

## Corporate governance, life cycle, and payout precommitment

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## ORIGINAL ARTICLE

# Corporate governance, life cycle, and payout precommitment: An emerging market study

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**Abstract**

We analyze the role of firm-level corporate governance in determining the precommitment payout policy of emerging market firms and investigate whether there is a precommitment life-cycle effect. Unlike previous studies of U.S. firms, we find evidence of precommitment only among relatively well-governed firms, which combine good governance with large dividend payouts to shareholders and large debt-related repayments to creditors. We also document a strong precommitment life-cycle effect. Firms in the growth and mature stages of their life cycle tend to use both debt and dividends to precommit to investors, with an increasing proportion of dividends in total payout measures. Our results are robust to an array of control variables, alternate payout proxies, market setting, and firm-level corporate governance, and it addresses potential endogeneity concerns in the sample.

**JEL CLASSIFICATION**

G32, G35

## 1 | INTRODUCTION

In this article, we examine the payout behavior of emerging market firms by focusing on three channels of cash distribution—cash dividends, interest expense, and share repurchases—and various mixes of these payout channels. In particular, we focus on two issues. First, we test whether the firm-specific level of corporate governance is a significant determinant of corporate precommitment policy. That is, do firms in emerging countries use these channels of cash disbursement as a tool to assuage investors' concerns about corporate governance?

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John et al. (2015) establish a relation between payout precommitment and corporate governance for U.S. firms by showing that firms with relatively poor governance distribute a higher proportion of earnings as a combination of dividends and interest on debt contracts (akin to the agency substitution model of La Porta et al., 2000). However, whether this relation is also manifested in the payout policies of emerging market firms is unresolved. Although the weak institutional environment of an emerging market provides incentives for firms to pursue such strategies, other features of these markets may restrict their efficacy. Furthermore, the outcome model of La Porta et al. (2000) indicates that payout precommitment may be practiced not just by poorly governed firms but also by well-governed firms using a combination of good governance, large dividend payouts to shareholders, and high interest and principal payments to creditors. Second, we investigate whether our precommitment measures vary over the firm life cycle, and look for evidence of a life-cycle effect in the payout precommitment.

Dividend variations over the corporate life cycle are documented for both strong governance (DeAngelo et al., 2006; Denis & Osobov, 2008) and weak governance (Brockman & Unlu, 2011; Goyal et al., 2020) regimes, but the evolution of the precommitment mechanism (i.e., the mix of cash dividends, debt interest repayments, and share repurchases) over the life cycle remains an unexplored issue.<sup>1</sup> Our goal is to provide empirical evidence on these two issues in the context of an emerging market, whose country-level corporate governance is weak relative to the United States (and developed markets, in general) and where firms need to signal their commitment for investor protection to both current and prospective external stakeholders.

Our results show that the precommitment strategies of emerging market firms are different from their developed market counterparts. Unlike the U.S. market, where cash payouts are decreasing in corporate governance (John et al., 2015), we find that the payout behavior of emerging market firms is more consistent with an outcome model for both cash dividends and debt; that is, there is a positive relation between corporate governance and both dividends and debt. Although the proportion of dividends and interest expense in total payout is invariant to corporate governance, the amounts of both variables increase. It appears that better governed firms reinforce their commitment to protect stakeholders by paying higher dividends and spending more on debt-related payments than relatively poorly governed firms. This finding is robust to subdividing our sample into above- and below-median levels of foreign ownership, size, and age, as well as splitting the sample into firms that are cross-listed and those that belong to business groups. In addition, we find that emerging market firms tend to use a combination of both debt and cash dividends to signal their commitment to protecting stakeholders, which is consistent with U.S. firms (John et al., 2015). Finally, we find an interesting precommitment life-cycle effect with a significant change in the payout mix as firms progress along the life-cycle spectrum. In particular, firms tend to distribute a higher proportion of payout in the form of regular cash dividends, and as dividends increase and debt decreases, interest expense also decreases. Although firms are likely to use a combination of cash dividends and debt, they are increasingly likely to use dividends over the life cycle.

Firms incorporated in countries with relatively low levels of corporate governance have an incentive to adopt precommitment payout strategies to reassure stakeholders of their commitment to investor protection (Brockman & Unlu, 2011; Goyal et al., 2020; La Porta et al., 2000). Strategies that signal a commitment to disburse cash holdings through debt repayments and cash dividends are popular as they avoid the up-front costs of formal bonding mechanisms.<sup>2</sup> Because both debt and cash dividends involve a level of precommitment to make regular payments to external stakeholders, they can each mitigate managerial expropriation of the firm's assets. The

<sup>1</sup>The ratio of retained earnings to total equity (RE/TE) is often used as a proxy for the firm life cycle and is included as a control variable in the analysis of John et al. (2015). However, they do not explore its implications for the life cycle. We explicitly focus on the life-cycle effect, using a superior method of life-cycle classification, namely, the multiclass linear discriminant analysis (MLDA) of Faff et al. (2016), which is discussed in Section 2.3.

<sup>2</sup>A range of bonding mechanisms require firms to improve their formal governance. For example, firms in markets with weaker security laws may commit to bond for better protection of shareholders by "renting" superior governance by cross-listing on the stock exchanges of foreign countries (see Karolyi, 2012). Although effective, these strategies impose a cost on the firm, which may be sufficiently high to discourage some firms from undertaking them (Doidge et al., 2007). Alternatively, firms can remain at home and migrate to a listing segment on their home stock exchange, which demands an adherence to stricter governance standards, for example, Bovespa in Brazil and what used to be the KSE and Kosdaq Stock Exchanges in South Korea (see Black et al., 2014; Dewenter et al., 2005; Espenlaub et al., 2020). For a review of precommitment mechanisms, see Ribstein (2005).

precommitment is explicit in contractual debt obligations. The borrower commits to make regular repayments for a specified period and the debt contract specifies penalties for nonpayment. With regard to dividends, the precommitment is implicit and stems from managers' aversion to cutting dividends because of the adverse investor reaction generated by such an action (Brav et al., 2005). Myers (2000) shows that a self-interested manager optimally agrees to an implicit dividend contract in exchange for investors' continued funding of the firm, whereas Brav et al. (2005) argue that the manager optimally continues dividend payments because of the need to secure outside funding for future projects. John et al. (2015) identify a commitment hierarchy with regular cash dividends at the top, followed by the debt obligations, and finally share repurchases and other irregular dividends at the bottom.<sup>3</sup>

Generally, emerging market firms are characterized by poor investor protection, weak legal rights, and poor corporate governance (La Porta et al., 1997). Korea fits this description and, as a newly liberalized market over our sample period (1998–2004), affords us an interesting case study of how emerging market firms may use corporate payout policy to overcome institutional barriers to investment.<sup>4</sup> Thus, on theoretical grounds, this institutional setting provides incentives for firms to precommit to the better protection of minority stakeholders.

Our decision to focus on Korea is motivated by a couple of factors. First, it is a relatively large emerging market that underwent considerable change over our study period. In the immediate aftermath of the Asian crisis, the Korean government sought to restructure its economic model, moving away from the chaebol system of cross-ownership and encouraging reforms to promote more dispersed ownership and decentralization of economic power. One of the key changes was opening up the stock market to foreign investors (Bae & Goyal, 2010). The relative underdevelopment of domestic capital markets in emerging economies creates a greater need for firms to access international capital (La Porta et al., 1997). Even though Korea began the liberalization process in 1992, it was not until 1998 that restrictions on foreign ownership were finally abolished. International investors responded favorably to the Korean market opening up, and the value of shares in foreign ownership more than tripled between 1996 and 2004.<sup>5</sup> Similarly, share repurchases underwent significant change over our sample period. Initially, they were legalized with a 5% limit in 1993, which was dropped in 1998, allowing firms the possibility to distribute cash by this mechanism without the precommitment implied by cash dividends.

Second, compared to other emerging markets, the quality and reliability of the Korean stock market and corporate governance data have seen it become the focus of many influential country-specific studies, such as Black and Kim (2012) and Bae and Goyal (2010), among others. Specifically, for our purposes, the considerable cross-sectional, firm-level variation in our measure of corporate governance makes South Korea an ideal candidate to analyze the relation between payout precommitment and governance.

Korean firms have a range of mechanisms they can use to signal their commitment to protect minority stakeholders. There are formal bonding strategies like cross-listing on international exchanges, thereby committing to greater levels of disclosure and transparency. Despite its attractions, relatively few Korean firms seek an international cross-listing (Sarkissian & Schill, 2003). Licht (2004) argues that the cultural distance between Korea and the United States may dilute the bonding benefits of international cross-listings for Korean firms. However, Dewenter et al. (2005) find that the development of a second local stock exchange, the KOSDAQ, with more rigorous reporting and disclosure requirements was successful in delivering local bonding benefits.

<sup>3</sup>Of course, the use of debt or dividends as a precommitment device may create other agency problems. For example, although debt can limit managerial discretion with respect to free cash flow (Jensen & Meckling, 1976), it may also contribute its own layer of shareholder–bondholder conflicts due to restrictive debt covenants limiting the firm in pursuing shareholder wealth-maximizing projects. Similarly, cash dividends reduce free cash flow but are less likely to create shareholder–bondholder tensions due to debt payments being prioritized.

<sup>4</sup>To rule out the possibility that our results are driven by our choice of country, Section 4 presents results from repeating our analysis for a sample of Indian firms (another emerging market for which we have access to firm-level governance data from Black et al., 2014). These results remain qualitatively and quantitatively similar to those for Korean industrial firms.

<sup>5</sup>Please refer to Flavin and O'Connor (2017) and references therein for a more detailed discussion on the growth and internationalization of the Korean stock market postliberalization.

Our focus is on precommitment through corporate payout policy in an emerging market, which has received relatively little attention in the literature. Studies that analyze the relation between corporate governance and payout policy tend to focus on dividend payouts (Flavin & O'Connor, 2017; Goyal et al., 2020; Hwang et al., 2013) or debt (Goodell & Goyal, 2018), but not on the individual components of total payouts. We go beyond that and analyze not only precommitment through dividends, but also precommitment through debt payments, share repurchases, and various mixes of all three payout mechanisms.

Even though, as argued earlier, postliberalization Korea represents a ripe setting for implementing payout strategies to reassure existing and potential stakeholders, the empirical evidence for emerging markets is mixed. Consistent with the type of precommitment found in the payout behavior of U.S. firms, Lozano et al. (2021) show that Brazilian firms use less dividends and debt once they migrate to the premium Novo Mercado listing level, which imposes more onerous governance requirements. In contrast, Chang et al. (2018) present a multicountry study of the relation between dividends and corporate governance (using country-level measures of governance) and find that the outcome model is more consistent with the dividend policy of emerging market firms (i.e., dividends increase with governance) than is the substitution model, which would be expected if firms adopt U.S.-style precommitment policies. Furthermore, cultural factors may deter Korean firms from pursuing payout precommitment policies. We know from the literature that Korean firms traditionally had a weak dividend culture (Aivazian et al., 2003), despite the evidence that international investors tend to concentrate their investment in firms that pay large dividends (Jeon et al., 2011). Furthermore, Knyazeva and Knyazeva (2014) show that the reaction to dividend cuts by emerging market firms is more negative than those by developed market firms. Thus, the implicit precommitment of dividends is likely to be even stronger in emerging markets, making Korean firms more cautious about initiating or increasing dividend payouts. Hence, the incentive to precommit through cash dividends may have changed after 1998. Additionally, some changes may be instigated by foreign investors themselves; for example, postliberalization, Jeon et al. (2011) show that foreign investors have forced Korean firms to pay larger dividends.

The type of precommitment may also be different from the United States because of a greater historical reliance on debt finance, and bank debt in particular, among Korean firms (Fan et al., 2012).<sup>6</sup> Harvey et al. (2004) emphasize the benefit of using debt to curb agency problems in emerging markets, thus making it an attractive precommitment tool. However, the precommitment benefits of debt may be limited because of the difficulties in enforcing debt contracts in emerging economies, especially for nondomestic debtholders (Djankov et al., 2007). Finally, share repurchases became an increasingly common distribution channel postliberalization (Jeon et al., 2011), suggesting that consolidation of ownership may have been the priority for some firms. Therefore, our focus is on precommitment through payout policy during a period when relaxing restrictions and opening up markets afforded firms the opportunity to voluntarily adopt policies to signal their commitment to investor protection.

The literature provides evidence of life-cycle effects in corporate capital structure (Kieschnick & Moussawi, 2018) and hence in the components of our payout precommitment measures. DeAngelo et al. (2006) propose a life-cycle theory of dividends and provide supporting empirical evidence. Simply put, in the initial stages of the firm's life cycle, when the investment opportunity set exceeds the internally generated capital of the firm, dividends tend to be low. In contrast, as firms mature and retained earnings exceed the investment opportunity set, firms pay higher dividends to mitigate expropriation of free cash flow.

The empirical evidence on the use of debt financing over the life cycle is ambiguous. The early evidence suggests that the amount of debt grows as firms age (Hovakimian et al., 2001) but more recent evidence from Kieschnick and Moussawi (2018) casts doubt on this evolution process. They show that although the likelihood of debt financing increases with firm age, the amount of debt decreases. Likewise, the empirical evidence regarding share repurchases over the life cycle is unclear. Although the amount of share repurchases is generally found to be

<sup>6</sup>Historically, bank financing dominates bond financing in Korea, whereas the reverse is true in the United States (Goodell & Goyal, 2018). In theory, monitoring by banks is greater than monitoring by bond markets, which suggests that bank financing plays a larger precommitment role.

increasing over the life cycle (e.g., von Eije & Megginson, 2008), evidence pertaining to their growth relative to cash dividends has produced conflicting results. For example, for the United States, John et al. (2015) find that cash dividends increase faster than share repurchases as firms mature, and Stepanyan (2011) argues that when firms use a combination of cash dividends and share repurchases as distribution channels, there is a sequencing in the payout mechanism. The proportion of dividends to repurchases is typically 0 in early stages as firms use neither of the two payout channels. The ratio does not jump to 1 in the intermediate stage as firms generally use dividends only in this stage. When firms transition to later stages of the life cycle, repurchases are added to the payout mix. Therefore, we need to empirically establish the life-cycle pattern of our precommitment measures for emerging market firms.

## 2 | DATA

In this section, we describe the sample of firms and the variables used in our study. Our independent variables consist of an extensive set of firm-level financial and accounting variables, capturing a wide range of firm-specific characteristics, as detailed next and summarized in Table 1. We obtain firm-level data from Worldscope via Thomson ONE Banker Analytics. To mitigate potential survivorship bias affecting our results, we source a full list of Korean firms, both dead and alive, from 1998 to 2004. Our sample stops in 2004 because we use the Black et al. (2014) corporate governance scores that are available only during this period.<sup>7</sup> Consistent with other reputable studies on payout policy (e.g., DeAngelo et al., 2006; Denis & Osobov, 2008; Fama & French, 2001), we drop firms in the financial (Standard Industrial Classification [SIC] codes 6000–6999) and utility (SIC codes 4900–4949) sectors, foreign firms, and firms with negative total equity, missing retained earnings, and missing control variables.

### 2.1 | Dependent variables

Firms can potentially return cash in the form of dividends to capital providers, share repurchases to shareholders, and debt repayments (interest and borrowed principal) to creditors. We measure cash distributed to shareholders in the form of dividends to assets and share repurchase to assets, and to debtholders in the form of interest expense to assets. We also analyze the level of debt using book debt (financial debt to book assets) and financial debt to capital, where capital is defined as the sum of financial debt and shareholders' equity. We follow John et al. (2015) and construct our dependent variables to capture the proportion of dividends in total payout. Div/Total is the share of dividends in total payout, where total payout is the sum of cash dividends, share repurchases, and interest expense. Div/Commit is the ratio of dividends to the sum of dividends and interest expense disbursed by the firm in a financial year. Share repurchases, which tend to be irregular events and hence involve no future commitment to repeat, are omitted from Div/Commit. Div/Payout is the proportion of dividends paid as a part of the total payout (sum of dividends and share repurchases) to shareholders only.

We augment these measures with three binary categorical measures. Commitment Type 1 distinguishes between firms that use a combination of dividends and debt as opposed to those that use only debt. Similarly, Commitment Type 2 separates firms that use a combination of dividends and debt from those that use only dividends. Payout type focuses on firms' precommitment to shareholders, that is, the noncontractual payout precommitment. Payout type is designed to capture differences between firms that use dividends (and possibly share repurchases) and those that use share repurchases alone. Table 1 explains the coding and definition of these variables.

<sup>7</sup>We thank Bernard Black for sharing his corporate governance data on South Korea.

TABLE 1 Variable description

| Variable                 | Description  | Source              | Mean  | Median | SD    |
|--------------------------|--|---------------------|-------|--------|-------|
| Div/Assets (%)           | Ratio of common dividends to book assets. Dividends is total cash dividends paid to common shareholders, including extra and special dividends | Worldscope          | 0.83  | 0.62   | 0.80  |
| SR/Assets (%)            | Ratio of share repurchases to book assets  | Worldscope          | 0.52  | 0.00   | 1.44  |
| Int/Assets (%)           | Ratio of interest expense to book assets   | Worldscope          | 2.45  | 1.90   | 2.13  |
| Div/Total                | Ratio of common dividends to the sum of cash dividends, share repurchases, and interest  | Worldscope          | 0.29  | 0.22   | 0.27  |
| Div/Commit               | Ratio of common dividends to the sum of cash dividends and interest  | Worldscope          | 0.33  | 0.25   | 0.30  |
| Div/Payout               | Ratio of common dividends to the sum of cash dividends and share repurchases   | Worldscope          | 0.76  | 1.00   | 0.35  |
| Commitment Type 1        | Equals 1 if the firm uses dividends and debt, and 0 if the firm uses debt only   | Worldscope          | 0.93  | 1.00   | 0.26  |
| Commitment Type 2        | Equals 1 if the firm uses dividends and debt, and 0 if the firm uses dividends only  | Worldscope          | 0.95  | 1.00   | 0.21  |
| Payout type              | Equals 1 if the firm pays a dividend and 0 if the firm repurchases only  | Worldscope          | 0.93  | 1.00   | 0.25  |
| Corporate governance     | Korea Corporate Governance Index (KCGI)  | Black et al. (2014) | 35.82 | 34.08  | 11.64 |
| RE/TE                    | Ratio of retained equity to total equity   | Worldscope          | 0.45  | 0.43   | 0.33  |
| RE/TA                    | Ratio of retained equity to book assets  | Worldscope          | 0.23  | 0.19   | 0.17  |
| TE/TA                    | Ratio of total equity to book assets   | Worldscope          | 0.49  | 0.48   | 0.19  |
| Cash                     | Ratio of cash to book assets   | Worldscope          | 0.12  | 0.09   | 0.10  |
| Leverage                 | Ratio of total liabilities to book assets  | Worldscope          | 0.49  | 0.50   | 0.18  |
| Investment opportunities | Ratio of market to book value of assets  | Worldscope          | 0.64  | 0.47   | 0.58  |
| Firm size                | Log of firm market value in millions of US\$   | Worldscope          | 4.44  | 4.13   | 1.53  |
| Size dummy               | Equals 1 if book value of assets > 2 trillion won, and 0 otherwise   | Worldscope          | 0.13  | 0.00   | 0.33  |
| Asset tangibility        | Ratio of property, plant, and equipment to book assets   | Worldscope          | 0.41  | 0.41   | 0.16  |

(Continues)

TABLE 1 (Continued)

| Variable                  | Description   | Source              | Mean  | Median | SD    |
|---------------------------|---|---------------------|-------|--------|-------|
| Cash-flow uncertainty     | Standard deviation of (operating income/total assets) over the most recent 4 years  | Worldscope          | 0.04  | 0.03   | 0.05  |
| Chaebol                   | Equals 1 if the firm belongs to a chaebol business group, and 0 otherwise   | Black et al. (2014) | 0.39  | 0.00   | 0.49  |
| Book debt                 | Ratio of total debt to book assets  | Worldscope          | 0.26  | 0.27   | 0.17  |
| Financial debt to capital | Ratio of financial debt to capital, where capital is the sum of interest-bearing debt and shareholders' equity  | Worldscope          | 0.36  | 0.36   | 0.23  |
| MLDA life cycle           | Multiclass linear discriminant analysis (MLDA) life-cycle indicator. There are four life-cycle stages: introduction stage, growth stage, mature stage, shakeout/decline stage. Firms are assigned to a life-cycle stage based on Dickinson (2011) and MLDA using firm age, RE/TA, profitability, and asset growth | Worldscope          | n.m.  | n.m.   | n.m.  |
| Firm age                  | Year of observation minus year of establishment of the firm, plus 1   | Black et al. (2014) | 35.88 | 35.00  | 13.69 |
| Profitability             | Ratio of earnings before interest and taxes to book assets  | Worldscope          | 0.04  | 0.03   | 0.05  |
| Asset growth              | One-year asset growth   | Worldscope          | 0.06  | 0.04   | 0.23  |
| Foreign ownership         | Percentage of shares held by foreign shareholders   | Black et al. (2014) | 0.12  | 0.04   | 0.16  |
| CAPEX                     | Ratio of capital expenditures (CAPEX) to book assets  | Worldscope          | 0.05  | 0.04   | 0.05  |
| External financing need   | (CAPEX - Cash flow from operations)/CAPEX   | Worldscope          | -1.62 | -0.48  | 10.66 |



## 2.2 | Corporate governance

To capture firm-level governance for publicly listed firms in South Korea, we rely on Black et al.'s (2014) Korea Corporate Governance Index (KCGI). The variable is constructed using nonpublic data from surveys conducted by the Korea Corporate Governance Services in South Korea between 1998 and 2004. The index includes 25 governance elements distributed across five equally weighted subindexes for board structure (7 elements), board procedure (12 elements), disclosure (3 elements), ownership structure (1 element), and shareholder rights (2 elements). Most elements are binary (1 if a firm has the attribute, and 0 otherwise), and the continuous elements are scaled between 0 and 1. Within each subindex, each element is equally weighted, and each subindex is then scaled to range from 0 to 100. The index is computed as the average of the five subindex scores.

Our choice of the KCGI for South Korea is both appropriate and suitable in an emerging market setting. Unlike the developed market governance indexes that focus on antitakeover defense mechanism for firms (Gompers et al., 2003), the KCGI focuses on a broader range of processes and shareholder rights. Moreover, we believe that in the presence of business group firms, that is, chaebols (Baek et al., 2006), and complex ownership structures (La Porta et al., 1999) in South Korea, investor expropriation and not hostile takeover is of primary concern.

## 2.3 | Life-cycle indicators

In the last 2 decades, the finance literature has developed several firm life-cycle proxies. However, von Eije and Megginson (2008) and Banyl and Kahle (2014) suggest that some life-cycle proxies can lead to conflicting results. Therefore, the choice of life-cycle proxy is important and reliance on a single life-cycle proxy is probably not advisable. An alternative view is that some proxies may be open to a number of interpretations. Therefore, to address this issue, we use two life-cycle proxy measures.

First, we use Faff et al.'s (2016) MLDA to classify firms into one of four life-cycle stages—introduction stage, growth stage, mature stage, and shakeout/decline stage—using the Dickinson (2011) life-cycle classification scheme.<sup>8</sup> From here, we perform the following linear discriminant analysis:

$$\text{Stage}_i = \alpha_0 + \alpha_1 \text{Firm age}_i + \alpha_2 \text{RE/TE}_i + \alpha_3 \text{Profit}_i + \alpha_4 \text{Sales growth}_i + \varepsilon_i, \quad (1)$$

where Stage is life-cycle stage, Firm age is the age of the firm for the year of observation, RE/TE is the ratio of retained earnings to total equity, Profit is return on assets (earnings before interest and taxes [EBIT]/assets), Sales growth is 1-year sales growth. Using these variables, MLDA provides maximum separation between the four stages in the firm's life cycle.<sup>9</sup> Thus, MLDA is our preferred life-cycle indicator.

Second, to test the validity of our results, we use the ratio of retained earnings to total equity (RE/TE) as proposed by DeAngelo et al. (2006). Total equity is the sum of retained and contributed equity. The rationale for using this variable as a proxy for firm life cycle is based on the argument that young firms rely largely on contributed (external) equity because their retained equity is likely to be low. Therefore, they are expected to have low RE/TEs. In contrast, mature firms have large RE/TEs as their opportunities for profitable investment decline and net cash inflows from operations increase. This combination gives them greater access to internal funds (retained net cash flows from operations) and less need for contributed equity. However, in contrast to the proxies of Dickinson (2011) and the MLDA methodology, RE/TE does not explicitly classify firms into distinct life-cycle stages, as it specifies no objective cutoff point to delineate between life-cycle stages. To address this drawback, we

<sup>8</sup>Dickinson (2011) classifies firms into one of five life-cycle stages: introduction (birth), growth, maturity, shakeout, and decline based on the combined signs of net cash flows from operating, financing, and investing activities. Net cash flows can be positive or negative, resulting in eight possible cash-flow combinations. Like others, we group the shakeout and decline stages together to create four life-cycle stages.

<sup>9</sup>Faff et al. (2016, p. 98) provide arguments in favor of using MLDA as a superior life-cycle classification system.

follow Owen and Yawson (2010) to create three life-cycle stages based on RE/TE quartiles. We classify firms as young- and old-stage firms if they are found in the smallest and largest RE/TE quartiles, respectively. Firms in the second and third quartiles are designated as mature-stage firms.

## 2.4 | Control variables

In all regressions, we control for firm-specific variables related to payout and corporate governance that other studies have shown to be important. These variables are Cash holdings (Goyal et al., 2020; von Eije & Megginson, 2008), Profitability (Denis & Osobov, 2008), Investment opportunities (Denis & Osobov, 2008; Fama & French, 2001), Firm size (Fama & French, 2001), Asset tangibility (Aivazian et al., 2003), and Cash-flow uncertainty (Chay & Suh, 2009). In the literature, there is little consensus on the payout policies of chaebol (business group) and nonchaebol (independent) firms. Flavin and O'Connor (2017) find no significant difference in dividend payout between the two groups, though Hwang et al. (2013) conclude that dividends paid by chaebol firms are lower than those paid by independent firms. Regardless, business group firms, and in particular Korean chaebols, have been notorious for expropriating minority shareholders and other investors (Baek et al., 2006). Hence, we include a business group dummy, which equals 1 if the firm belongs to a chaebol. Across all the regressions, we also include year and industry dummies.

## 2.5 | Sample description and preliminary statistics

To account for outliers, we winsorize variables defined as ratios at upper and lower 1% levels. Table 1 presents a detailed description of all the dependent, corporate governance, life-cycle, and control variables. It also includes basic summary statistics for each variable over the sample period.

Table 2 reports a breakdown of the data in several dimensions. As reported in Panel A, after applying all the constraints discussed in the previous section, we are left with 293 industrial firms from

**TABLE 2** Sample description

| Panel A: Sample description  |                        |          |           |                    |               |                    |                     |                    |
|--|------------------------|----------|-----------|--------------------|---------------|--------------------|---------------------|--------------------|
|  | Firms                  |          |           | Obs.               | Sample period |                    |                     |                    |
| Korean sample  | 293                    |          |           | 1135               | 1998–2004     |                    |                     |                    |
| Panel B: Payout proportions based on firm-year observations        |                        |          |           |                    |               |                    |                     |                    |
|  | Div-Payer              | SR-Payer | Int-Payer | Div, SR<br>and Int | Div<br>and SR | Div and<br>SR only | Div and<br>Int only | SR and<br>Int only |
| Payout proportions   | 0.93                   | 0.43     | 0.98      | 0.35               | 0.36          | 0.01               | 0.56                | 0.07               |
| Panel C: Corporate governance                                      |                        |          |           |                    |               |                    |                     |                    |
|  | Mean                   | SD       | Min       | 25th               | Median        | 75th               | 95th                | Max                |
| Corporate governance   | 35.82                  | 11.64    | 11.28     | 27.22              | 34.08         | 41.67              | 57.62               | 84.60              |
| Panel D: Median firm characteristics across MLDA life-cycle stages |                        |          |           |                    |               |                    |                     |                    |
|  | MLDA life-cycle stages |          |           |                    |               |                    |                     |                    |
|  | Introduction           | Growth   | Mature    | Shakeout/decline   |               |                    |                     |                    |
| Firm-year obs.   | 199                    | 170      | 421       | 325                |               |                    |                     |                    |
| RE/TE  | 0.23                   | 0.41     | 0.60      | 0.29               |               |                    |                     |                    |

(Continues)

TABLE 2 (Continued)

| Panel D: Median firm characteristics across MLDA life-cycle stages |                        |          |          |                  |  |  |  |  |  |
|--|------------------------|----------|----------|------------------|--|--|--|--|--|
|  | MLDA life-cycle stages |          |          |                  |  |  |  |  |  |
|  | Introduction           | Growth   | Mature   | Shakeout/decline |  |  |  |  |  |
| RE/TA  | 0.07                   | 0.17     | 0.36     | 0.13             |  |  |  |  |  |
| Firm age (in years)  | 31 years               | 35 years | 35 years | 41 years         |  |  |  |  |  |
| Sales growth   | 0.06                   | 0.17     | 0.09     | 0.03             |  |  |  |  |  |
| Profitability  | -0.00                  | 0.04     | 0.08     | 0.02             |  |  |  |  |  |
| Size decile  | 5                      | 6        | 6        | 5                |  |  |  |  |  |
| Investment opportunities   | 3                      | 6        | 7        | 4                |  |  |  |  |  |
| CAPEX  | 0.03                   | 0.05     | 0.04     | 0.03             |  |  |  |  |  |
| External financing need  | 0.65                   | -0.03    | -1.08    | -0.79            |  |  |  |  |  |
| Cash   | 0.08                   | 0.09     | 0.14     | 0.07             |  |  |  |  |  |

  

| Panel E: Median corporate governance and payout variables in calendar time |       |       |       |       |       |       |       |                       |
|--|-------|-------|-------|-------|-------|-------|-------|-----------------------|
|  | 1998  | 1999  | 2000  | 2001  | 2002  | 2003  | 2004  | $\Delta(2004 - 1998)$ |
| Corporate governance   | 24.61 | 27.25 | 28.23 | 32.65 | 39.91 | 38.08 | 42.57 | 17.96***              |
| Div/Assets (%)   | 0.23  | 0.26  | 0.63  | 0.70  | 0.71  | 0.81  | 0.86  | 0.63***               |
| SR/Assets (%)  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00                  |
| Book debt  | 0.41  | 0.33  | 0.29  | 0.26  | 0.22  | 0.21  | 0.20  | -0.21***              |
| Financial debt to capital  | 0.53  | 0.44  | 0.38  | 0.34  | 0.32  | 0.27  | 0.29  | -0.24***              |
| Int/Assets (%)   | 5.47  | 3.66  | 2.41  | 2.40  | 1.50  | 1.17  | 1.00  | -4.47***              |
| Div/Total  | 0.04  | 0.07  | 0.16  | 0.22  | 0.25  | 0.33  | 0.37  | 0.33***               |
| Div/Commit   | 0.04  | 0.08  | 0.21  | 0.25  | 0.32  | 0.40  | 0.46  | 0.42***               |
| Div/Payout   | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 0.00                  |

  

| Panel F: Median payout characteristics by corporate governance quartile |                      |                |           |                           |                |               |           |            |            |
|---|----------------------|----------------|-----------|---------------------------|----------------|---------------|-----------|------------|------------|
| Corporate governance quartile   | Corporate governance | Div/Assets (%) | Book debt | Financial debt to capital | Int/Assets (%) | SR/Assets (%) | Div/Total | Div/Commit | Div/Payout |
| 1   | 24.01                | 0.48           | 0.26      | 0.33                      | 2.49           | 0.00          | 0.17      | 0.18       | 1.00       |
| 2   | 30.42                | 0.53           | 0.27      | 0.36                      | 2.10           | 0.00          | 0.19      | 0.22       | 1.00       |
| 3   | 37.89                | 0.68           | 0.23      | 0.30                      | 1.50           | 0.00          | 0.26      | 0.32       | 1.00       |
| 4   | 50.01                | 0.73           | 0.29      | 0.41                      | 1.69           | 0.00          | 0.24      | 0.30       | 1.00       |
| $\Delta(4-1)$   | 26.00***             | 0.25***        | 0.03**    | 0.08***                   | -0.80***       | 0.00          | 0.07***   | 0.12***    | 0.00       |

Note: This table describes our sample of Korean firms. Panel A reports the number of firms and the number of firm-year observations. Panel B reports the proportion of firms that use dividends (Div), debt (interest expense [Int]), and share repurchases (SR), and various combinations of each. Proportions are calculated using firm-year observations. Panel C summarizes corporate governance. Corporate governance is from Black et al. (2014). Panel D compares multiclass linear discriminant analysis (MLDA) life-cycle stages. Panel E reports median corporate governance and payout variables in calendar time. Panel F reports median firm payout by corporate governance quartile. See Table 1 for variable definitions. Additionally, Sales growth is the annual growth in firm-level sales.

\*\*\* and \*\* denote significance at the 1% and 5% levels, respectively.

South Korea,<sup>10</sup> which account for 1135 firm-year observations over a 7-year sample period from 1998 to 2004 for which we have access to the KCGI from Black et al. (2014). Panel B presents an overview of the payout policies of these firms. We observe that most Korean firms pay cash dividends (93% of firm-year observations have positive dividends) and have contractual debt obligations (98%), but a smaller number of firms also use share repurchases to distribute profits to shareholders (43%). The proportion of Korean firms paying dividends is in line with the literature (Goyal & Muckley, 2013). Furthermore, firms are more likely to use a combination of dividends and interest-bearing debt (56%) rather than dividends and share repurchases (36%).

Panel C of Table 2 focuses on corporate governance and shows that firm-level governance, like in many other emerging markets, is relatively low for Korean firms. It also reveals a great deal of cross-sectional variation across Korean firms. The firm-level scores range from 11.28 to 84.60 (on a scale of 0–100), with an average (median) score of 35.82 (34.08). Only 5% of the firms exhibit a total governance score of 57.62 or higher.

Panel D of Table 2 analyzes the data over firm MLDA life-cycle stages. The distribution of firm-year observations across life-cycle stage is not uniform, with fewer firm-years allocated to the introduction (17.5%) and growth (15%) stages than the mature (37.1%) and shakeout/decline (30.4%) stages. The remainder of Panel D presents the median firm-level characteristics in each life-cycle stage.<sup>11</sup> We observe an inverted U-shape for many variables. For example, growth opportunities, profits, cash holdings, and even RE/TE increase from birth until maturity but taper off in the shakeout/decline stage. The relation between external financing need and firm life cycle is U-shaped, as external financing need is greatest for firms in the introduction and shakeout/decline stages.

Panel E of Table 2 reports median corporate governance and firm payout measures in calendar time. Over the sample period, we observe significant increases in dividend payout, decreases in debt usage, and improvements in overall corporate governance. Panel F reports median payout measures by corporate governance quartile and supports the outcome model and payout precommitment by well-governed firms. Dividends, debt (but not interest expense), Div/Total, and Div/Commit each increases significantly with governance.

In summary, the descriptive statistics in Table 2 document that compared to mature/old-stage firms, young/growth-stage firms are smaller and have higher growth opportunities and limited profitability and cash holdings, resulting in higher external financing need. Also, as reported in the literature for other developed and developing markets (e.g., Chay & Suh, 2009; Fama & French, 2001; Mitton, 2004; von Eije & Megginson, 2008), the payout policy in Korea is relatively sticky. Once interest is paid to debtholders, managers prefer to pay cash dividends to the equity holders rather than implement a share repurchase program. We find evidence to support an outcome model for both dividend payouts and debt financing, and hence payout precommitment by better governed firms. Firms complement their existing good governance with large dividend payouts to shareholders and large principal and interest payments to creditors.

### 3 | MULTIVARIATE ANALYSIS

Our regression-based analysis addresses three issues. First, we analyze the determinants of the different cash distribution channels to the firms' stakeholders (i.e., dividends, interest/debt repayments, and share repurchases), focusing on the role of corporate governance and life-cycle stage while controlling for other factors. Second, we examine the determinants of our precommitment measures and analyze the likelihood of firms using combinations of dividends and debt as opposed to exclusively concentrating on either channel. Third, we delve deeper into the driving forces of our results by analyzing the precommitment policies of Korean firms across different subsamples.

<sup>10</sup>Our sample size for South Korea is comparable to many studies for the same sample period. For example, Mitton (2002) uses 144 Korean firms, Claessens et al. (2000) use 345 firms, and Denis and Osobov (2008) use 155 firms. Worldscope coverage of Korean firms in 1997 was just 318 firms, and in general, the Worldscope sample accounts for about 95% of the total market capitalization for any country (Denis & Osobov, 2008).

<sup>11</sup>As additional robustness analysis, we repeat our analysis with average firm-level characteristics in each life-cycle stage but do not find any notable difference. Results are available upon request.

### 3.1 | Effect of corporate governance on firm-level payout across the life cycle

Empirical tests of payout precommitment are related to outcome, and substitution models of dividends (and debt) and are implemented in two forms. First, seminal studies suggest that it is the level of dividends (and debt) that matters for precommitment, and they regress the level of dividends (and debt) on corporate governance scores, controlling for factors related to both dividends/debt and corporate governance (for dividends, see Chang et al., 2018; Chintrakarn et al., 2018; La Porta et al., 2000; Mitton, 2004; for debt, see Goodell & Goyal, 2018; Jiraporn & Gleason, 2007). The substitution model predicts that payout precommitment should be stronger for poorly governed firms that substitute poor governance with abundant payouts to shareholders and creditors. In contrast, the outcome model predicts that well-governed firms practice payout precommitment and complement good governance with large dividend and interest payments. Second, the method proposed by John et al. (2015) suggests that it is payout mix ratios (e.g., dividends to the sum of dividends and interest payments), and not just the payout level, that matters for payout precommitment. They run their regressions with these ratios (defined earlier) as the dependent variables. Here, we use both approaches to test for payout precommitment in Korea.

We first estimate, by pooled ordinary least squares (OLS) regression, the effect of corporate governance and life-cycle stage on each of our channels of cash distribution across the firm life cycle. Table 3 presents our results

**TABLE 3** Payouts to shareholders and creditors, corporate governance, and the firm life cycle

|                          | Dependent variable    |                     |                                  |                       |                      |
|--------------------------|-----------------------|---------------------|----------------------------------|-----------------------|----------------------|
|                          | Div/Assets (%)<br>(1) | Book debt<br>(2)    | Financial debt to capital<br>(3) | Int/Assets (%)<br>(4) | SR/Assets (%)<br>(5) |
| Corporate governance     | 0.011***<br>(2.55)    | 0.002**<br>(2.23)   | 0.003***<br>(2.66)               | 0.016*<br>(1.89)      | 0.018<br>(1.25)      |
| TE/TA                    | 0.536<br>(0.91)       |                     |                                  |                       | -0.910<br>(0.78)     |
| Growth stage             | 0.027<br>(0.47)       | -0.083***<br>(4.84) | -0.081***<br>(3.71)              | -1.142***<br>(6.03)   | 0.142<br>(1.11)      |
| Mature stage             | 0.188**<br>(2.49)     | -0.168***<br>(9.06) | -0.231***<br>(9.94)              | -1.213***<br>(6.22)   | 0.154<br>(1.16)      |
| Shakeout/decline stage   | 0.059<br>(1.09)       | -0.062***<br>(4.14) | -0.086***<br>(4.78)              | -0.172<br>(1.03)      | -0.101<br>(0.95)     |
| Investment opportunities | 0.355***<br>(5.08)    | -0.012<br>(0.96)    | -0.010<br>(0.57)                 | -0.278**<br>(2.02)    | 0.233*<br>(1.70)     |
| Firm size                | -0.020<br>(0.56)      | -0.003<br>(0.33)    | -0.007<br>(0.73)                 | -0.060<br>(0.84)      | 0.129*<br>(1.91)     |
| Size dummy               | -0.210*<br>(1.95)     | 0.041*<br>(1.96)    | 0.081**<br>(2.52)                | 0.440**<br>(2.04)     | -0.554<br>(1.41)     |
| Asset tangibility        | -0.481**<br>(2.27)    | 0.047<br>(0.90)     | -0.054<br>(0.82)                 | -0.288<br>(0.48)      | -0.595<br>(1.47)     |
| Cash-flow uncertainty    | -0.762*<br>(1.81)     | 0.006<br>(0.07)     | 0.021<br>(0.21)                  | 2.499**<br>(2.53)     | -0.376<br>(0.60)     |
| Leverage                 | -1.144*<br>(1.85)     |                     |                                  |                       | -1.306<br>(1.14)     |
| Cash                     | -0.161<br>(0.35)      | -0.338***<br>(5.33) | -0.525***<br>(6.35)              | -3.998***<br>(6.81)   | -0.401<br>(0.49)     |

(Continues)

TABLE 3 (Continued)

|   | Dependent variable |                   |                           |                   |                  |
|---|--------------------|-------------------|---------------------------|-------------------|------------------|
|   | Div/Assets (%)     | Book debt         | Financial debt to capital | Int/Assets (%)    | SR/Assets (%)    |
|   | (1)                | (2)               | (3)                       | (4)               | (5)              |
| Chaebol   | -0.035<br>(0.43)   | 0.045**<br>(2.32) | 0.089***<br>(3.34)        | 0.425**<br>(2.09) | -0.059<br>(0.42) |
| Time dummies  | Yes                | Yes               | Yes                       | Yes               | Yes              |
| Industry dummies                                    | Yes                | Yes               | Yes                       | Yes               | Yes              |
| Observations  | 1135               | 1135              | 1135                      | 1135              | 1135             |
| R <sup>2</sup>                                      | 0.363              | 0.467             | 0.505                     | 0.556             | 0.093            |
| Tests for differences across MLDA life-cycle stages |                    |                   |                           |                   |                  |
| Mature versus growth                                | ***                | ***               | ***                       |                   |                  |
| Mature versus shakeout/<br>decline                  | **                 | ***               | ***                       | ***               | *                |
| Growth versus shakeout/<br>decline                  |                    |                   |                           | ***               | *                |

Note: This table reports pooled ordinary least squares estimates for a sample of 293 firms from Korea. Test statistics, calculated using standard errors clustered by firm, are reported in parentheses. The sample period is 1998–2004. The dependent variables are Div/Assets (%), Int/Assets (%), Book debt, Financial debt to capital, and SR/Assets (%). Life cycle is proxied using multiclass linear discriminant analysis (MLDA). See Table 1 for variable definitions. Though unreported, all regressions include an intercept term, industry, and time dummies.

\*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% levels, respectively.

for cash dividends (Column 1), book debt (Column 2), financial debt to capital (Column 3), interest expense (to assets) (Column 4), and share repurchase payout (Column 5).<sup>12</sup> In all model specifications, we control for firm-level factors and time and industry fixed effects. The classification of life-cycle stage is determined using MLDA. Payout precommitment under the substitution (outcome) model predicts that at least one of our dependent variables should be inversely (positively) related to corporate governance. The estimated coefficients on corporate governance supports the outcome model.

Corporate governance matters for corporate dividend payout policy. We observe a strong positive and statistically significant relation between governance and the dividend amount, lending statistical support for the outcome, and not the substitution, model of dividend payout formulated by La Porta et al. (2000). Our findings are consistent with Mitton (2004) and Goyal and Muckley (2013), who find support in favor of the outcome model for a sample of emerging market firms (which includes Korea). The dividend–governance relation is economically significant. We observe that dividends paid by firms in the top governance decile are 46% larger than dividends paid by firms in the lowest dividend decile (median dividends to assets is 0.67% for firms in the lowest governance decile and 0.98% for firms in the highest governance decile). Firm life cycle also has a strong influence on corporate dividend payouts. Mature-stage firms pay higher dividends than firms in any other life-cycle stage, and the difference is always statistically significant. These differences are economically important. For example, the difference in dividends paid between firms in the mature and growth stages is 0.161 (0.188 less 0.027) or 19% of average dividends paid, which is consistent with Flavin and O'Connor (2017). Results for the other potential determinants of dividend policy are broadly in line with the literature. Dividend payout increases with profitability (Fama & French, 2001) and decreases with asset tangibility

<sup>12</sup>We use financial debt to capital together with book debt to measure firm debt use because book debt is scaled by book assets, and as book assets include accounts payable, book debt falls when accounts payable rise, all else equal.

(Aivazian et al., 2003), leverage (von Eije & Megginson, 2008), and profit volatility (Chay & Suh, 2009). Firms with higher investment opportunities are more likely to disgorge cash, in the form of both dividends and share repurchases. This is consistent with Flavin and O'Connor (2017), who argue that Korean firms pay higher dividends as a strategy to enhance their reputation in capital markets, particularly among external investors. In a similar vein, smaller firms pay higher dividends compared to all other firms. Neither cash holdings nor chaebol affiliation appear to have any effect on the dividend payout policy of the Korean firms.

In Columns 2–4 of Table 3, we turn to the determinants of debt financing and the interest expense arising from debt repayments. We establish a statistically significant relation between corporate governance and each of our debt measures: book debt, financial debt to capital, and interest expense. Debt financing, like dividend payouts, appears to be an outcome of strong corporate governance. Our finding for Korean firms is in stark contrast to the negative leverage–corporate governance relation uncovered for U.S. firms by Jiraporn and Gleason (2007). The influence of corporate governance on each of our debt measures is statistically significant. For example, a worst to best change in governance deciles increases book debt by 0.10% or 50% (0.20–0.30) and financial debt to capital by 0.17 (0.27–0.44, or almost three-fourths of 1 full standard deviation). Presumably, the increase in interest expense for well-governed firms occurs not because of higher interest rates, but because of greater debt usage. There is also a strong life-cycle effect. As firms progress along the life-cycle spectrum, debt financing and interest expense tend to fall, which is consistent with the findings of Kieschnick and Moussawi (2018). As firms transition from introduction stage to mature stage, they rely less on debt financing (and perhaps more on internal financing and equity). The difference in financial debt (to capital) use between growth-stage and mature-stage firms is economically large (0.15, or almost 43% of average financial debt to capital). Given the debt level used by introduction-stage firms, it is not surprising to see that interest expense is largest for these firms and smallest for firms in the growth and mature stages. The difference in interest paid between introduction and growth stages is large (–0.972%, or almost 40% of average interest expense paid). This is plausible because many of these firms have limited access to alternative sources of financing and are thus more likely to finance their investment activities through debt, resulting in higher interest expenses. These interest expenses drop significantly during later life-cycle stages as firms generate revenue and profits, enjoy reduced borrowing rates on debt, and gain greater access to alternative sources of capital. The signs on our control variables are broadly as expected, with investment opportunities and cash holdings reducing the interest expense (through reduced reliance on borrowing, lower interest rates, or a combination of the two) and the opposite effect being recorded for cash-flow uncertainty. None of the other variables appears to matter for interest expense. Interestingly, chaebol firms use more debt compared to independent firms.

Finally, Column 5 of Table 3 shows that for share repurchases, our specification has little light to shed on their determinants. There is no evidence that the level of corporate governance or the life-cycle stage of the firm matters. The lack of a life-cycle effect is not surprising and can be explained by the noncommittal nature of the repurchase decision. For example, Brav et al. (2005) document that managers consider share repurchases as a flexible form of cash disbursement to shareholders in the presence of cash surplus but without any commitment to repeat the exercise. Among the control variables, only firm size and investment opportunities have any statistical significance, albeit marginal. The latter variable is likely capturing the reputation-building behavior of firms already identified by Flavin and O'Connor (2017).

### 3.2 | Effect of corporate governance and firm's life cycle on firm-level payout precommitment

Our preliminary findings from Table 3 do not support the idea that firms use large dividend and debt payouts to substitute for poor governance. Rather, it is the outcome model that prevails. However, because firms could use debt or dividends, or a combination of the two, to signal their commitment to investor protection, it is essential to

identify which of the two claimants (debtholders or shareholders) is relatively more important for our sample of Korean firms. Because these firms exhibit large cross-sectional variation in governance and life-cycle phase, we analyze their payout strategies in both dimensions. Table 4 presents evidence on the implications of firm-level corporate governance and the firm's life-cycle stage for the trade-off in the firms' choice to precommit using payments to debtholders versus shareholders. Models 1–3 report results from a POLS regression of each of precommitment measures and Models 4–6 for the likelihood of various combinations of dividends, debt, and share

**TABLE 4** Payout precommitment over the life cycle using MLDA life cycle

|                          | Dependent variable  |                     |                    |                             |                             |                     |
|--------------------------|---------------------|---------------------|--------------------|-----------------------------|-----------------------------|---------------------|
|                          | Div/Total<br>(1)    | Div/Commit<br>(2)   | Div/Payout<br>(3)  | Commitment<br>Type 1<br>(4) | Commitment<br>Type 2<br>(5) | Payout type<br>(6)  |
| Corporate governance     | -0.001<br>(0.36)    | 0.001<br>(1.16)     | -0.002<br>(0.89)   | 0.002<br>(1.18)             | -0.001<br>(1.32)            | 0.002<br>(1.20)     |
| Growth stage             | 0.037*<br>(1.89)    | 0.043**<br>(2.14)   | 0.018<br>(0.42)    | 0.091**<br>(2.57)           | 0.022<br>(0.93)             | 0.087**<br>(2.54)   |
| Mature stage             | 0.049**<br>(2.17)   | 0.061**<br>(2.43)   | 0.004<br>(0.10)    | 0.061*<br>(1.82)            | 0.040<br>(1.12)             | 0.055*<br>(1.76)    |
| Shakeout/decline stage   | -0.011<br>(0.70)    | -0.025<br>(1.50)    | 0.088**<br>(2.40)  | 0.067**<br>(2.26)           | 0.036*<br>(1.81)            | 0.065**<br>(2.23)   |
| TE/TA                    | 0.719***<br>(11.93) | 0.833***<br>(12.94) | 0.306***<br>(3.77) | 0.216***<br>(3.51)          | -0.308***<br>(3.81)         | 0.223***<br>(3.90)  |
| Investment opportunities | 0.051***<br>(3.08)  | 0.082***<br>(3.82)  | 0.006<br>(0.18)    | -0.020<br>(1.05)            | -0.033<br>(1.57)            | -0.016<br>(0.91)    |
| Firm size                | -0.011<br>(1.23)    | -0.002<br>(0.22)    | -0.029*<br>(1.94)  | 0.011<br>(1.03)             | 0.010<br>(0.88)             | 0.011<br>(1.05)     |
| Size dummy               | 0.013<br>(0.56)     | -0.022<br>(0.81)    | -0.003<br>(0.06)   | -0.077*<br>(1.71)           | -0.005<br>(0.23)            | -0.078*<br>(1.75)   |
| Asset tangibility        | -0.087*<br>(1.69)   | -0.128**<br>(2.22)  | -0.020<br>(0.22)   | -0.100<br>(1.54)            | 0.020<br>(0.36)             | -0.101<br>(1.63)    |
| Cash flow uncertainty    | -0.161<br>(0.86)    | -0.292<br>(1.41)    | -0.705**<br>(2.20) | -1.065***<br>(3.25)         | -0.018<br>(0.13)            | -1.036***<br>(3.32) |
| Cash                     | 0.250**<br>(2.17)   | 0.259**<br>(2.12)   | -0.011<br>(0.09)   | -0.085<br>(0.88)            | -0.426**<br>(2.38)          | -0.076<br>(0.94)    |
| Chaebol                  | 0.008<br>(0.38)     | -0.003<br>(0.11)    | 0.035<br>(0.99)    | -0.019<br>(0.76)            | -0.030<br>(1.48)            | -0.018<br>(0.72)    |
| Time dummies             | Yes                 | Yes                 | Yes                | Yes                         | Yes                         | Yes                 |
| Industry dummies         | Yes                 | Yes                 | Yes                | Yes                         | Yes                         | Yes                 |
| Observations             | 1,135               | 1,135               | 1,135              | 1,086                       | 1,057                       | 1,135               |
| R <sup>2</sup>           | 0.531               | 0.393               | 0.085              | 0.112                       | 0.113                       | 0.113               |

Tests for differences in payout precommitment across MLDA life-cycle stages

Mature versus  
growth

(Continues)



TABLE 4 (Continued)

|                             | Dependent variable |                   |                   | Commitment<br>Type 1 | Commitment<br>Type 2 | Payout type |
|-----------------------------|--------------------|-------------------|-------------------|----------------------|----------------------|-------------|
|                             | Div/Total<br>(1)   | Div/Commit<br>(2) | Div/Payout<br>(3) |                      |                      |             |
| Mature versus<br>so/decline | ***                | ***               | **                |                      |                      |             |
| Growth versus<br>so/decline | ***                | ***               | ***               |                      |                      |             |

Note: This table reports pooled ordinary least squares estimates for a sample of 293 firms from Korea. The sample period is 1998–2004. Test statistics, calculated using standard errors clustered by firm, are reported in parentheses. The dependent variables are Div/Total, Div/Commit, Div/Payout, Commitment Type 1 (dividends and debt vs. debt only), Commitment Type 2 (dividends and debt vs. dividends only), and Payout type (dividends vs. repurchase only). We measure firm life cycle using multiclass linear discriminant analysis (MLDA). See Table 1 for variable definitions. Though unreported, all regressions include an intercept term, industry, and time dummies.

\*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% levels, respectively.

repurchases. We fail to find any significant relation between our payout precommitment ratios and firm-level governance. In every case, across all three channels of cash distribution, it appears that corporate governance does not matter in the determination of the precommitment payout mix. This is in direct contrast to the results reported for the United States by John et al. (2015), where firms with weak corporate governance precommit through a combination of dividends and debt or through dividends rather than debt alone.<sup>13</sup> Combining the evidence from Tables 3 and 4, we find no difference in the dividend/interest mix between weak- and strong-governed firms, but the level of dividends and debt is greater for better governed firms.

We establish a strong relation between precommitment and the financial life-cycle stage of the firm. Although firms in a more advanced phase of their life cycle (in either the growth or mature stage) tend to disburse a higher proportion of total and committed payout through dividends to mitigate shareholder–manager agency conflict, we find no simple monotonic increase across life-cycle stages. In these precommitment measures, the proportion of payouts made through dividends increases up to the mature stage but then declines during the shakeout/decline stage. The proportion of dividends does not statistically change as the typical firm progresses from the growth to the mature stage, suggesting that the proportion of dividends in the total and committed payout ratios of firms in both intermediate stages are unaltered. This is consistent with Flavin and O'Connor (2017) who show that Korean firms continue to use dividend policy to build reputation capital throughout their growth and mature stages. It appears that when financial resources allow, firms use both debt and cash dividends to signal their quality to external investors. The observed falloff in dividends during the final (decline/shakeout) stage may be simply due to precommitment becoming a less important issue for the firm. Furthermore, as firms shrink, they have a declining ability to generate the required cash to maintain dividends at their growth and maturity levels, whereas legally binding debt repayments may be increasingly financed by the proceeds of asset liquidations. The Commitment Type 1 and Commitment Type 2 variables reinforce this finding. Relative to the introduction stage, firms at any other point in their life cycle are more likely to use a combination of dividends and debt rather than debt alone, but they are not statistically different from each other. The likelihood of using a combination of dividends and debt rather than dividends alone is largely unchanged across the life cycle. As expected in Korea, where share repurchases are not as common as other forms of cash distribution to stakeholders, dividends relative to share repurchases increase after the introduction stage but are not significantly different across subsequent stages.

<sup>13</sup>Our findings are robust to using different governance subindexes.

Generally, the control variables enter with the expected sign. Firms with larger contributed equity, cash surplus, and lower earnings uncertainty tend to have a positive impact on both the likelihood of dividend payment and the proportion of dividends in total payout to external claimholders. The positive influence of the investment opportunities on the dividend payout decision and amount aligns with the previously noted reputation-building behavior of Korean firms (Flavin & O'Connor, 2017).

Table 4 fails to reveal any support for the substitution model and contrasts sharply with the evidence presented in John et al. (2015) for developed country firms. To ensure that our results are robust and representative of Korean corporate payout policy, we delve deeper and examine the relation between payout precommitment and corporate governance across a different subsamples of firms. We hypothesize that the incentive to precommit is not the same for firms that have different characteristics such as foreign ownership level, cross-listing status, firm size, and business group. The literature shows that foreign ownership (Choi et al., 2007), international cross-listings (Coffee, 1999), and firm size (Black & Kim, 2012) are all associated with better governance and bonding benefits. Chaebol-affiliated firms benefit from access to internal capital markets and reduced financing constraints (Almeida et al., 2015), and thus in theory they have less need for financing policies to precommit. Finally, we divide the sample by firm age. This may be interpreted as a proxy for firm life cycle (albeit, an imperfect one) or it may simply be picking up the difference in future growth opportunities. A priori, we expect that low-governance, early-stage firms are more likely to use dividends to substitute for governance shortcomings as they try to build reputation in the capital markets and finance their growth opportunities. We focus on each characteristic separately and estimate the difference in the precommitment–governance relation for firms with above- and below-median levels of each. Table 5 reports our results.

Splitting the sample of firms between above- and below-median levels of foreign ownership produces interesting results. On first inspection, and focusing on the ratios, it appears there is evidence of different payout precommitment behavior between the two groups. Our results show that firms with relatively low levels of foreign investment precommit using dividend payouts (the agency substitution model); that is, poorly governed firms use a greater share of dividends relative to total payouts to precommit to protect their minority shareholders. In contrast, better governed firms, consistent with Table 3, pay a greater share of total payouts as dividends. The same is true for both groups when analyzing the other precommitment measures, though the negative coefficient in the regression for Div/Commit is not statistically significant. However, focusing on the levels of the variables, it is evident that the negative coefficients on corporate governance for firms with low levels of foreign ownership do not arise from a substitution of debt for dividends. Rather, the regressions with dividends to assets and interest expense to assets as dependent variables, reveal that both variables are increasing in corporate governance (an indication of the outcome model) and the negative coefficient in the regressions for the ratios is a result of the interest expense variable becoming more sensitive (increases faster) than dividends to governance changes. Thus, these results strengthen the findings that better governed firms use precommitment as a signal to investors by paying higher dividends and interest payments to their creditors. Focusing exclusively on ratios in the analysis would have led to an incorrect conclusion that poorly governed firms behave in accordance with the substitution model of dividends and debt.

The findings using cross-listing status, firm size, and business group are less definitive but, nevertheless, follow a similar pattern. Evidence that appears to support the substitution model (e.g., when we split firms by age) occurs only in the regressions using a ratio as its dependent variable. All the evidence pertaining to the amount of dividends and the amount of debt-related payouts is consistent with the outcome model.

Finally, we investigate whether there are any important differences in payout policy between the life-cycle stages. In unreported tests, we estimate separate dividend–corporate governance regressions for each MLDA life-cycle stage but fail to find any evidence of a precommitment effect. We also proxy for the life cycle using the continuous RE/TE variable and interacting it with corporate governance, but the interactions terms are never statistically significantly different from 0. Consequently, we conclude that there are no significant changes to the precommitment mechanism across the life cycle.

**TABLE 5** Payout precommitment by level of foreign ownership, size, business group, cross-listing status, and firm age

|  | Foreign ownership  | Cross-listing    | Size dummy        | Business group     | Firm age          |
|--|--------------------|------------------|-------------------|--------------------|-------------------|
| <i>Panel A: Dependent variable: Div/Total</i>  |                    |                  |                   |                    |                   |
| Corporate governance                           | -0.003**<br>(2.56) | -0.000<br>(0.24) | -0.000<br>(0.37)  | -0.002<br>(1.22)   | -0.002*<br>(1.69) |
| Corporate governance × High foreign ownership  | 0.004***<br>(2.75) |                  |                   |                    |                   |
| Corporate governance × Cross-listing           |                    | -0.001<br>(0.85) |                   |                    |                   |
| Corporate governance × Size dummy              |                    |                  | -0.000<br>(0.06)  |                    |                   |
| Corporate governance × Business group          |                    |                  |                   | 0.002<br>(1.40)    |                   |
| Corporate governance × Old firms               |                    |                  |                   |                    | 0.002**<br>(1.99) |
| R <sup>2</sup>                                 | 0.532              | 0.528            | 0.527             | 0.529              | 0.533             |
| <i>Panel B: Dependent variable: Div/Commit</i> |                    |                  |                   |                    |                   |
| Corporate governance                           | -0.002<br>(1.56)   | 0.001<br>(0.92)  | 0.001<br>(1.10)   | 0.000<br>(0.05)    | 0.001<br>(0.06)   |
| Corporate governance × High foreign ownership  | 0.005***<br>(3.25) |                  |                   |                    |                   |
| Corporate governance × Cross-listing           |                    | -0.000<br>(0.02) |                   |                    |                   |
| Corporate governance × Size dummy              |                    |                  | -0.001<br>(0.54)  |                    |                   |
| Corporate governance × Business group          |                    |                  |                   | 0.002<br>(1.29)    |                   |
| Corporate governance × Old firms               |                    |                  |                   |                    | 0.001<br>(0.93)   |
| R <sup>2</sup>                                 | 0.610              | 0.606            | 0.605             | 0.606              | 0.612             |
| <i>Panel C: Dependent variable: Div/Payout</i> |                    |                  |                   |                    |                   |
| Corporate governance                           | -0.005**<br>(2.23) | -0.002<br>(0.86) | -0.003*<br>(1.68) | -0.004**<br>(2.01) | -0.002*<br>(1.65) |
| Corporate governance × High foreign ownership  | 0.006**<br>(2.36)  |                  |                   |                    |                   |

(Continues)

TABLE 5 (Continued)

|  | Foreign ownership  | Cross-listing     | Size dummy          | Business group      | Firm age          |
|--|--------------------|-------------------|---------------------|---------------------|-------------------|
| Corporate governance × Cross-listing               |                    | 0.002<br>(0.83)   |                     |                     |                   |
| Corporate governance × Size dummy                  |                    |                   | 0.007**<br>(2.23)   |                     |                   |
| Corporate governance × Business group              |                    |                   |                     | 0.005**<br>(2.06)   |                   |
| Corporate governance × Old firms                   |                    |                   |                     |                     | 0.003*<br>(1.70)  |
| R <sup>2</sup>                                     | 0.100              | 0.090             | 0.096               | 0.092               | 0.081             |
| <i>Panel D: Dependent variable: Div/Assets (%)</i> |                    |                   |                     |                     |                   |
| Corporate governance                               | 0.000<br>(0.11)    | 0.009**<br>(2.21) | 0.012**<br>(2.24)   | 0.005<br>(0.87)     | 0.008<br>(1.48)   |
| Corporate governance × High foreign ownership      | 0.015***<br>(2.84) |                   |                     |                     |                   |
| Corporate governance × Cross-listing               |                    | 0.008<br>(1.24)   |                     |                     |                   |
| Corporate governance × Size dummy                  |                    |                   | -0.003<br>(0.66)    |                     |                   |
| Corporate governance × Business group              |                    |                   |                     | 0.011*<br>(1.81)    |                   |
| Corporate governance × Old firms                   |                    |                   |                     |                     | 0.004<br>(0.88)   |
| R <sup>2</sup>                                     | 0.339              | 0.330             | 0.328               | 0.335               | 0.364             |
| <i>Panel E: Dependent variable: Int/Assets (%)</i> |                    |                   |                     |                     |                   |
| Corporate governance                               | 0.014<br>(1.17)    | 0.022**<br>(2.39) | 0.031***<br>(3.49)  | 0.037**<br>(3.58)   | 0.020**<br>(2.15) |
| Corporate governance × High foreign ownership      | 0.003<br>(0.27)    |                   |                     |                     |                   |
| Corporate governance × Cross-listing               |                    | -0.025            |                     |                     |                   |
| Corporate governance × Size dummy                  |                    | (1.27)            |                     |                     |                   |
|  |                    |                   | -0.058***<br>(4.49) |                     |                   |
| Corporate governance × Business group              |                    |                   |                     | -0.036***<br>(3.18) |                   |

(Continues)

TABLE 5 (Continued)

|                                  | Foreign ownership | Cross-listing | Size dummy | Business group | Firm age         |
|----------------------------------|-------------------|---------------|------------|----------------|------------------|
| Corporate governance × Old firms |                   |               |            |                | -0.008<br>(0.75) |
| $R^2$                            | 0.550             | 0.549         | 0.561      | 0.561          | 0.548            |

Note: This table reports pooled ordinary least squares estimates for a sample of 293 firms from Korea. The sample period is 1998–2004. Test statistics, calculated using standard errors clustered by firm, are reported in parentheses. The dependent variables are Div/Assets (%), Int/Assets (%), Div/Total, Div/Commit, and Div/Payout. High foreign ownership equals 1 if foreign ownership is above the sample median. Cross-listing, Size dummy, and Business group each equals 1 if the firm is cross-listed abroad, a large firm, or belonging to a business group, respectively. We classify firms as old if their age is above the sample median. See Table 1 for variable definitions. Though unreported, all regressions include an intercept term, controls, industry, and time dummies.

\*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% levels, respectively.

## 4 | ROBUSTNESS CHECKS

### 4.1 | Potential endogeneity issues

As shown in recent studies (Chang et al., 2018; Chintrakarn et al., 2018; Jiraporn et al., 2011), there is a potential issue of endogeneity with our measure of corporate governance. To address this, we reestimate our regressions using a two-stage least squares (2SLS) estimation approach to replicate our main results. Specifically, we follow Jiraporn et al. (2011) and Chang et al. (2018) in using the industry median governance as our instrument for firm-level corporate governance.<sup>14</sup> In the first stage, we regress firm-level corporate governance on our proposed instrument and all other right-hand-side variables from our original regression equation. In the second stage, we take the predicted value from the first stage and use it to replace the firm-level corporate governance in our econometric specification.

The first-stage regression finds a strong, positive, and statistically significant relation between firm-level corporate governance and industry median governance, consistent with Jiraporn et al. (2011) and Chang et al. (2018). The *F*-test decisively rejects the null hypothesis that coefficients on the instruments are jointly 0. We then proceed to the second stage and rerun the regressions with the predicted value from the first stage as our measure of corporate governance. Our findings in Tables 6 and 7 are generally consistent with earlier results, especially for the precommitment ratios.

Table 6 presents the main results corresponding to Tables 3 and 4. We first focus the effect of corporate governance on the level of dividends, share repurchases, and debt-related variables. Results of the 2SLS estimation are not statistically significant, suggesting there is no relation between our dependent variables and corporate governance. Even this result suggests there is a difference between Korea and the United States as we find no evidence to support the substitution model of dividends or debt, as implied by the results for the United States in John et al. (2015). Given that the main focus of our article is on the composition of the payout, we next analyze the payout precommitment ratios used for the U.S. study by John et al. The 2SLS estimates confirm that the instrument is not statistically significant in determining our payout ratios or the type of precommitment strategy employed by the firm. This is consistent with results reported in Table 4 and thus confirms that in the overall sample of Korean firms, there is no relation between precommitment payout ratios and firm-level corporate governance.

<sup>14</sup>To ensure the exogeneity of the instrument, while estimating the instrument variable, firm *i* is excluded from the computation of the industry median value for each unit *i*. Thus, the instrument in the *i*th equation is based on the remaining *n*–1 firms.

**TABLE 6** Payouts to shareholders and creditors, payout precommitment, and corporate governance: 2SLS

|   | Dependent variable |                   |                                 |                       |                      |                  |                 |                    |
|---|--------------------|-------------------|---------------------------------|-----------------------|----------------------|------------------|-----------------|--------------------|
|   | Div/<br>Assets (%) | Book debt         | Financial<br>debt to<br>capital | Int/<br>Assets<br>(%) | SR/<br>Assets<br>(%) | Div/<br>Total    | Div/<br>Commit  | Div/<br>Payout     |
| <i>Panel A: POLS</i>  |                    |                   |                                 |                       |                      |                  |                 |                    |
| Corporate<br>governance                                     | 0.011***<br>(2.55) | 0.002**<br>(2.23) | 0.003***<br>(2.66)              | 0.016*<br>(1.89)      | 0.018<br>(1.25)      | -0.001<br>(0.36) | 0.001<br>(1.16) | -0.002<br>(0.89)   |
| R <sup>2</sup>  | 0.363              | 0.467             | 0.505                           | 0.556                 | 0.093                | 0.531            | 0.393           | 0.085              |
| Firm controls   | Yes                | Yes               | Yes                             | Yes                   | Yes                  | Yes              | Yes             | Yes                |
| Time dummies  | Yes                | Yes               | Yes                             | Yes                   | Yes                  | Yes              | Yes             | Yes                |
| Industry<br>dummies   | Yes                | Yes               | Yes                             | Yes                   | Yes                  | Yes              | Yes             | Yes                |
| <i>Panel B: 2SLS</i>  |                    |                   |                                 |                       |                      |                  |                 |                    |
| Fitted<br>corporate<br>governance                           | 0.018<br>(0.51)    | -0.002<br>(0.19)  | -0.004<br>(0.73)                | -0.100<br>(0.50)      | 0.000<br>(0.04)      | 0.003<br>(0.16)  | 0.001<br>(0.13) | 0.001<br>(0.10)    |
| R <sup>2</sup>  | 0.346              | 0.689             | 0.874                           | 0.649                 | 0.064                | 0.527            | 0.602           | 0.075              |
| Firm controls   | Yes                | Yes               | Yes                             | Yes                   | Yes                  | Yes              | Yes             | Yes                |
| Time dummies  | Yes                | Yes               | Yes                             | Yes                   | Yes                  | Yes              | Yes             | Yes                |
| Industry<br>dummies   | Yes                | Yes               | Yes                             | Yes                   | Yes                  | Yes              | Yes             | Yes                |
| Industry median governance from first-stage 2SLS regression |                    |                   |                                 |                       |                      |                  |                 | 0.548***<br>(3.72) |
| R <sup>2</sup> from first-stage 2SLS regression             |                    |                   |                                 |                       |                      |                  |                 | 0.646              |
| F-test instruments from first-stage 2SLS regression         |                    |                   |                                 |                       |                      |                  |                 | 30.38***           |

Note: This table reports coefficient estimates from pooled ordinary least squares (POLS) and second-stage two stage least squares (2SLS) regressions for a sample of 293 firms from Korea. Test statistics, calculated using standard errors clustered by firm, are reported in parentheses. The sample period is 1998–2004. The dependent variables are Div/Assets (%), Book debt, Financial debt to capital, Int/Assets, SR/Assets (%), Div/Total, Div/Commit, and Div/Payout. Life cycle is proxied using multiclass linear discriminant analysis (unreported). See Table 1 for variable definitions. Though unreported, all regressions include an intercept term, firm-level controls, industry, and time dummies.

\*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% levels, respectively.

We next analyze the precommitment payout policies of different subsets of firms, dividing the sample between having above- and below-median levels of certain firm characteristics, being cross-listed and not cross-listed, and belonging to a business group or not. In Table 7, the results are robust to our measure of corporate governance.<sup>15</sup> With five dependent variables and five characteristics, we rerun 25 regressions. In 23 of these, our results are unchanged or stronger (i.e., we have the same sign as before but it is now statistically significant). In the other regressions, the variables become statistically insignificant but this does not confound our main conclusion. These results support the outcome model, especially among larger firms, older firms, firms with higher levels of foreign ownership, and firms that belong to a business group. For the other group in each category, there is also support

<sup>15</sup>To conserve space, Table 7 presents the results only when we divide the sample between above- and below-median levels of foreign ownership. The results for the other subsamples are qualitatively the same as those in Table 5. All the 2SLS estimates are available from the authors upon request.

**TABLE 7** Payout precommitment by level of foreign ownership: 2SLS

|   | Dependent variable |                    |                    |                    |                    |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|
|   | Div/Total          | Div/Commit         | Div/Payout         | Div/Assets (%)     | Int/Assets (%)     |
| <i>Panel A: POLS</i>                                      |                    |                    |                    |                    |                    |
| Corporate governance                                      | -0.003**<br>(2.56) | -0.002<br>(1.56)   | -0.002<br>(1.56)   | 0.000<br>(0.11)    | 0.014<br>(1.17)    |
| Corporate governance × High foreign ownership             | 0.004***<br>(2.75) | 0.005***<br>(3.25) | 0.005***<br>(3.25) | 0.015***<br>(2.84) | 0.003<br>(0.27)    |
| R <sup>2</sup>  | 0.532              | 0.610              | 0.610              | 0.339              | 0.550              |
| <i>Panel B: 2SLS</i>                                      |                    |                    |                    |                    |                    |
| Fitted corporate governance                               | 0.001<br>(0.07)    | -0.001<br>(0.05)   | -0.004<br>(0.21)   | 0.007<br>(0.20)    | -0.010<br>(1.13)   |
| Fitted corporate governance × High foreign ownership      | 0.002*<br>(1.76)   | 0.003*<br>(1.90)   | 0.003<br>(1.08)    | 0.010*<br>(1.84)   | 0.010<br>(0.71)    |
| R <sup>2</sup>  | 0.528              | 0.604              | 0.081              | 0.353              | 0.652              |
| Industry median governance from first-stage IV regression |                    |                    |                    |                    | 0.548***<br>(3.72) |
| R <sup>2</sup> from first stage IV regression             |                    |                    |                    |                    | 0.646              |
| F-test instruments from first stage IV regression         |                    |                    |                    |                    | 30.38***           |

Note: This table reports pooled ordinary least squares (POLS) and second-stage two-stage least squares (2SLS) estimates for a sample of 293 firms from Korea. The sample period is 1998–2004. Test statistics, calculated using standard errors clustered by firm, are reported in parentheses. The dependent variables are Div/Assets (%), Int/Assets (%), Div/Total, Div/Commit, and Div/Payout. High foreign ownership equals 1 if foreign ownership is above the sample median. IV stands for instrument variable. Though unreported, all regressions include an intercept term, controls, industry, and time dummies. \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% levels, respectively.

for the outcome model despite an often-negative coefficient on the corporate governance instrument. The negative sign does not imply a substitution effect but rather that the denominator (debt) is increasing faster than the numerator (dividend).

## 4.2 | Different proxies for a firm's life cycle

We perform several robustness checks. We focus on the validity of our findings for the life cycle by using an alternative measure. In Table 8, we use RE/TE rather than MLDA to measure life cycle. In doing so, we establish a strong relation between precommitment and the financial life-cycle stage of a firm. In all model specifications, the evidence is consistent with dividends becoming increasingly more important over the life cycle. Dividends, on average, account for a higher proportion of total payout (Column 4), committed payout (Column 5), and non-debt-related payout as a firm progresses along the life-cycle spectrum (Column 6). Increases from the preceding stage are large and statistically significant for total payout and committed payout. This is consistent with firms growing and generating more revenue, and hence increasing their capacity to pay larger dividends, as they move along the life-cycle spectrum. The likelihood of a firm using a combination of dividends and debt payouts as opposed to debt (dividends) alone increases (is unchanged) (Columns 7 and 8, respectively). Likewise, we observe an increasing

**TABLE 8** Payout precommitment over the life cycle using RE/TE life cycle

|                          | Dependent variable |                      |                   |                     |                     |                    |                       |                       |                     |
|--------------------------|--------------------|----------------------|-------------------|---------------------|---------------------|--------------------|-----------------------|-----------------------|---------------------|
|                          | Div/Assets (%) (1) | Int/Assets (%) (2)   | SR/Assets (%) (3) | Div/Total (4)       | Div/Commit (5)      | Div/Payout (6)     | Commitment Type 1 (7) | Commitment Type 2 (8) | Payout type (9)     |
| Corporate governance     | 0.012***<br>(2.79) | 0.010<br>(1.42)      | 0.017<br>(1.19)   | -0.001<br>(0.66)    | 0.001<br>(0.81)     | -0.001<br>(0.68)   | 0.001<br>(0.93)       | -0.001<br>(1.39)      | 0.001<br>(0.93)     |
| Mature stage             | 0.044<br>(0.75)    | -0.545***<br>(4.34)  | 0.115<br>(1.46)   | 0.029*<br>(1.82)    | 0.043**<br>(2.52)   | 0.042<br>(1.33)    | 0.094***<br>(3.77)    | 0.022<br>(1.40)       | 0.093***<br>(3.82)  |
| Old stage                | 0.012<br>(0.13)    | -1.035***<br>(6.65)  | 0.215<br>(1.29)   | 0.076***<br>(2.79)  | 0.096***<br>(3.46)  | 0.070*<br>(1.77)   | 0.136***<br>(5.02)    | 0.033<br>(1.60)       | 0.132***<br>(5.02)  |
| TE/TA                    | 0.463<br>(0.76)    | -5.013***<br>(10.92) | -0.637<br>(0.46)  | 0.732***<br>(11.57) | 0.828***<br>(12.78) | 0.324***<br>(4.10) | 0.222***<br>(3.99)    | -0.259***<br>(3.40)   | 0.231***<br>(4.40)  |
| Profitability            | 2.230***<br>(3.15) | -2.470**<br>(2.04)   | 0.896<br>(0.80)   | 0.255<br>(1.35)     | 0.389**<br>(2.09)   | -0.312<br>(1.00)   | -0.047<br>(0.17)      | -0.202<br>(0.76)      | -0.077<br>(0.31)    |
| Investment opportunities | 0.330***<br>(4.92) | -0.250**<br>(2.06)   | 0.239*<br>(1.74)  | 0.046***<br>(2.72)  | 0.067***<br>(3.72)  | 0.002<br>(0.07)    | -0.032<br>(1.36)      | -0.016<br>(0.63)      | -0.026<br>(1.24)    |
| Firm size                | -0.026<br>(0.76)   | 0.025<br>(0.46)      | 0.126*<br>(1.92)  | -0.011<br>(1.28)    | -0.002<br>(0.18)    | -0.030**<br>(2.02) | 0.012<br>(1.09)       | 0.011<br>(1.06)       | 0.011<br>(1.08)     |
| Size dummy               | -0.203*<br>(1.89)  | -0.299<br>(1.60)     | -0.500<br>(1.33)  | 0.026<br>(1.07)     | 0.002<br>(0.07)     | -0.008<br>(0.14)   | -0.062<br>(1.42)      | -0.011<br>(0.51)      | -0.062<br>(1.43)    |
| Asset tangibility        | -0.444**<br>(2.20) | 0.090<br>(0.18)      | -0.573<br>(1.47)  | -0.100*<br>(1.68)   | -0.148**<br>(2.31)  | 0.022<br>(0.22)    | -0.100<br>(1.43)      | 0.066<br>(1.02)       | -0.098<br>(1.44)    |
| Cash-flow uncertainty    | -0.919**<br>(2.28) | 2.657***<br>(2.94)   | -0.372<br>(0.56)  | -0.183<br>(1.08)    | -0.296*<br>(1.70)   | -0.787**<br>(2.53) | -1.119***<br>(3.67)   | -0.078<br>(0.48)      | -1.091***<br>(3.75) |
| Leverage                 | -1.158*<br>(1.83)  |                      | -1.022<br>(0.78)  |                     |                     |                    |                       |                       |                     |
| Cash                     | -0.226<br>(0.49)   | -1.636***<br>(3.04)  | -0.403<br>(0.48)  | 0.214*<br>(1.87)    | 0.218*<br>(1.74)    | -0.055<br>(0.40)   | -0.150<br>(1.47)      | -0.405**<br>(2.34)    | -0.142<br>(1.64)    |

(Continues)



TABLE 8 (Continued)

| Dependent variable  |                  |                  |                 |                  |                 |                   |                   |                  |     |
|---|------------------|------------------|-----------------|------------------|-----------------|-------------------|-------------------|------------------|-----|
| Div/Assets (%)  | Int/Assets (%)   | SR/Assets (%)    | Div/Total       | Div/Commit       | Div/Payout      | Commitment Type 1 | Commitment Type 2 | Payout type      |     |
| (1)   | (2)              | (3)              | (4)             | (5)              | (6)             | (7)               | (8)               | (9)              |     |
| -0.059<br>(0.75)  | -0.126<br>(0.75) | -0.051<br>(0.36) | 0.012<br>(0.55) | -0.006<br>(0.26) | 0.050<br>(1.42) | -0.005<br>(0.18)  | -0.023<br>(1.24)  | -0.003<br>(0.14) |     |
| Yes   | Yes              | Yes              | Yes             | Yes              | Yes             | Yes               | Yes               | Yes              | Yes |
| Yes   | Yes              | Yes              | Yes             | Yes              | Yes             | Yes               | Yes               | Yes              | Yes |
| 1135  | 1135             | 1135             | 1135            | 1135             | 1135            | 1086              | 1057              | 1,135            |     |
| 0.372   | 0.679            | 0.092            | 0.538           | 0.619            | 0.082           | 0.138             | 0.159             | 0.138            |     |
| Tests for differences across RE/TE life-cycle stages                            |                  |                  |                 |                  |                 |                   |                   |                  |     |
| Mature versus old   |                  |                  |                 |                  |                 |                   |                   |                  |     |
| ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. |                  |                  |                 |                  |                 |                   |                   |                  |     |

Note: This table reports pooled ordinary least squares estimates for a sample of 293 firms from Korea. The sample period is 1998–2004. Test-statistics, calculated using standard errors clustered by firm, are reported in parentheses. The dependent variables are Div/Assets, Int/Assets, SR/Assets, Div/Total, Div/Commit, Div/Payout, Commitment Type 1 (dividends and debt vs. debt only), Commitment Type 2 (dividends and debt vs. dividends only), and Payout type (dividends vs. repurchase only). Firm life-cycle stages are measured using RE/TE life cycle. See Table 1 for variable definitions. Though unreported, all regressions include an intercept term, industry, and time dummies.

\*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 9 Testing payout precommitment in India

| Panel A: Regression estimates                      |                     |                     |                     |                     |                  |       |       |       |
|--|---------------------|---------------------|---------------------|---------------------|------------------|-------|-------|-------|
|  | Dependent variable  |                     |                     |                     |                  |       |       |       |
|  | Div/Assets (%)      | Book debt           | Int/Assets (%)      | Div/Commit          |                  |       |       |       |
|  | (1)                 | (2)                 | (3)                 | (4)                 |                  |       |       |       |
| Corporate governance                               | 0.025**<br>(2.23)   | 0.000<br>(0.14)     | -0.004<br>(0.59)    | 0.001<br>(1.17)     |                  |       |       |       |
| Growth stage                                       | 0.260<br>(1.01)     | -0.103***<br>(3.78) | -0.567**<br>(2.49)  | 0.170***<br>(3.46)  |                  |       |       |       |
| Mature stage                                       | 2.053***<br>(6.21)  | -0.184***<br>(6.74) | -0.858***<br>(4.18) | 0.335***<br>(7.31)  |                  |       |       |       |
| Shakeout/decline stage                             | 0.342*<br>(1.85)    | -0.070***<br>(2.72) | -0.310<br>(1.53)    | 0.074*<br>(1.88)    |                  |       |       |       |
| Investment opportunities                           | 0.350***<br>(4.16)  | 0.001<br>(0.31)     | 0.013<br>(0.51)     | 0.010<br>(1.44)     |                  |       |       |       |
| Firm size  | -0.008<br>(0.12)    | 0.007<br>(1.04)     | -0.163***<br>(3.23) | 0.020*<br>(1.85)    |                  |       |       |       |
| Asset tangibility                                  | -1.259**<br>(2.25)  | 0.305***<br>(5.52)  | 1.834***<br>(4.06)  | -0.325***<br>(3.64) |                  |       |       |       |
| Cash-flow uncertainty                              | -2.699<br>(0.79)    | -0.702***<br>(3.32) | -1.243<br>(0.54)    | 0.361<br>(0.61)     |                  |       |       |       |
| Cash   | 0.335<br>(0.26)     | -0.042<br>(0.57)    | -1.373**<br>(2.55)  | 0.152<br>(0.79)     |                  |       |       |       |
| Leverage   | -3.066***<br>(3.69) |                     |                     |                     |                  |       |       |       |
| Business group                                     | 0.176<br>(0.61)     | -0.023<br>(1.09)    | 0.151<br>(0.83)     | -0.006<br>(0.16)    |                  |       |       |       |
| Time dummies                                       | Yes                 | Yes                 | Yes                 | Yes                 |                  |       |       |       |
| Industry dummies                                   | Yes                 | Yes                 | Yes                 | Yes                 |                  |       |       |       |
| Observations                                       | 342                 | 342                 | 342                 | 342                 |                  |       |       |       |
| R <sup>2</sup>                                     | 0.451               | 0.373               | 0.286               | 0.410               |                  |       |       |       |
| Tests for differences across MLDA lifecycle stages |                     |                     |                     |                     |                  |       |       |       |
| Growth versus mature                               | ***                 | ***                 |                     | ***                 |                  |       |       |       |
| Growth versus shakeout/decline                     |                     |                     |                     | **                  |                  |       |       |       |
| Mature versus shakeout/decline                     | ***                 | ***                 | **                  | ***                 |                  |       |       |       |
| Panel B: Sample description                        |                     |                     |                     |                     |                  |       |       |       |
| Firms  | Obs.                | Div-Payer           | SR-Payer            | Int-Payer           | Period coverage  |       |       |       |
| 238  | 342                 | 0.99                | 0.08                | 0.98                | 2005, 2007, 2011 |       |       |       |
|  | Mean                | SD                  | Min                 | 25th                | Median           | 75th  | 95th  | Max   |
| Corporate governance                               | 60.42               | 10.08               | 31.92               | 53.85               | 60.13            | 67.44 | 76.67 | 86.92 |
| Foreign ownership                                  | 0.12                | 0.11                | 0.00                | 0.02                | 0.09             | 0.19  | 0.33  | 0.55  |
| Div/Assets (%)                                     | 2.19                | 2.67                | 0.00                | 0.52                | 1.19             | 2.82  | 7.84  | 14.08 |

(Continues)

TABLE 9 (Continued)

|                | Mean | SD   | Min  | 25th | Median | 75th | 95th | Max   |
|----------------|------|------|------|------|--------|------|------|-------|
| SR/Assets (%)  | 0.24 | 2.08 | 0.00 | 0.00 | 0.00   | 0.00 | 0.51 | 36.21 |
| Book debt      | 0.27 | 0.18 | 0.00 | 0.13 | 0.27   | 0.40 | 0.58 | 0.77  |
| Int/Assets (%) | 1.95 | 1.46 | 0.00 | 0.75 | 1.68   | 2.86 | 4.54 | 7.31  |
| Div/Total      | 0.46 | 0.33 | 0.00 | 0.15 | 0.42   | 0.78 | 0.99 | 1.00  |
| Div/Commit     | 0.47 | 0.33 | 0.00 | 0.16 | 0.43   | 0.78 | 0.99 | 1.00  |
| Div/Payout     | 0.96 | 0.17 | 0.00 | 1.00 | 1.00   | 1.00 | 1.00 | 1.00  |

Note: This table reports pooled ordinary least squares estimates for a sample of 238 firms from India. We observe firms in 2005, 2007, and 2011. Test statistics, calculated using standard errors clustered by firm, are reported in parentheses. The dependent variables are Div/Assets (%), Book debt, Int/Assets (%), and Div/Commit. We measure firm life cycle using multiclass linear discriminant analysis (MLDA). Panel B reports the proportion of firms that use dividends (Div-Payer), share repurchases (SR-Payer), and debt (Int-Payer). See Table 1 for variable definitions. Additionally, Business group is a dummy variable equal to 1 if the firms belongs to a business group in India. Though unreported, all regressions include an intercept term, industry, and time dummies.

\*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% levels, respectively.

likelihood of a firm using dividends as opposed to share repurchases alone (Column 9) over the life cycle. All three results suggest that dividends become relatively more important as a channel for cash distribution over a firm's life cycle and, hence, as a precommitment mechanism. Once again, we find that interest expense to assets falls as firms mature. We find no significant relation between share repurchase levels and a firm's lifecycle. Generally, the control variables enter with the expected sign.

### 4.3 | Different emerging market: India

In finance, the generalizability of results is key, as stand-alone results could be driven by market-specific characteristics. Therefore, we check whether our findings are specific to Korea by repeating the analysis for Indian firms. We source corporate governance data for a sample of 238 Indian firms from Black et al. (2014) for 2005, 2007, and 2011. Given the relatively short sample and noncontiguous structure of the data, we use India as a robustness check only. In India, corporate governance is calculated as a simple weighted average of board structure, board procedure, disclosure, shareholder rights, and ownership structure.<sup>16</sup> Relative to Korea, corporate governance standards are stronger in India; mean governance is 60.42, with a 75th percentile governance score of 67.44. The incidence and size of dividend payouts are larger in India (mean Div/Assets is 2.19% in India compared to 0.83% in Korea), and although the prevalence of debt financing is roughly the same in both countries, interest expense is larger in Korea (1.95% for the mean firm in India compared to 2.45% in Korea). The frequency and size of share repurchases are much lower in India compared to Korea. The proportion of firm-years with positive share repurchases is just 0.08 in India, compared to 0.43 in Korea. In India, the level of share repurchases is just 11% of the dividend amount, compared to 63% in Korea.

As payouts to capital providers in India are dominated by dividends and interest payments, we estimate the precommitment–governance relation using Div/Commit only. In all specifications, life cycle is classified using the MLDA approach. Table 9 reports our results for the full sample of firms. Evidence supports the outcome model for dividends but not for debt; that is, dividends as a proportion of assets increases with governance whereas the amount of debt and

<sup>16</sup>The single related party transaction element is included as part of the shareholder rights subindex.

**TABLE 10** Payout precommitment by level of foreign ownership, size, business group, cross-listing status, and age in India

|  | Foreign ownership | Cross-listing     | Size dummy        | Business group   | Firm age          |
|--|-------------------|-------------------|-------------------|------------------|-------------------|
| <i>Panel A: Dependent variable: Div/Commit</i>     |                   |                   |                   |                  |                   |
| Corporate governance                               | 0.000<br>(0.16)   | 0.001<br>(0.55)   | 0.000<br>(0.20)   | -0.001<br>(0.43) | 0.001<br>(0.23)   |
| Corporate governance × High foreign ownership      | 0.003<br>(1.01)   |                   |                   |                  |                   |
| Corporate governance × Cross-listing               |                   | 0.001<br>(0.46)   |                   |                  |                   |
| Corporate governance × Size dummy                  |                   |                   | 0.002<br>(0.95)   |                  |                   |
| Corporate governance × Business group              |                   |                   |                   | 0.004<br>(1.44)  |                   |
| Corporate governance × Old firms                   |                   |                   |                   |                  | 0.001<br>(0.49)   |
| R <sup>2</sup>                                     | 0.412             | 0.425             | 0.413             | 0.413            | 0.286             |
| <i>Panel B: Dependent variable: Div/Assets (%)</i> |                   |                   |                   |                  |                   |
| Corporate governance                               | 0.011<br>(0.89)   | 0.027**<br>(2.10) | 0.022**<br>(2.06) | 0.032<br>(1.42)  | 0.044**<br>(2.45) |
| Corporate governance × High foreign ownership      | 0.029<br>(1.28)   |                   |                   |                  |                   |
| Corporate governance × Cross-listing               |                   | -0.019<br>(0.87)  |                   |                  |                   |
| Corporate governance × Size dummy                  |                   |                   | 0.006<br>(0.96)   |                  |                   |
| Corporate governance × Business group              |                   |                   |                   | -0.010<br>(0.38) |                   |
| Corporate governance × Old firms                   |                   |                   |                   |                  | -0.041*<br>(1.86) |
| R <sup>2</sup>                                     | 0.454             | 0.457             | 0.452             | 0.451            | 0.507             |
| <i>Panel C: Dependent variable: Int/Assets (%)</i> |                   |                   |                   |                  |                   |
| Corporate governance                               | -0.002<br>(0.14)  | 0.002<br>(0.21)   | -0.003<br>(0.36)  | 0.006<br>(0.57)  | 0.003<br>(0.34)   |
| Corporate governance × High foreign ownership      | -0.005<br>(0.36)  |                   |                   |                  |                   |

(Continues)

TABLE 10 (Continued)

|                                       | Foreign ownership | Cross-listing    | Size dummy       | Business group   | Firm age         |
|---------------------------------------|-------------------|------------------|------------------|------------------|------------------|
| Corporate governance × Cross-listing  |                   | -0.022<br>(1.58) |                  |                  |                  |
| Corporate governance × Size dummy     |                   |                  | -0.003<br>(0.74) |                  |                  |
| Corporate governance × Business group |                   |                  |                  | -0.015<br>(1.13) |                  |
| Corporate governance × Old firms      |                   |                  |                  |                  | -0.014<br>(0.97) |
| $R^2$                                 | 0.286             | 0.295            | 0.287            | 0.288            | 0.288            |

Note: This table reports pooled ordinary least squares estimates for a sample of 238 firms from India. We observe firms in 2005, 2007, and 2011. Test statistics, calculated using standard errors clustered by firm, are reported in parentheses. The dependent variables are Div/Commit, Div/Assets (%), and Int/Assets (%). High foreign ownership equals 1 if foreign ownership is above the sample median. Cross-listing, Size dummy, and Business group each equals 1 if the firm is cross-listed abroad, a large firm, or belonging to a business group, respectively. We classify firms as old if their age is above the sample median. See Table 1 for variable definitions. Though unreported, all regressions include an intercept term, controls, industry, and time dummies.

\*\* and \* denote significance at the 5% and 10% levels, respectively.

the interest expense are invariant to corporate governance. Furthermore, variation in dividends as a proportion of the sum of dividends and interest expense cannot be explained by differences in firm-level governance. Therefore, it appears that any evidence of precommitment is more consistent with the outcome model as in Korea and not the substitution model as in the United States Table 10 reveals a similar pattern for various subsamples of firms.<sup>17</sup>

However, and as in Korea, we observe a distinct life-cycle effect, with Div/Commit always being highest for mature-stage firms. The increasing use of dividends as a precommitment mechanism arises because of both an increase in the dividend amount and a decline in interest expense. This pattern is consistent with the results for Korea.

## 5 | CONCLUSION

We analyze the relation between payout precommitment and corporate governance and the life cycle of firms in emerging markets using samples from Korea and India. We find little evidence of similarity in precommitment effect documented for developed markets compared to the payout behavior of Korean firms. There is no evidence that firms in emerging markets substitute dividends for governance as in the United States. Instead, precommitment through higher payouts for Korean firms is predominantly found among better governed firms.

Our results support an outcome model of dividends and debt-related repayments for the emerging market firms. It is the better governed firms that tend to pay higher dividends to shareholders and timely loan repayments to creditors. This type of precommitment mechanism suggests that emerging market firms need to signal their commitment to

<sup>17</sup>Although the 2SLS estimates generally support our conclusions for Korea, results from the 2SLS approach are less compelling for our Indian sample. This is due to poor fit in the first stage of the estimation process. It suggests that the lack of consistent evidence is better associated with the poor performance of the instrument than a true conflict in the results of the different estimators. For an alternative view, we estimate firm random-effects and firm fixed-effects regressions, and the results are largely consistent with results in Tables 9 and 10. For brevity, the results are not reported here but are available from the authors upon request.

protecting external stakeholders to overcome, in the first instance, country-level institutional barriers to investment. Because all firms contend with the same significant, country-level weakness in governance (over our sample period, Korea was placed in the bottom tercile of the CIFAR—an index of accounting standard disclosure score distribution), it appears that better governed firms are better suited to commit to higher payouts. This evidence supporting the outcome model is robust to splitting our sample into various subsamples: level of foreign ownership, cross-listing, firm size, firm age, business group affiliation, and any potential endogeneity concerns.

There is also strong evidence in favor of a precommitment life-cycle effect based on two proxies for the firm's life cycle: the MLDA methodology (Faff et al., 2016) and a discrete version of the RE/TE variable (Owen & Yawson, 2010). Firms typically use a larger proportion of dividends when distributing cash to stakeholders as they progress along the life cycle. This implies that although the typical firm employs both debt and dividends to distribute cash (and allay fears of managerial expropriation), it is more likely to increase the dividend proportion over its life cycle. Precommitment becomes less important during the later stage and firms reduce the proportion of dividends relative to debt, whose obligation is likely met with the proceeds of asset sales.

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