio of cash dividends (DVC) to net income before extraordinary items (IB). The instrumental variable is *FRAC*, the probability that two deputies picked at random from the legislature will be of different parties; this measure comes from DPI (2015). All variables are defined in Table 1. Year and firm fixed effects are included in all regressions. All parameters are estimated using a firm fixed effects model, with standard errors adjusted for clustering by firm. *t*-statistics are reported beneath each coefficient estimate in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 9. EPU and Dividend Payout: Dividend Demand and the Role of the Agency Costs of Free Cash Flow

	(1)	(2)	(3)	(4)	(5)	(6)
	DivPremium		*SGR*		*POSFCF*	
	High	Low	High	Low	YES	NO
EPU	0.086***	0.021**	0.029***	0.120***	0.089***	0.006
	(6.136)	(2.056)	(3.028)	(12.143)	(11.204)	(0.669)
Firm Characteristics						
RE	-0.010***	0.000	-0.001**	-0.010***	-0.008***	0.000
	(-11.048)	(0.049)	(-2.502)	(-14.335)	(-5.088)	(0.154)
TE	0.075***	0.005*	0.004	0.051***	0.099***	0.002**
	(11.810)	(1.767)	(1.121)	(10.174)	(10.581)	(2.376)
ROA	-0.020***	-0.002	-0.007**	-0.010***	-0.206***	0.000
	(-4.384)	(-0.993)	(-2.327)	(-3.108)	(-7.453)	(0.245)
SGR	-0.017***	-0.004***	-0.007***	-0.021***	-0.045***	-0.001
	(-7.218)	(-3.039)	(-3.776)	(-6.386)	(-12.136)	(-1.062)
SIZE	0.038***	0.014***	0.019***	0.051***	0.043***	-0.000
	(10.260)	(4.662)	(7.890)	(13.576)	(13.390)	(-0.079)
CASH	0.025	0.058***	0.030***	0.079***	0.061***	0.007*
	(1.582)	(5.621)	(3.304)	(5.183)	(4.147)	(1.703)
Local Market Characteristics						
GDPPC	0.220***	-0.070***	-0.300***	-0.219***	-0.313***	-0.022
	(5.046)	(-3.436)	(-23.006)	(-15.653)	(-24.269)	(-1.304)
GDPGROWTH	-0.008***	0.004***	-0.013***	-0.010***	-0.014***	0.004
	(-3.849)	(2.758)	(-10.163)	(-8.449)	(-15.026)	(1.070)
Constant	-2.489***	0.721***	2.974***	1.768***	2.834***	0.217
	(-5.902)	(3.165)	(24.317)	(12.529)	(22.522)	(1.252)
Observations	91,260	95,611	95,012	139,285	180,689	43,150
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
W/in R2	0.0205	0.0106	0.0234	0.0143	0.0184	0.00204
Difference in the coefficient on *EPU* (High/YES – Low/NO)	0.065***		-0.091***		0.083***	
	(3.778)		(-6.435)		(6.493)	

This table presents estimation results for various subsamples of regressions of *Payout ratio* on measures of policy uncertainty (*EPU*) and firm- and country-level controls. The dependent variable is *Payout ratio*, defined as the ratio of cash dividends (DVC) to net income before extraordinary items (IB). *EPU* is the natural logarithm of the average BBD (2016) policy uncertainty index over the 12-month period ending in the month of the fiscal year-end. We divide the sample into above- and below-mean subsamples according to the mean values (or 1/0 values) of the partitioning variables, namely, *DivPremium* (Models 1 and 2), *SGR* (Models 3 and 4), and *POSFCF* (Models 5 and 6). All variables are defined in Table 1. Year and firm fixed effects are included in all regressions. All parameters are estimated using a firm fixed effects model, with standard errors adjusted for clustering by firm. *t*-statistics are reported beneath each coefficient estimate in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 10. EPU and Dividend Payout: The Role of Corporate Governance

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	INDEP_CHAIRMAN		*BOARD_OWNERSHIP*		*BOARD_INDEP*		*EXTERNALBLOCK*	
	YES	NO	High	LOW	High	LOW	High	LOW
EPU	-0.099	0.116**	-0.115	0.101**	0.020	0.155***	-0.063	0.169***
	(-1.471)	(2.554)	(-1.453)	(2.489)	(0.353)	(3.032)	(-1.032)	(3.534)
Firm Characteristics								
RE	0.090*	0.075	0.038	0.093*	0.067*	0.077	0.036	0.101
	(1.801)	(1.475)	(0.778)	(1.923)	(1.666)	(1.127)	(1.268)	(1.376)
TE	0.427***	0.501***	1.044***	0.328***	0.425***	0.283**	0.396***	0.341***
	(3.045)	(4.481)	(5.084)	(3.344)	(4.043)	(2.112)	(2.973)	(2.791)
ROA	-0.256*	-0.220**	-0.221	-0.116	0.006	-0.498**	-0.126	-0.135
	(-1.781)	(-2.000)	(-1.102)	(-1.303)	(0.066)	(-2.276)	(-1.558)	(-1.136)
SGR	-0.032	-0.157***	-0.135**	-0.144***	-0.117***	-0.148***	-0.067	-0.177***
	(-0.735)	(-3.831)	(-2.167)	(-4.465)	(-3.734)	(-2.749)	(-1.290)	(-5.593)
SIZE	0.102**	0.051	0.097	0.100***	0.050	0.121*	-0.009	0.097**
	(2.292)	(1.477)	(1.254)	(2.743)	(1.523)	(1.923)	(-0.156)	(2.471)
CASH	0.138	0.018	0.036	0.045	0.116	-0.140	0.005	0.082
	(0.842)	(0.162)	(0.221)	(0.416)	(1.151)	(-0.902)	(0.028)	(0.776)
Local Market Characteristics								
GDPPC	-1.378**	-0.040	-0.297	-0.154	-0.969**	0.010	-0.367	-0.116
	(-2.123)	(-0.185)	(-0.683)	(-0.652)	(-2.060)	(0.045)	(-0.773)	(-0.487)
GDPGROWTH	0.011	-0.001	-0.021**	0.002	-0.002	-0.000	0.001	0.004
	(1.584)	(-0.113)	(-2.258)	(0.574)	(-0.308)	(-0.078)	(0.130)	(0.861)
Constant	14.672**	-0.425	2.816	0.534	10.022**	-1.488	4.559	-0.233
	(2.079)	(-0.185)	(0.595)	(0.212)	(1.978)	(-0.635)	(0.894)	(-0.093)
Observations	3,907	7,569	2,287	9,623	7,117	4,793	3,411	8,499
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
W/in R2	0.0270	0.0228	0.0467	0.0207	0.0288	0.0212	0.0172	0.0251
Difference in the coefficient on *EPU*	-0.215***		-0.216**		-0.135*		-0.232***	
(High/YES – Low/NO)	(-2.664)		(-2.427)		(-1.782)		(-2.989)	

This table presents estimation results for various subsamples of regressions of *Payout ratio* on measures of economic policy uncertainty (*EPU*) and firm- and country-level controls. The dependent variable is *Payout ratio*, defined as the ratio of cash dividends (DVC) to net income before extraordinary items (IB). *EPU* is the natural logarithm of the average BBD (2016) policy uncertainty index over the 12-month period ending in the month of the fiscal year-end. We divide the sample into above- and below-mean subsamples according to the mean values (or 1/0 values) of the partitioning variables, namely, *INDEP_CHAIRMAN* (Models 1 and 2), *BOARD_OWNERSHIP* (Models 3 and 4), *BOARD_INDEP* (Models 5 and 6), and *EXTERNALBLOCK* (Models 7 and 8). All variables are defined in Table 1. Year and firm fixed effects are included in all regressions. All parameters are estimated using a firm fixed effects model, with standard errors adjusted

for clustering by firm. *t*-statistics are reported beneath each coefficient estimate in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.

Table 11. EPU and Dividend Payout: The Role of Legal Institutions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Partitioning Variables	*SHAREHOLDER PROTECT*		*DISCLOSE*		*SECURITY REG*		*PUBLIC ENFORCE*		*CREDITOR PROTECT*	
	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
EPU	0.015	0.115***	0.039***	0.094***	0.034***	0.081***	-0.004	0.089***	0.095***	0.051***
	(1.066)	(11.499)	(3.690)	(7.388)	(2.810)	(7.288)	(-0.324)	(9.728)	(6.804)	(6.066)
Firm Characteristics										
RE	-0.001	-0.026***	-0.001**	0.015	-0.001**	0.021*	-0.004***	-0.006***	0.010	-0.001**
	(-1.444)	(-7.644)	(-1.983)	(1.176)	(-2.015)	(1.687)	(-2.586)	(-11.954)	(0.744)	(-2.545)
TE	0.011***	0.204***	0.013***	0.395***	0.012***	0.365***	0.064***	0.023***	0.445***	0.016***
	(3.042)	(10.853)	(4.513)	(10.745)	(4.107)	(11.450)	(5.472)	(7.007)	(11.301)	(5.490)
ROA	-0.000	-0.135***	-0.004*	-0.315***	-0.002	-0.329***	-0.007	-0.011***	-0.442***	0.000
	(-0.033)	(-5.771)	(-1.682)	(-7.275)	(-0.840)	(-7.895)	(-0.802)	(-4.430)	(-7.751)	(0.067)
SGR	-0.007***	-0.027***	-0.007***	-0.103***	-0.006***	-0.082***	-0.018***	-0.014***	-0.107***	-0.005***
	(-4.583)	(-5.600)	(-6.345)	(-8.906)	(-5.600)	(-9.038)	(-4.256)	(-11.512)	(-8.345)	(-4.790)
SIZE	0.017***	0.048***	0.015***	0.132***	0.015***	0.110***	0.034***	0.034***	0.139***	0.013***
	(4.880)	(9.686)	(6.036)	(14.696)	(5.821)	(14.356)	(5.264)	(14.296)	(14.417)	(5.839)
CASH	0.071***	-0.039*	0.063***	-0.099**	0.065***	-0.083**	0.115***	0.049***	-0.063	0.059***
	(6.085)	(-1.677)	(7.185)	(-2.426)	(7.141)	(-2.408)	(4.455)	(5.066)	(-1.458)	(7.041)
Local Market Characteristics										
GDPPC	0.401***	-0.382***	-0.165***	-0.079	0.518***	-0.199***	-0.372***	-0.245***	-0.071	-0.292***
	(2.747)	(-24.869)	(-5.956)	(-1.186)	(3.039)	(-6.443)	(-8.937)	(-23.634)	(-1.010)	(-26.927)
GDPGROWTH	0.001	-0.017***	-0.000	0.001	-0.002	-0.002	0.005***	-0.020***	0.004**	-0.030***
	(0.488)	(-15.420)	(-0.014)	(0.496)	(-0.650)	(-1.443)	(3.477)	(-18.990)	(2.137)	(-27.300)
Constant	-4.217***	3.265***	1.592***	0.033	-5.506***	1.389***	3.792***	2.223***	-0.137	2.883***
	(-2.758)	(23.362)	(5.704)	(0.049)	(-3.088)	(4.738)	(9.515)	(21.624)	(-0.193)	(27.622)
Observations	91,611	75,233	137,978	71,040	126,027	82,991	48,632	185,665	66,443	155,903
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
W/in R2	0.00965	0.0454	0.00901	0.0283	0.0101	0.0243	0.0174	0.0174	0.0311	0.0342
Difference in the coefficient on *EPU* (High – Low)	-0.100*** (-5.812)		-0.055*** (-3.230)		-0.047*** (-2.887)		-0.093*** (-5.882)		0.044** (2.729)	

This table presents estimation results for various subsamples for regressions of *Payout ratio* on measures of policy uncertainty (*EPU*) and firm- and country-level controls. The dependent variable is *Payout ratio*, defined as the ratio of cash dividends (DVC) to net income before extraordinary items (IB). *EPU* is the natural logarithm of the average BBD (2016) policy uncertainty index over the 12-month period ending in the month of the fiscal year-end. We divide the sample into above- and below-mean subsamples according to the mean values of partitioning variables, namely *SHAREHOLDER PROTECT* (Models 1 and 2), *DISCLOSE* (Models 3 and 4), *SECURITY REG* (Models 5 and 6), *PUBLIC ENFORCE* (Models 7 and 8), and *CREDITOR PROTECT* (Models 9 and 10). All variables are defined in Table 1. Year and firm fixed effects are included in all regressions. All parameters are estimated using a firm-fixed effects model, with standard errors

adjusted for clustering by firm. *t*-statistics are reported beneath each coefficient estimate in parentheses. Significance at the 10%, 5%, and 1% level is indicated by *, **, and ***, respectively.